

Game Console Manufacturers: the End of Sustainable Competitive Advantage?

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Abstract: The video games industry has been subject to a number of significant transitions in its short history. The current transition, however, has the potential to restructure more fundamentally the technological, competitive and market dynamics with a growing share of revenues attributed to non-console linked video games. Existing players from the "traditional" video games market are not standing idly by as the market evolves. What is unclear, however, is whether the competitive advantages they have built up over previous generations of video games will be sustainable in the new landscape. Ironically, it may be argued that existing competitive advantages could restrict their ability to adapt to the new dynamics. By proposing two alternative scenarios for future development, we examine the implications of either maintaining competitive advantage or developing temporary advantages. The video games industry is judged to be an ideal laboratory in which to investigate the consequences of hypercompetition and for developing strategic management insight into sustainable competitive advantage in such a context.

Key words: sustainable competitive advantage, temporary competitive advantage, business model, video games.

■ The transformation of the video game sector

Since its emergence in the 1980s, the video games industry has grown to become one of the most stable and profitable sectors in the entertainment market. Video games were historically played within a specific technological set-up initially involving an arcade machine and subsequently a PC or a video-game console. Nowadays, videogames can be displayed in a large number of devices including handheld devices such as mobile phones, MP3 players and tablets. All these hardware platforms can be used to play videogames and the distinction between dedicated and non-dedicated platforms is becoming less clearcut.

Market trends

In 2008, IDATE estimated that the video games market in 2012 would be valued at almost €30 billion and that €11 billion, or 37%, would be accounted for by games delivered on PCs or via mobiles (IDATE, 2008). In fact, in 2013, IDATE data on the video games market show the combination of five software markets (home console, handheld console, offline computer, on-line computer and mobile) as generating over €41 billion in revenues, with over 61% coming from the three non-console based categories (IDATE, 2013).

Traditionally, the market has been dominated by console manufacturers. Through regular upgrading of their technological prowess and the content available on different generations of consoles, these global firms had created strong barriers to entry and dominated their value chains. Yet a growing number of commentators are questioning the future relevance of the traditional console. In France, Henri Crohas, CEO and founder of Archos, a French consumer electronics company, has claimed that consoles for classical video games will disappear (LAUGIER, 2012). Kevin Chou, co-founder and CEO of Kabam, an on-line free-to-play provider, admits that "consoles aren't going to disappear overnight" but goes on to state that the current generation of consoles "will be the first generation of consoles that won't outsell their predecessors" (CHOU, 2013).

Facing an inevitable transition due to the digitalization of the value chain, console manufacturers and their partners are reconsidering their strategies and their business models. At the same time, entrepreneurs and new entrants are seeking to position themselves to benefit from the new opportunities on offer. It appears that consumers will continue to spend more than before on entertainment products in the video game sector. What is not clear is how the existing industry structure will transition to a new structure and how different players will be impacted by the changes. Before presenting the relevant literature and its application to the video games industry, we will present the major transformations already undergone in this sector.

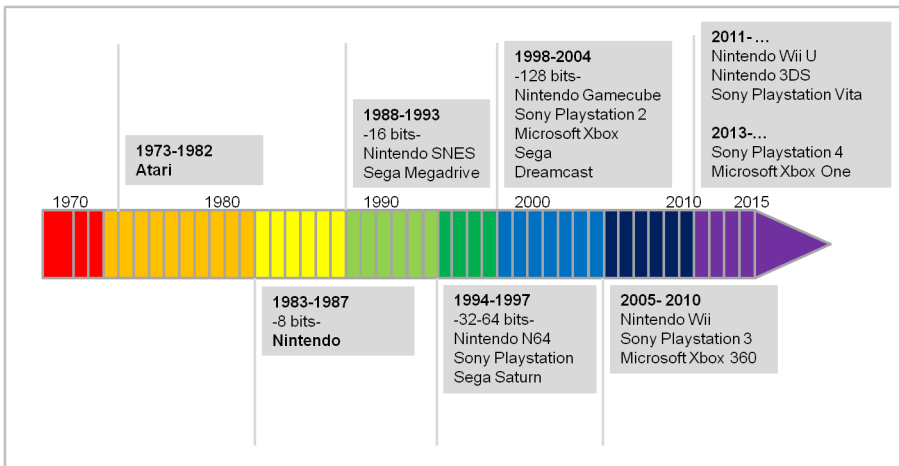
The console game sector

The video game industry includes all the production activities from the development to the distribution of gaming software and hardware and accessories. Home console manufacturers remain key industry actors as

they generate a large share of the industry's revenue. The oligopoly maintained by the three console manufacturers is governed by the strategies they have adopted over time (Figure 1). The console life cycle is typically between 5 and 6 years. Each cycle is represented by a technological innovation that determines the success of the product.

In this industry, innovation is considered to be the key success factor and technological prowess has grown with each new generation of console launched. Microsoft and Sony compete head on in this regard, while Nintendo has a different positioning based on gameplay (DAIDJ & ISCKIA, 2009). The video games industry has a certain number of characteristics that have influenced the strategies of its major players. It is a two-sided platform industry with proprietary standards and high direct and indirect network externalities (DAIDJ & ISCKIA, 2009). The subsidized pricing of the console, for example, serves to develop the user base and draw in developers. The sector is also characterised by path dependency whereby choices made by console manufacturers in relation to next generation consoles are determined, in part, by prior decisions and investments (VENKATRAMAN & LEE, 2004).

Figure 1 – Evolution of the console leading manufacturers



Adapted from DAIDJ, 2013

Rapidly emerging non-console based video games

It has been possible to play games on mobile phones since 1997 when the game Snake was installed on Nokia phones. Mobile video game revenues have grown significantly since the launch of the iPhone in 2007. There are two main revenue models in mobile gaming: the paid content model, considered to be the "traditional model", and the Free-to-Play, ad-funded and micro-transactions model. The first form of mobile gaming is focused on enlarging the gaming population; the second is interested in increasing the revenue per user. The flourishing mobile market corresponds mainly to the second form of gaming.

The success of engaging on-line games such as Clash of Clans and Minecraft has been magnified by the emergence of tablets and higher quality mobile phones. Both the mobile and tablet phenomena are further accelerated by the growth of such terminals in emerging markets, where penetration of both consoles and fast Internet connections has not yet reached anything close to that of developed markets. Chinese consumers' online and mobile use of video games, for example, depends largely on local suppliers such as Tencent.

Online gaming initially emerged in 1996 with the launch of *Nexus: The Kingdom of the Winds* in Korea. There are two categories of online games: browser-based games and client-based games. The first category corresponds to games that can be accessed on a browser or portal, such as "Yahoo! Games", and where there is no need to install any software. Client-based games, on the other hand, require users to download software. Initiatives have been undertaken to structure the online gaming ecosystem. These include, for example, the development of the Steam platform by the on-line game developer, Valve. Launched initially in the Windows environment in 2003, Steam continues to evolve and adapt to the market by adding new environments to its platform: iOS in 2010, Android in 2012 and, more recently, Linux. By providing a pipeline directly to gamers, such platforms allow developers to build communities more easily and increase potential to monetize their online games.

Offline players have also progressively shifted online with the arrival of social games. Broadband access enables the diffusion to a wider market via social networks in which a whole new category of games such as Farmville has appeared. These games are simple, casual and have a viral distribution as users share them, challenge each other and post their performance to compete with each other.

Traditional video gaming has also shifted to online distribution and the main console manufacturers offer online services such as Sony's Playstation Network, Nintendo's WiiWare and Microsoft's Xbox Live. By allowing games to be downloaded to the console's hard drive, manufacturers can generate greater revenues and also offer content other than games, such as music and films. This form of access also facilitates occasional gaming and enhances collective gaming experiences.

Game on Demand (GoD) or Cloud Gaming is another promising area of development as data compression allows the user to access high-definition games without storing any files, as the games are stored in the cloud. Users can thus access AAA games no matter where they are and which device they are using. The first live cloud gaming on demand service was launched in Cyprus in 2005 by G-cluster and other significant cloud gaming companies such as Onlive and Gakai have emerged since 2010. While significant economic and technological difficulties remain to be overcome, cloud gaming has the potential to restructure the industry as it removes the constraints of localization and the limitations linked to the gaming device (MORENO *et al.*, 2012).

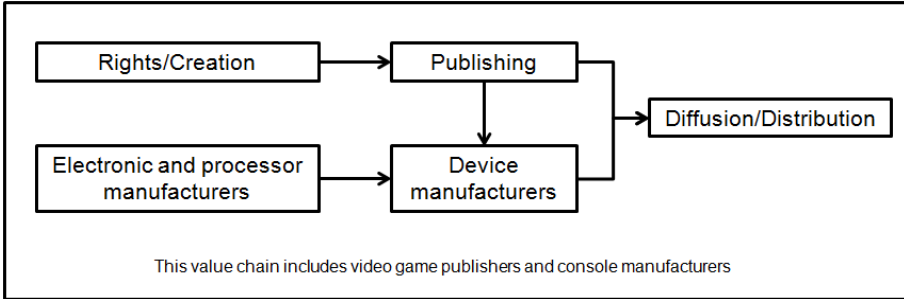
Finally, further disruption may emerge in the video game sector from "Smart" TV initiatives from potential new entrants such as Samsung and alternative players such as the low cost Gamestick, which potentially turns every TV into a video console. The potential for mobile phones to be converted to controllers for both hand-held and TV-based video games is also likely to be exploited more fully in the future.

From value chain to video game ecosystem

Traditionally, the videogame sector used the same value chain as that of multimedia-based technology (Figure 2) with the console constructor dominating and clearly influencing the other actors (DAIDJ, 2007).

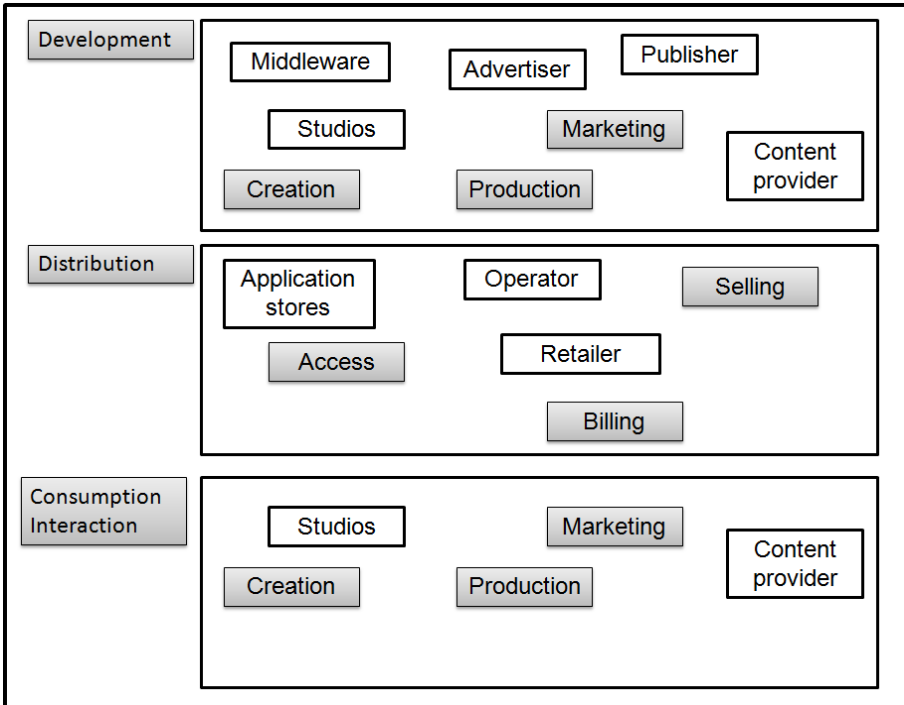
With the multiplication of devices and the development of the Internet, the value chain has evolved and the videogame industry involves a large number of actors conducting inter-related activities. In the traditional value chain, for example, the consumer has no interaction with either the content owner or the developer. Today, however, such actors are increasingly in direct contact with users.

Figure 2 – Video game value chain



Adapted from DAIDJ, 2007

Figure 3 - Video game ecosystem



Adapted from DE PRATO, 2010

As a result, viewing the video game sector from the perspective of a value chain is less relevant than before and it is more useful to consider it as an ecosystem, composed of development, distribution and consumption. As more actors appear within the ecosystem, value is no longer created only by the main actors of the original value chain but also by other participants such

as the operator providing internet access or advertisers funding game development (Figure 3).

It is not possible today to predict either the future ecosystem or the proportion of spending that will go to mobile and online gaming compared to traditional console-based gaming. The level of uncertainty that this creates generates specific challenges for mainstream strategic management. Long-term and medium-term planning becomes more difficult and the relevance of long-standing competitive advantages becomes less clear. We will now consider the different approaches to the concept of strategic management before applying the different schools of thought to the transformation of the video games industry.

■ Revisiting the concept of competitive advantage in strategic management literature

Sustainable competitive advantage has traditionally been the key concept used by strategic management to explain a firm's success. A recent best-selling book (2013) published by Rita GUNTHER McGRATH entitled *The end of competitive advantage* has called into question its relevance in today's fast moving and hypercompetitive marketplaces. Before looking at the video game industry from this perspective, we will begin by examining the concept of competitive advantage and the related concept of business models.

Sustainable competitive advantage versus transient competitive advantage?

The concept of sustainable competitive advantage has remained a cornerstone of management thinking and behavior. The idea emerged in 1984, when DAY explained that there are two types of strategies that may help to "sustain the competitive advantage" (p. 32). Other authors (HALL, 1980) insisted on the need for firms to possess unique advantages in relation to competitors in order to survive. A debate on what actually constitutes competitive advantage ensued in both strategic management and economics (RUMELT *et al.*, 1991).

Michael PORTER (1985) is generally considered to be the founder of the school of sustainable competitive analysis. He developed several tools with a view to analyzing the environment in which businesses operate. Up to and including Porter, firms were judged on how they interpreted the environmental constraints – be they competitive, regulatory or of other forms. The 'external' emphasis of this approach, however, was judged to be limiting and, over time, more attention was paid to the internal dimension of a firm's competitive strategy. Alternative approaches thus emerged to enrich strategic thinking, notably the theory of resources and competences. The resource-based view (RBV) and the associated analysis of competences and capabilities (HAMEL & PRAHALAD, 1994; WERNERFELT, 1989) have grown to represent a significant analytical framework of company strategies and have generated new perspectives on how firms actually construct sustainable competitive advantages based on distinctive resources, core competences and capabilities thus having a long-term influence on the context in which they do business.

BARNEY (1991) contributed to the discussion by exploring the relationships between a firm's resources and sustainable competitive advantage. He considered that for firms to achieve sustainable competitive advantage through resources, these resources must possess four attributes: rareness, value, inability to be imitated, and inability to be substituted. The more complex notion of capabilities, defined as the ability to perform "a coordinated set of tasks utilizing organisational resources" (HELFAT & PETERAF, 2003, p. 999), emerged from this work. KAY (1993) considers as 'distinctive' those capabilities that competitors do not possess and that are sustainable.

The conditions under which temporary competitive advantage emerges

Since 1990, a debate has emerged in the field of strategic management about whether competitive advantage is sustainable or temporary in nature. The ways in which firms adapted to disruptions and transformations in their industries led researchers to suggest a state of permanent transformation (SAÏAS & MÉTAIS, 2001). The evolution of the console and video game industries has been viewed as typical of such dynamics (SHANKAR & BAYUS, 2002; JOHNS, 2006; VENKATRAMAN & LEE, 2004).

Numerous researchers have proposed the term of temporary competitive advantage, also known as 'transient', 'fleeting' or short-term advantage. In his groundbreaking book published in 1994, D'AVENI introduced the concept

of hypercompetition. He explains that competitive advantage is, by definition, destined to disappear in such a context and that it is futile to attempt to defend a sustainable competitive advantage. The only sustainable position is that of movement and long-term, or sustained, above-average profitability is not feasible. D'AVENI *et al.* (2010) thus propose "the age of temporary advantage" as an alternative concept. A competitive firm should constantly be able to reposition itself in terms of its value proposition, its savoir-faire and its financial capacity in light of the changing entry barriers and time frames of evolving competitive dynamics. Hypercompetitiveness thus presupposes permanent transformation of competitive advantages. Other authors (such as HAMEL, 2000) have also highlighted that firms in competitive industries are almost systematically seeking the same temporary advantages, rather than focusing on more sustainable long-term strategies.

Debating notions of duration and sustainability of competitive advantage

Despite its importance in the field of strategy and competitive advantage, sustainability has not been clearly defined and different theoretical positions persist. COYNE (1986) explains "perhaps it is because the meaning of 'sustainable competitive advantage' is superficially self-evident that virtually no effort has been made to define it explicitly" (p. 54). Two approaches can be distinguished in relation to the interpretation of competitive advantage:

- Sustainable competitive advantage is linked to a time continuum. PORTER (1985), for example, illustrates this logic in describing competitive advantage as "the fundamental basis of above-average performance in the long run" (p. 12). HILL & JONES (2004) also do so when they consider that an organization "has a sustained competitive advantage when it is able to maintain above-average profitability over a number of years" (p. 76). What 'long run' involves is not specified, nor is the exact number of years.
- Sustainable competitive advantage is not directly linked to time but to the possibility of duplication by competitors (LIPPMAN & RUMELT, 1982).

"A firm is said to have a sustained competitive advantage when it is implementing a value creating strategy not simultaneously being implemented by any current or potential competitors and when these other firms are unable to duplicate the benefits of this strategy" (BARNEY, 1991, p. 102).

The concept of the business model is key to understanding the new ways that firms seek to create and capture value in order to re-inforce competitive

advantage and sustain it. The two concepts of competitive advantage and business models are thus intimately linked.

Business models, competitive advantage and strategy

As with sustainable competitive advantage, the concept of the business model (BM) is not yet very well defined in academic literature. The term includes the means by which the firm generates revenue by creating value, the resources and competencies needed and the organization of transactions between the participants. The BM explains how the resources and competencies are mobilized by a firm to develop a value proposition for its various client groups and how it organizes its internal value chain and value network (DAIDJ & ISCKIA, 2009).

A BM is the direct result of strategy but it is not strategy itself (CASADESUS-MASANELL & RICART, 2010). Strategy is a dynamic vision that positions the firm in a value network while the BM is a static vision of the most satisfying way to generate revenues for a given solution and position in a value network. These links between BMs and strategy have previously been analysed and the framework has been applied to manufacturers of video game consoles (DAIDJ & ISCKIA, 2009).

The BM should reflect the coherence of internal and external choices made by the firm. Resources and competences are elements that actively contribute to creating value, generating revenue and are necessary to develop an offer for the end-client, for whom the product is made. The company's value chain reflects the internal value creation processes (resources and competences), while the value network reflects the external value creation processes. The BM is a link between these two areas.

BMs are closely linked to competitive advantage. ZOTT *et al.* (2011), among others, consider that the BM can be a source of competitive advantage. The concept of both sustainable and temporary competitive advantage and the consequences of each on BM are compared (Table 1) and several conclusions emerge from the comparison:

- Competitive advantage – both sustainable and temporary – can be explained by both external (environment, market, etc.) and internal (resources, competencies, capabilities and dynamic capabilities) forces. The same concepts are used to explain the development of both sustainable and temporary advantages.

- BM has generally been associated with the concept of sustainable competitive advantage and defined as a "concise representation of how an interrelated set of decision variables in the areas of venture strategy, architecture, and economics are addressed to create sustainable competitive advantage in defined markets" (MORRIS *et al.*, 2005, p. 727). Competitive and technological evolutions, however, have modified this vision and a more turbulent environment (STIEGLITZ *et al.*, 2009), in a context of hypercompetition, has obliged firms to develop temporary advantages and to propose new BMs. Nonetheless, the authors add that, unlike what might appear to be intuitively the case, a flexible strategy and a new BM are not necessarily the best responses to a turbulent environment.

Understanding BMs also involves defining the nature of innovations, as CHRISTENSEN (1997) has done with the concepts of disruptive versus sustaining innovation. He has shown how the dominant positions of large firms can prove to be an obstacle to their adaptation in phases of radical change and disruptive innovation where such firms need to adopt innovative BMs to compete with aggressive new entrants. In more recent work, JOHNSON, CHRISTENSEN & KAGERMANN (2008) have defined five conditions that justify adopting new BMs:

"The opportunity to address through disruptive innovation the needs of large groups of potential customers who are shut out of a market entirely because existing solutions are too expensive or complicated for them [...], to capitalize on a brand new technology by wrapping a new business model around it [...] and to bring a job-to-be-done focus where one does not yet exist [...]; The need to fend off low-end disrupters [...] and to respond to a shifting basis of competition"

In relation to the video game sector, as technology converges and the video game ecosystem outlined in section 1 becomes more complex, business models become more difficult to define. As with all computer related systems, the advances on technology mean that BMs evolve as the technology matures and existing BMs may be rendered obsolete by disruptive innovations (CHRISTENSEN, 1997). From the elements outlined in Table 1, it is not clear that innovative BMs will allow firms to systematically develop a sustainable competitive advantage. The following analysis considers how the video game industry will evolve in light of the above discussion on the nature of competitive advantage. The key research question is "will firms in this industry have to choose between sustainable or transient competitive advantage or will business models emerge that make it possible for the two types of competitive advantages to co-exist?"

Table 1 - The evolution of the concept of competitive advantage: from sustainable to temporary theoretical approaches and consequences on business models

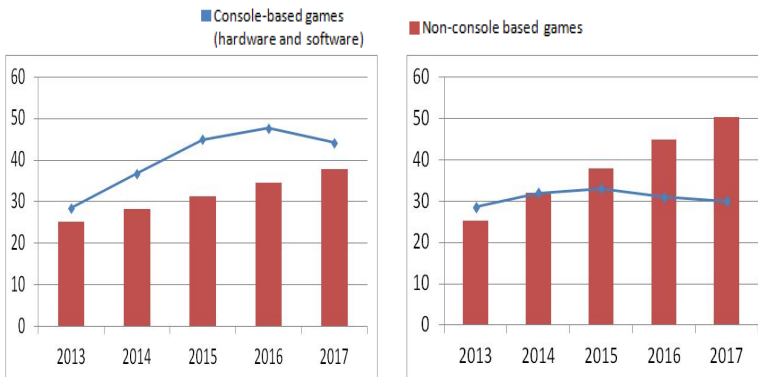
	<i>Sustainable "long-term" advantage</i>	<i>Temporary, transient, "fleeting" advantage</i>
Conceptual framework / Definitions of competitive advantages (CA)	<ul style="list-style-type: none"> - "The fundamental basis of above-average performance in the long run" (PORTER, 1985, p. 7). - "In a dynamic and competitive environment, the real source of competitive advantage is underlined by the organisation's ability to consistently meet environmental changes, as well as to change industry structure" (CARMELI, 2004, p. 111). 	<ul style="list-style-type: none"> - The durability of a competitive advantage is limited because strength and weakness sets change significantly over time (D'AVENI, 1994; SIMON <i>et al.</i>, 2010). - "Developing a temporary advantage is not just about protecting or creating strengths, but also addressing weaknesses" (SIMON <i>et al.</i>, 2010, p. 1404). - IANSITI & LEVIEN (2004) point out the fragile nature of competitive advantage "in situations of significant technological and market upheaval" (p. 9).
Potential sources of competitive advantage	<ul style="list-style-type: none"> - Lower cost and differentiation (Porter, 1985) - Gaining a sustained competitive advantage is determined by fast and effective responses to the five forces (see above) - Distinctive resources and core competencies (see above) - Intangible resources and capabilities (COLLIS & MONTGOMERY, 1995). 	<ul style="list-style-type: none"> - Dynamic capabilities can accelerate the process of acquiring temporary advantages (LEE <i>et al.</i>, 2010). - Adoption of focus strategy rather than flexibility strategy: "Strategic focus reaps temporary advantages in more turbulent environments, while strategic flexibility is viable in less turbulent markets." (STIEGLITZ <i>et al.</i>, 2009, p. 1).
Consequences on business models (BM)	<ul style="list-style-type: none"> - What kind of BM leads to sustained competitive advantage? - A firm's existing kind of distinctive resource or core competence allows for decisions on the type of BM best suited in a given competitive situation. - Long-term sustainable competitive advantage seeks to maintain technical advantage through BMs based on ongoing innovation. 	<p><i>Constant adaptation</i></p> <p>"It is thus necessary to constantly adjust the configuration of resources, the nature of the offer and the relationships with partners according to evolving competitive conditions and the opportunities that present themselves. This position is not natural or comfortable, however, and demands that companies be able to break or exit the dominant logic that shapes their BM" (DAIDJ & ISCKIA, 2009, p. 34).</p> <p><i>Uncertainty and BMs</i></p> <p>"The focus logic suggests that the trigger points that allow pursuit of new business opportunities should be raised when uncertainty increases. The intuition here is that getting lured away from a proven business model will be unprofitable because the firm loses direction in its pursuit of questionable opportunities that come and go with increasing pace" (STIEGLITZ <i>et al.</i>, 2009, p. 4).</p> <p><i>"Reinventing" BMs</i></p> <p>"Companies should not pursue BM reinvention unless they are confident that the opportunity is large enough to warrant the effort. And, there's really no point in instituting a new BM unless it's not only new to the company but in some way new or game-changing to the industry or market. To do otherwise would be a waste of time and money" (JOHNSON <i>et al.</i>, 2008, p. 67).</p> <p>Does exploiting a temporary competitive advantage allow a firm to develop a long term BM?</p>

Source: summary of the work of the authors cited

■ Sustainable competitive advantage and temporary competitive advantage in the video games industry

In order to evaluate the relevance of the concepts of sustainable competitive advantage and temporary competitive advantage in the video games industry, we have chosen to compare two alternative scenarios for growth in the industry; The first scenario, taken from figures published by industry consultants (IDATE, 2013) forecasts that revenues from console-based games (hardware and software) will reach over €44 billion in 2017, representing 155% of sales in 2013. Non-console-based revenues are forecast to grow to almost €38 billion, representing 150% of the 2013 figure. We chose to develop a more "pessimistic" scenario from the perspective of console manufacturers, forecasting sales of only €30 billion in 2017, which amounts to only 104% of 2013 revenues. Forecasts for non-console-based revenues, on the other hand, are more optimistic with revenues at over €50 billion, representing a doubling of revenues compared to 2013 (Figure 4).

Figure 4 - Alternative scenarios for growth of console-based games and non-console based games (€ billion)



Source: adapted from IDATE, 2013, and authors' forecasts

Presenting two different scenarios in this way contrasts a five-year view in which existing firms will continue to benefit from relatively healthy growth levels, comparable to those experienced previously, with a more radical vision of competitive dynamics over the next five years. Ironically, it is the video games industry that was used by DOWNES & NUNES (2013) to illustrate their concept of "big bang" disruptions that displace incumbents with an entirely different set of technologies, customer target and business model. In their illustration, it was the emergence of video games in the 1990s that led to the demise of the pinball industry, which has since been

confined to a niche market. The challenge for the actors who have succeeded in what has now become the "traditional" video game sector is to consider if and how they need to reconsider their sources of sustainable competitive advantage.

To investigate the academic question of whether firms must choose between sustainable and temporary competitive advantage when faced with changing competitive dynamics, the video game industry was seen as ideal. The methodology chosen (Box 1) was one which allows the research to track on-going events in a fast-moving industry.

Given the potential for disruption posed by the non-console-based alternatives, secondary research and interviews were used to consider how each of the two scenarios would play out and how key actors in the sector would need to ask key strategic questions about their BM (Table 2). In the first part of the table, the details of the scenario are explained and in the second part, the impact is outlined for different actors in the industry.

Box 1: Research methodology

The question of convergence that is facing the video games industry is one which has already significantly transformed the telecommunications industry. The competitive, technological and market landscape that has emerged from the transformation of the telecom industry was not one that could have been foreseen. Having examined the impact of convergence on the telecom equipment industry (CARPENTER *et al.*, 2003) and the media sector (DAIDJ, 2011), the authors are committed to a research approach that seeks to understand the decisions made by firms in a context of rapid change. While such dynamic and unpredictable environments are complex to research, they are also particularly relevant in management studies as they are often forerunners of phenomena that will appear in other sectors. Once it is regularly subjected to critical input from industry actors, this research approach offers a promising means of "catching up with history" (LAZONICK, 2012).

To analyze the competitive landscape of the video game sector, secondary data have been collected. Research reports on industry and company developments reviewed and downloaded include:

- XERFI: Consumer electronics groups - 4 reports, 2013-2014.
- MarketLine: Company profiles - 5 reports, 2012-2014.
- IDATE: DigiWorld Yearbook - 2 reports, 2012-2103.

In addition to secondary research, the authors conducted in-depth interviews with senior executives in firms considered to be representative of the sector. In all, ten interviews were conducted in France in 2013 and 2014 with senior executives within firms of different sizes (1 console manufacturer, 1 editor, 4 developers, 2 studios and 2 telecom operators). Two interviews with experts from IDATE and IDC were also conducted. All these interviews were open-ended based on facts, events and opinion and were used to question the researchers' understanding of sectoral dynamics, on the one hand, and of the potential impact of such changes on actors' strategies, on the other. These discussions thus led to a more fine-grained understanding of the technological, competitive and market-based changes that are perceived as significant by industry actors and that need to be included as potential variables in the scenarios developed. In addition, the potential impact of the scenarios developed was refined and revised with input from actors considered representative of the decision-makers in the sector.

The premise of the two scenarios presented is that the first column represents the situation of least disruption in which existing console manufacturers and their partners can continue to sustain the competitive advantage that they have built up over previous generations of console technologies. In this scenario, consoles and their associated AAA games will dominate the competitive landscape. The oligopolistic nature of the sector is not undermined by the new technologies and players, but each of the two markets continues to grow successfully. High barriers to entry persist in the console-related businesses and the profits generated allow for both traditional growth and diversification into areas of non-console gaming, but these are considered primarily as a means to support the core business. New sources of growth in emerging markets, notably China, will further enhance the existing business model.

For Sony and Microsoft, as diversified players, the key technological challenge will be to pursue convergence of terminals and to position themselves to take a share of future revenues from the combined TV-PC-console home entertainment market, increasingly known as the household "media center". For Nintendo, as a pure player, the challenge will remain to find the means to add value to its consoles, both home and mobile, and to leverage its successful franchises, such as Mario Bros, in new ways.

The partners of the console makers, be they publishers or studios, will continue to develop close relationships with console manufacturers, but they will also be active in seeking out new opportunities in the fast growing market that is not linked to consoles. This temptation will be stronger for those studios that can mobilize their existing capabilities to take advantage of new opportunities in mobile and PC video games, where the barriers to entry are lower.

In the scenario presented in the second column, the sector is facing a far greater market fragmentation and a more rapid fall in revenues from the console market. This is closer to the 'big bang' event that video games wrought on the pinball market some 30 years ago. There will be a host of new entrants as mobile and tablet forms of gaming grow in sophistication and game play. Many new entrants may be from China and other emerging markets where mobile and PC gaming have developed without competition from consoles. While barriers to entry are lower than before, they will nonetheless reemerge in the form of technical and marketing prowess and the financial commitment needed to build such video games across multiple platforms and terminals.

Table 2 – Comparison of key strategic dimensions for two scenarios

Scenario outlines	Scenario 1 "maintain competitive advantage"	Scenario 2 "build temporary advantage"
Assumptions of growth dynamics	Significant part of the dynamics of the video games market continues to be driven by the investments made by console manufacturers in: a. The development of new consoles. b. The commercialization of new usages based on these consoles: multi-player gaming, cloud gaming, increments to AAA games on mobile devices.	A more significant part of the market switches to non-console usage. a. Mobile and tablet games become more sophisticated and challenging. b. Asian consumers, studios and publishers grow in importance, spending and revenues.
Market structure	- Oligopoly situation continues with game console as driver of innovation and market growth with the launch of each new generation of consoles. - High barriers to entry, technological and marketing. - Overall market size grows as non-console gaming also steadily increases.	- Market becomes predominantly fragmented as consumers use multiple devices to consume games. Value of gaming linked to consoles declines. - Lower barriers to entry than for console-based gaming but new barriers in marketing and technology nonetheless emerge. - Structured mobile and on-line platforms and communities emerge and grow in importance.
Primary sources of revenue growth	1. Penetration of new emerging markets with existing consoles. 2. Introduction of new generations of consoles in 5-7 years. 3. Marginal growth from small pockets of opportunities for games on social networks and mobile devices.	1. Significant growth from growing opportunities for games on social networks and mobile devices. 2. Players from emerging markets developing their gaming insights in developed markets. 3. New usages for mobile gaming and social gaming in the household, workplace and in educational establishments.
Business model for console makers	- Diversified console makers seek to optimize convergence with other hardware platforms in their portfolio. - Specialized console makers seek differentiation via AAA games and ergonomics of console. - Console subsidized and profits generated from games. - For both, partnerships with publishers and studios key to successful console development.	- Diversified console makers (Microsoft and Sony) seek presence across all forms of access to content – further diversification seeking synergies from hardware and software in different interfaces. - Specialized console maker (Nintendo) dependent on key games and strong franchises that can be adapted to other manufacturers' devices. - For both, greater number of partnerships to keep maximum options in play. - M&A seen as a way to diversify into non-console segments. - "Entry level" console(s) developed for emerging markets.
Business model for publishers	- Close relationships with console manufacturers key to maintaining existing gamers and attracting new gamers. - Multiple relationships with studios to access new technologies, new forms of gameplay and new usages that are complementary to AAA games.	- Develop strong relationships with studios to provide access for console manufacturers to multiple knowledge sources. - M&A seen as a way to diversify into non-console segments. - Larger companies will be at an advantage as they can learn from a larger variety of studios and navigate transitions but they will need to adopt "fast fail" methodologies, where they learn to leave non-performing businesses rapidly and 'pivot' to new areas of potential growth. - Increasing use of beta versions of products.
Business model for studios	- By developing specialized technological skills, they may become partners with established firms, via open innovation, or they may be acquired. - Start-ups with a vision of a new game attract venture capital or raise finance from friends, public grants or borrowing. - May consider games not linked to consoles, inspired by high level of returns to high-profile success stories.	- Develop specific technological and marketing knowledge across new areas of growth for gaming: Free to play, Play stay and pay, Freemium, Ad-funded, Derivative products, Buzz management, Social network "virality", community management, Addictive content development... - Multiple products in development in parallel, development of comparable gameplay for multiple platforms. - Increasing use of beta versions of products.

Key success factors * = relevant ** = important *** = crucial	<i>Supply-driven</i> - Financial strength *** - Cost reduction management *** - Supply chain management***	<i>Demand-driven</i> - Gameplay *** - Price attractiveness ** - Variety of games *** - Distribution *** - Brand management***	<i>Supply-driven</i> - Financial strength ** - Cost reduction management* - SCM - Technological excellence* - Creativity***	<i>Demand-driven</i> - Gameplay *** - Price ** - Variety - Distribution - Buzz insight*** - Viral marketing*** - Social relevance*** - Connectivity*** - Addictive nature***
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Existing players will not remain static in light of the emergence of a faster than expected decline in their revenues. Diversified console makers will push for greater synergies between their devices and Nintendo will seek to benefit from the greater transferability of its video games for handheld devices to the new mobile terminals. Console makers will accelerate M&A activities and actively partner to a greater degree with start-ups and growing firms in the new non-console landscape to acquire capabilities. "Entry level" consoles may be developed for emerging markets to maintain global market share. All console manufacturers, and, more particularly, editors will be called upon to accept a higher rate of failure and to adopt more rapid "fast fail" procedures to ensure they are willing to drop projects faster and move on to new ones. Such a development will mean that the level of financial commitment to each project may be reduced and the creative process and project planning procedures will have to be revised. Studios will transform themselves more rapidly to adopt the new toolkit of non-console-based video games. Both studios and publishers will experiment to a far greater degree with the practice of launching beta versions of their games to generate feedback on content, gameplay as well as buzz and viral impact.

Overall the greatest challenge to existing players is evident in the final row of the comparative table. In column one, the key success factors contribute to their existing competitive advantages. These are both supply driven and demand driven and all firms in the industry have shown themselves capable of building world-class organizations, be it in terms of financial might, technological prowess or marketing expertise. However, the scenario presented in column two does not allow such competitive advantages to continue to generate higher performance. The key success factors that are likely to generate such superior returns are situated in areas such as viral marketing and community management, which, for traditional firms, have only had a marginal impact on their prior performance. Their first mover advantages are not going to be of use to them in this type of context and they will find themselves in a landscape where more is uncertain to them than is familiar. To succeed in the new environment, they will be called

upon to operate in a more agile way and to accept a higher failure rate for new projects than has previously been considered reasonable or profitable.

Clearly, the incumbent firms – be they console manufacturers, publishers or video game studios – will be monitoring the progress of the substitute market for console-based video games and they will react to the market signals as they emerge. Paradoxically, much remains to be understood in the field of strategic management about how firms make such transitions. At sectoral level, returns can be compared between firms in the same industry, but this is not the same thing as a case-by-case analysis of the decisions taken by firms to address such disruptive change. Many internal factors may explain why certain firms are more successful than others at taking the necessary steps to reconfigure competitive advantage.

A key question that remains unanswered is that of the co-existence within the same firm of both sustainable competitive advantage and temporary advantage. For McGRATH (2013), who refers to "transient advantage", such co-existence is not possible; the author sees the very existence of sustainable competitive advantage as limiting firms' willingness to seek out signals that their advantage is becoming outdated. She thus encourages firms to practice "healthy disengagement" and leave existing businesses even before the opportunity has been exhausted in order to transition more readily to new opportunities. D'AVENI *et al.* (2010) prefer to leave the question open to further research and suggest both wave theory and chaos theory as promising new avenues for investigation. They even suggest that the hypercompetition scenario may represent a specific form of Porter's five forces with low barriers to entry and growing threats from substitution, high power of buyers and suppliers and rising industry rivalry.

■ Conclusion

Our analysis of the evolution of the video games sector has suggested that it is an area in which the sustainability of competitive advantage will be increasingly called into question. While we are not in a position today to predict the future market evolutions, we have proposed two scenarios in which to consider the impact on sustainable competitive advantage of a significant change in competitive dynamics. We believe that asking such questions in advance of real-world market evolutions can contribute to the emerging literature in the area of temporary competitive advantage.

An entirely new set of competitive dynamics may emerge with the entry of significant players from other industries, such as Facebook with its Oculus Rift acquisition, Apple potentially launching a TV and Amazon a set-top box. On-going, granular observation and analysis of the real world developments of different actors in the video games sector over the coming 5-10 years will be of great relevance to the field of strategic management. Such research should seek to identify possible opportunities for strategic adaptation for game console manufacturers as they experiment with developing temporary advantages and, over time, can include a performance perspective as the results of such adaptations play out in the emerging marketplace. The research will use the video game console market to address such questions as: Which console manufacturers are adding temporary advantages to their sustainable competitive advantages? Are they able to maintain both and, if so, how did they do it and how did it improve performance? If not, does it damage their performance? How have their business models had to be adapted and how have they managed to overcome their inherent path dependency? As this type of information is, by definition, emerging as firms take decisions in reaction to on-going events, it would suggest a research project conducted in close collaboration with industry actors.

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