

The Business of Making Games

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Introduction

Journalists have written many books on the digital games industry. Some of these books focus on one company (Sheff 1993; Asakura 2000; Takahashi 2002) while others give a broad history of the technologies, key players and significant games (Herz 1997; Poole 2000). Although useful, these texts do not provide an understanding of the overall structure of the industry, the relationships between the main players and the process by which a game gets produced. In addition, very little attention is given to new markets like games for mobile, web and interactive television (i-TV). One is more likely to find information on these sub-sectors in trade magazines or on specialist websites like www.gamasutra.com and www.gamesindustry.biz.

The aim of this chapter is to give the reader an insight into the growing economic significance of the global games industry, to explore the process by which games get produced and to examine the dynamics operating in each sub-sector of the industry. Thus the 'business' of making games is defined rather broadly. The sections below explore growth in the games industry and claims that it is now larger than the film industry before analysing its structure and the key industrial dynamics operating across the main sub-

sectors. Finally, the chapter examines the latest trends in the industry focussing on consolidation and licensing.

This chapter takes a political economy approach to the business of making games. Political economy is a branch of economics, which has been used extensively to study the media. According to Mosco (1996:25) political economy is the study ‘of the social relations, particularly the power relations, that mutually constitute the production, distribution and consumption of resources.’ Political economists often identify the location, use (and in some cases abuse) of power by companies at various stages in the production cycle and they draw attention to the influence that corporate consolidation and certain business strategies can have on the range of content available on a media platform. This perspective underpins the analysis in the following sections.

Sales and Growth in the Digital Games Industry

Constructing an accurate picture of the size of the global games industry in terms of software and hardware sales is a difficult task. The information contained in government, consultancy and press reports usually fails to give a global perspective on the industry and indeed often offers contradictory information. This section explores data commissioned by the industry umbrella bodies the Entertainment Software Association (ESA) in the US, and the Entertainment and Leisure Software Publishers Association (ELSPA) in the UK, and government reports from the UK and Japan¹. Despite the caveats already mentioned it is clear that sales, both in monetary and unit terms, across all platforms have grown significantly over the past ten years and currently the digital games industry is seen as both a threat and an opportunity by traditional media companies.

A UK government report suggested that the global 'leisure software' industry in 2000 was worth approximately £13bn of which almost £10bn was accounted for by games software (Spectrum 2002:10). Within this total the US market accounted for 35 percent of total sales, Europe 31.5 percent and Japan 18.5 percent. These figures are corroborated by figures published by Deutsche Bank in 2001, but this report estimated that the US accounted for 40 percent of total sales followed by Japan at 33 percent and Europe at 26 percent. A third source estimated that total games software sales in 2001 were worth \$17.7bn and indicated that the largest market was the Asia Pacific market with sales of \$7.6bn in 2001 (DataMonitor 2002). A fourth source estimated that the global interactive software market was worth \$18.2 billion in 2003 (Screen Digest 2004). Table 3.1 converts these figures to Euro for ease of comparison. From an industrial and policy making perspective this variance in data and definitions as to what constitutes game software makes strategic planning and comparison with other industrial sectors difficult.

INSERT TABLE 3.1 ABOUT HERE

So how big is an industry which generates between €13 and €18bn annually in software sales? These figures become more meaningful when we compare them to sales figures for traditional media products. Unfortunately there is no source for such data on a global scale and so we will focus on the USA and figures provided by a number of industry associations.

The National Purchase Diary (NPD) Group, a consultancy based in New York, estimates that total sales of hardware, software and accessories in the USA in 2002 generated \$10.3 billion, of which about \$6 billion was earned by game software (<http://www.npdfunworld.com>). By comparison, the US domestic box office in 2002 generated \$9.5 billion (MPAA, 2002). The figure for total hardware and software game sales is often used to suggest that the digital games industry is now worth more than the film industry. Indeed the claim is made so often in the popular press and game magazines that it demands closer investigation. It turns out that these comparisons usually fail to point out that ‘total game sales’ includes sales of game hardware, accessories and leisure software like photography libraries. In addition, they often fail to explain that cinema receipts only form a small percentage of the total revenues made by a film. Indeed box office receipts only account for 25 percent of total revenues and typically video and DVD sales/rentals, network and cable TV and pay-per-view are all important additional sources of revenue (Deutsche Bank 2002:29). Further, while growth in the digital games industry has been fairly steady since 2001 growth in the US box office has fallen from 13.2 percent between 2001 and 2002 to almost no growth in the past four years (ESA 2004; OECD 2004). Figure 3.1 gives an overview of total sales by media sector in the US in 2002.

INSERT FIGURE 3.1 ABOUT HERE

Where the various reports do agree is on the significance of console games in comparison with games sold for other platforms. The various reports analysed estimate

that between 57 and 78 percent of total global software sales are console games. At present the main consoles are Sony's PlayStation 2 (PS2), Microsoft's Xbox and Nintendo's Gamecube (GC). Some reports group handhelds like the GameBoy Advance (GBA) with the other console platforms. Interestingly, not all markets demonstrate the same affinity with console games. While console games dominate in Japan with almost 94 percent of total sales, this falls to 80 percent in the US and 55 percent in Europe (ESA 2003). The Spectrum report notes that Europe is by far the largest market for sales of PC games, at 47 percent, followed by the US at 35 percent (Spectrum, 2002:11). Sales of games on other platforms form only a small proportion of total revenues currently. Spectrum (2002:15) estimate that the mobile games market in Europe, the US and Japan was worth £73m in 2001, with Japan constituting over 50 percent of this total. They predict that the mobile games market would double in value to 2005 and that the online games market would grow from £0.5bn in 2001 to £0.89bn in 2005.

INSERT FIGURE 3.2 ABOUT HERE

Understanding the Structure of the Digital Games Industry

In May each year game developers from around the world meet at the Electronic Entertainment Exposition (E3) in Los Angeles to pitch their ideas to publishers, sneak a preview of other games and do licensing deals with hardware companies and Hollywood studios. The show has much in common with the main international film festivals Melia, Cannes: it has all the glitz, the hype and the, albeit digital, stars. In Europe the London Games Week and the Lyon Game Connection offer less glitzy industry fora. In Asia,

Japan hosts the biannual Toyko Game Show, which Steven Poole describes in detail in his book *Trigger Happy* (2000).

The UK, the US and Japan are the main centres of digital game production and all have substantial numbers employed both directly and indirectly in the digital games industry. In the UK the digital games industry employs more than 20,000 people across all sectors, with 6,000 employed directly in game development (Spectrum 2002). The same report claimed there are 270 independent and publisher owned studios and that the average UK development studio employs 22 people with the largest studios employing over 100 people. In the US the industry employs 29,495 directly in computer and video game software development and publishing with a further 195,000 indirect jobs in the information, trade and transportation sectors in 2000 in the US (IDSA 2001). In Japan game hardware and software employs an estimated 30,000 people (Aoyama and Izushi 2003). Other growing centres of game development include Australia, France and Koreaⁱⁱ.

In the next section we will describe the digital games production cycle, which is the cycle of activities involved in creating a game and delivering it to the customer. Following this, we will examine the structure of the digital games industry, dividing it into a number of different market segments and analysing the dynamics operating in each. In line with our political economy of the media approach we are concerned not just with production, but also with the interaction between production, finance, distribution and retail. In addition, we are concerned with the degree of concentration within and across each market segment.

The vertical structure of the digital games industry: the production cycle

The Spectrum report (2002:9) compares the production cycle of the games industry to the film, music and book industries. In all these industries a publisher provides advance finance to a creative artist and takes on the role of marketing and distributing the final product. Once costs have been recouped the artist will receive a percentage of royalties. A similar process takes place in the digital games industry although the artist is usually a team of people. The core stages in the production of games software include pre-production, production, publishing, distribution and retail Figure 3.3 lists the types of activities which occur at each of these stages in the development of a console gameⁱⁱⁱ.

INSERT FIGURE 3.3 ABOUT HERE

To produce a console game can take approximately 18 months while PC and mini games take on average 15 and 3 months respectively to complete. The size of development teams again can vary widely but 12-20 people is average for a console game with at least half of these engaged in content development and design and the balance in programming and management (Tschang 2003). Again there are variations from country to country^{iv}. In the UK, development teams are multi-functional and include all the skills needed to complete a project while in Japan companies tend to keep their core teams small and engage people with specialist skills only when they are needed (TerKeurst 2002a).

The development of a game involves a number of pre-production decisions. Choosing the platform that one wishes to develop for is a crucial decision as it affects the design and technologies used to develop the game as well as the partners and channels one must negotiate with. For example, if a developer wishes to develop for one of the major console platforms they must negotiate with the manufacturer, pay a license fee, acquire a specific development kit and follow their quality approval process. However, the costs of negotiating with the hardware manufacturer must be weighed against the potential profits to be gained from accessing the largest market segment.

The next major hurdle is to negotiate a publishing/distribution deal. There are three types of development company: first party developers who are fully owned by a publishing company, second party developers who are independent companies who are contracted to create games from concepts developed by a publisher and third party developers who are independent development houses who work on their own projects. For each, the source of the finance may vary, but all games begin as a concept or game proposal briefly described on a few pages of paper. Ten years ago this might have been sufficient to obtain some degree of funding, but today an advanced technical prototype must also be produced. Third party developers use this demo to secure a financial advance from a publisher although, as in more traditional media industries, it is easier for a developer with an established reputation to negotiate a larger advance and a higher percentage of royalties. Sometimes developers obtain finance from venture capitalists or private sources. The extent of first, second or third party development varies from market to market but one source suggests that almost two thirds of game development is done by

first party developers (Williams 2002:47). In other words, a majority of games are developed by teams working within or fully owned by a publisher.

If a publishing deal is agreed with a second or third party developer the publisher becomes involved to varying degrees in the production process. Sometimes the publisher will try to get the developer to change the original game concept to fit with the portfolio of titles they already have in production. Usually they will appoint a producer to the project who will provide both technical and creative input and assist in the management of milestones. Publishers may also take charge of ensuring that a game meets the quality thresholds demanded by the console manufacturer and generally they organize user testing, market research, marketing, localisation, manufacture of the game and negotiations with distributors and retailers.

The average development cost of a console game is from \$3-5 million but some games cost considerably more, particularly when the game is based on a film, book or sports license. Increasingly developers or publishers license intellectual property (IP) rights from another media for their game, for example, the right to use the voice and image of James Bond in a game (Kerr and Flynn 2003). Developers may also try to reduce the amount of time it takes to programme a game by licensing a 3D graphics engine or middleware, that is software which provides a library of pre-programmed behaviours and plug-ins. These tools enable developers to reduce development time. For example *Harry Potter and the Philosopher's Stone*, published by Electronic Arts (EA) in 2001 for the PlayStation, PC, GBA and Game Boy Colour (GBC) was based on the Harry Potter license and the developers of the PlayStation game licensed the Unreal Tournament 3D graphics engine^v.

Many publishers, almost 80 percent according to one estimate (Deutsche Bank 2002:26), own their own distribution channels and so this stage in the cycle may also be fully controlled by the publisher. The retail stage is more and more the preserve of large supermarket and specialist chains such as WalMart and Best Buy in the US, Game and Dixons in the UK. As the main access point to consumers retailers can significantly influence the success of a game through their allocation of shelf space and in-store marketing. As supermarkets and specialist chains grow in size they have more power to negotiate discounts on wholesale products and returns. While variations on this production cycle exist the majority of games follow these production stages, as outlined in the figure below.

The production cycle can also be viewed as a value chain. At each stage in the production cycle intermediaries add value to the core product and contribute to the final cost paid by the consumer. Figure 3.4 provides an estimate of the value added by each intermediary in the console value chain. According to this analysis the developer/publisher and the retailer are the two key sources of value added in the digital game value chain.

INSERT FIGURE 3.4 ABOUT HERE

The Horizontal Structure of the Digital Games industry: Key Market Segments

While the previous section analysed the production of a product vertically from concept to market another way to analyse the games industry is horizontally and divide it into a number of different market segments. Williams (2002) divides the games industry into three market segments: consoles, handhelds and PC and describes each segment in terms of market share, competition and product. In what follows we will develop a slightly different segmentation taking games as our starting point and not the hardware or platforms. In this segmentation we will group console and handheld games together and extend the number of segments to include new games and emergent markets around massively multiplayer online games (MMOGs) and mini games played on PCs, i-TV and wireless/mobile platforms. There are two reasons why this segmentation makes sense. Firstly, while sales of console and handheld games are the most significant in terms of sales at the moment (see Figure 3.2) it is clear that other markets are emerging which offer alternative business models, new types of games and are attracting new types of players. It is important that academics, policy makers and game companies realise that opportunities exist outside segment one. Secondly, a hardware based segmentation is unsatisfactory given the tendency for hybrid and new platforms to emerge at fairly regular intervals (see also Alvisi in this volume.) The development of MMOGs, for example, combines online and PC platforms to produce a new market segment with unique characteristics. In the future consoles may also allow one to play MMOGs. The four market segments identified in Table 3.2 are grouped according to the following four characteristics:

- Market Concentration – monopoly, oligopoly or numerous companies
The revenue model - shop sales, online sales, subscription, pay per play, free, advertising
- Degree of openness in hardware system – open, mixed, closed.
- Characteristics of the software production process – cost, length, team size

INSERT TABLE 3.2 ABOUT HERE

Segment one includes games developed for both handheld and console platforms and is the most significant in terms of market share at the moment, at least according to current industry reports. These two platforms are combined into one segment given their similarities across the different criteria in all but their storage device. This segment is an oligopoly with three companies currently operating as hardware manufacturers, software publishers and game developers: Nintendo, Sony and Microsoft^{vi}.

The additional license fee per unit sold that developers must pay to console manufacturers means that console games are sold at a premium price as boxed CDs or cartridges through specialist and non-specialist shops. The last section noted that the retailer is playing an increasingly important role in the production cycle and the value chain and an interesting development therefore is the growth of console games with online functionality. To date both Sony and Microsoft have launched online multiplayer services namely, Xbox Live and PS2 Network Gaming, whereby people can play games online against other players and download additional game content. This development may ultimately change the revenue model in this segment and challenge the growing

power of the retailer although a key barrier in many markets is access to broadband networks.

Segment One is also marked by the fact that there are a small number of competing and non-compatible technological systems which are upgraded every four/five years. Hardware lifecycles are a unique characteristic of this segment and pose considerable challenges to both developers and the market. While games can be 'ported', or translated, from one platform to another, hardware manufacturers usually try to make some games exclusive to their platform. Software exclusivity is a key selling point for hardware systems. Console manufacturers sell their systems as 'loss leaders' in order to build a large installed base of users^{vii}. The success of a hardware platform is both dependent on the number of units sold and the number of games sold for the platform (for further discussion of this, see Alvisi in this volume.) Indeed sales of consoles are directly related to the number of high quality titles available for that console and hardware manufacturers work hard to ensure that there are a number of high quality titles available for their consoles on launch.

Segment Two includes offline and multiplayer/networked PC games but not MMOGs. Current statistics suggest that this segment has a much smaller market share than segment one, particularly in Japan and the US. However, developers do not need specialist development kits to develop for a Windows or Apple personal computer given that they are based on common standards and open architecture. In addition, developers do not have to pay a license fee to a hardware manufacturer. These facts are reflected in a cheaper retail price than console games. The downside of this openness is that there are a greater number of games competing for shelf space and sales. PC games are generally

sold as boxed CDs through specialist and non-specialist retail outlets although many companies release upgrades and patches online. Companies also provides important development resources and tools to indie and fan developers.

Despite the fact that the console and PC market are developing online elements, massively multiplayer online games (MMOGs) are marked by specificities which require classification as a separate segment; not least the fact that they are persistent. **Segment Three** is strongly vertically integrated as a small number of large companies control development, publishing and distribution. However the underlying technologies are open platform, as in segment two, and currently based on PC and Internet common standards. Developing a persistent world requires significant investment not only in initial development but also in ongoing costs including maintenance, expansions and customer/community support. Finally, while most MMOGs are sold on CD through shops the consumer must also pay a monthly subscription fee and ongoing telephone charges to play in the persistent world.

The final segment, segment four, covers the development of mini or casual games for platforms like i-TV, mobile phones, PDAs and the Internet. This sector is embryonic but in general is characterized by shorter development cycles and lower production costs than other segments. There are numerous players and a mixture of open and proprietary technologies. There are also many revenue models: pay per download, pay per play, advertising. For example, most telecom operators offer users access to mobile games on a pay per play or pay per download basis. In most cases developers are not paid a cash advance and rely on a share of the revenues generated by the game; a share which varies from operator to operator and territory to territory. In Japan the i-mode model adopted by

NTT's DoCoMo is generous and content developers may receive up to 90 percent of revenues. In Europe the revenue share obtained by developers varies widely from a low of 20 percent to 50 percent. In the US the rate is closer to 80 percent (TerKeurst 2002b). Some mobile developers have indicated in interviews that as mobile handsets improve technologically mobile games may be sold through specialist and non-specialist shops. On the Internet and i-TV platforms mini games are often provided for free and the service paid for through advertising or costs associated with ringing in one's high score. Another development is advergaming - the development of free games which are paid for in advance by a client in order to advertise a particular brand such as the Nokia Game. Sections 3.1 and 3.2 have analysed the structure of the digital games industry along a vertical and a horizontal axis. However, some companies operate in more than one stage of the production cycle and in more than one segment, as breakout box 3.1. illustrates. Expansion and growth through company acquisitions is just one of the key trends in the games industry which we will examine in the next section.

INSERT BREAKOUT BOX 3.1 ABOUT HERE

Key trends in the Digital Games Industry

Different industrial reports highlight different trends in the digital games industry. The Spectrum (2002) report notes that the digital games industry is increasingly hits driven, that production costs are rapidly increasing, that demand is broadening and that there are an increasing number of platforms. The Deutsche Bank (2002) report notes that publishers are getting bigger, R&D and marketing costs are rising, games are increasingly

being sold by non-specialist retailers and that next generation consoles will be complex boxes capable of providing multiple entertainment options. In the space that remains this chapter will briefly analyse two key trends: industrial consolidation and licensing.

Consolidation: vertical and horizontal integration

In the last section we saw that both monopolies and oligopolies have emerged in the digital games industry, particularly in segment one. However, across all segments it is clear that the dominant corporate strategy is vertical integration up and down the production cycle and to a somewhat lesser degree horizontal integration across market segments. An analysis of the digital games industry across all the segments over the past five years reveals that in order to compete with Sony, Nintendo and Microsoft, and offset the growth in retailer size, independent publishers are scaling up through acquisitions and globally there are now a core of between 10 and 20 independent publishers (Cornford, Naylor et al. 2000; Pham 2001; Kerr and Flynn 2003). Publishers have also been taking on other functions in the production cycle. For example, publishers have been acquiring distribution channels in order to ensure that their products reach retailers and they have been buying into, or taking over, development studios. Ownership of development brings two benefits: a means of maintaining control over production and deadlines (Cornford, Naylor et al. 2000) and a means of retaining more of the revenue gained from the sale of a game. Publishers may also acquire development studios in order to gain access to intellectual property as in the purchase by Infogrames of Shiny Entertainment for \$47 million in 2002 to obtain exclusive publishing rights to the Matrix games. This increasing vertical integration along the production cycle suggests that over time a situation may

emerge where a small number of publishers dominate the industry, as the majors do in the film industry.

Vertical consolidation is driven by a desire to control more aspects of the value chain and to create economies of scale whereby increased distribution of a game leads to increased sales, lower per-unit production costs and greater profits. This drive for economies of scale is nothing new. Garnham (1990) argues that the capitalist economic system tends to encourage concentration whereby a small number of firms effectively control enough of the market to manipulate it in their favour. Murdoch and Golding (1997) point out that all media industries have gone through a process of growth from small-scale production to large concentrated corporations. The drive to create economies of scale in the games industry is being driven by the increasing costs of producing and marketing games, especially console games, the increasing power of retailers and other distribution gatekeepers and the related downward pressure on prices in the marketplace.

A related strategy is the creation of economies of scope. Economies of scope are a fundamental means by which the media industries more generally, and publishers in particular, reduce uncertainty of demand. The development and publishing of a console and PC game is costly while reproduction is relatively cheap, especially of games sold on CD (Cornford, Naylor et al. 2000). Publishers, as the main source of finance for game development, shoulder most of the investment risk. However, there is no guarantee that a game will make a profit; indeed a very high percentage of games fail to make a profit. As a result publishers must develop a broad catalogue of titles in different genres and across different sub-sectors in order to ensure they have at least one successful title. This provides an incentive for game companies to grow through acquisitions in different

media markets. Table 3.3 illustrates how horizontal consolidation operates in the ten largest media corporations in the world. Both Sony and Vivendi Universal for example operate at many levels of the digital games business but they are able to achieve economies by exploiting synergies with their business interests in film, broadcasting and music. Indeed the trend towards horizontal consolidation, especially prevalent in the 1990s and early part of this decade, and the growing economic significance of the digital games industry have helped to stimulate the next trend that we shall look at, licensing.

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Licensing

A further strategy which publishers and developers use to overcome the uncertainty of demand for games is to associate the game with a high profile intellectual property purchased from another cultural sphere, what film historian Thomas Schatz has called 'pre-sold' properties (Schatz 1993). Kline et al. (2003) note that drawing on pre-existing cultural goods reduces marketing costs because the most expensive element, building awareness, has already been done. From real world properties like David Beckham to television properties like *Starsky and Hutch* to film properties like *The Matrix* it would appear that licensing is becoming increasingly widespread. Screen Digest (2001) notes that 'last year, licence-based titles accounted for 45 per cent of all-formats UK top 100, up from 28 per cent in 1997 and 42.5 percent in 1999 (Screen Digest 2001).' Table 3:4 lists the top selling digital games in the UK in November 2005. The two top selling games are both based on licenses from other media and the list includes games based on licenses from films, books and sport. The trend towards licenses is particularly

evident in the top selling console games and games for mobile phones and less so in the top ten PC games. Increasingly, the top selling titles are sequels released annually or bi-annually. Similar trends can be observed from US game charts although the top selling sports licenses are different

INSERT TABLE 3.4 ABOUT HERE

One viewpoint is that increased cross-media licensing or 'intertextuality' - where a media text draws upon the user's knowledge of other media texts - is a good thing as it helps to broaden the market by providing themes, narratives and characters that non-gamers are already aware of. Clearly publishers and developers feel that the addition of a license increases their chances of having a hit. A political economic perspective however would ask if the increasing interdependence between media products in different media industries is leading to a reduction in the overall diversity of texts and the scope for radical innovation (Wasko 1994). Recent research would appear to suggest that the growth of licenses combined with consolidation in the digital games industry is making it increasingly difficult for new ideas and third part developers to enter the market, particularly in segment one (Kerr and Flynn 2003). This works on a number of levels. It can make it increasingly difficult for new ideas to get a publishing deal, regardless of the developer's reputation. Indeed the idea for *The Sims* was initially rejected as unworkable and unmarketable. It can also mean that larger and larger companies are content to build brands, produce sequels and license properties between their different media operations while smaller independents struggle to compete. When one examines recent media

projects by global companies, for example Vivendi Universal's film and game *The Hulk*, one can see how companies actively exploit synergies between their different media divisions. . For large corporations it would appear that the business of making digital games fits quite nicely alongside the business of making other media products. For everyone else content innovation and securing access to markets are key challenges.

Relevant web sites

Academic Gamers: www.academic-gamers.org

Entertainment & Leisure Software Publishers Association: www.elspa.com

Entertainment Software Association: www.theesa.com

Gamasutra: www.gamasutra.com

Gamebiz: www.gamesbiz.net

Games Investor: www.gamesinvestor.com

Screen Digest: www.screendigest.com

Terra Nova: terranova.blogs.com/terra_nova

NPD Funworld: www.npdfunworld.com

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BREAKOUT BOX 3.1

Case Study: Microsoft

Microsoft currently has a presence in all four of the segments outlined above and in all stages of the production cycle. Microsoft entered the games industry as a software developer and publisher of PC games (segment two) and one of its biggest hits in this market was *Flight Simulator* launched in 1983. The launch of the Xbox in 2001 signalled a move upstream in the production cycle into hardware manufacturing and horizontally into segment one. The company has extended the multiplayer capacity of its console with the launch of Xbox Live in 2002. A closed subscription based service, Xbox Live allows users to play against players around the world over broadband networks.

Microsoft also publishes the MMOG *Asheron's Call*, developed by Turbine Entertainment Software Corporation from Boston. In addition, the company has ongoing interests in interactive television/WebTV and distributes free web games on *The Zone* on MSN. This horizontal move into different industry sub-sectors and vertical move upstream and downstream is illustrative of trends more generally in the industry as uncertainty over future delivery platforms grows and companies move to minimize risk.

Further sources of information: (Takahashi 2002)

www.xbox.com, www.xboxlivecommunity.com, www.microsoft.com/games/ac,
zone.msn.com/en/root/default.html

TABLE 3.1

	Software sales	Hardware, software and peripherals	Source
2000	€18.6bn		Screen Digest 2001; Spectrum 2002
2001	€13.4bn	€21.4bn	Deutsche Bank 2002
2001	€16bn		DataMonitor 2002
2003	€15.56 billion		Screen Digest, 2004

Table 3.1 Summary of Global Sales (Euros)

Table 3-2 Key Segments of the Digital Games Industry

Segment 1 Console Games	Examples of Platforms and games	Market Concentration	Revenue Model	Openness of Hardware System	Software Production Process
1A	<p>Console/ Video</p> <p>Final Fantasy on PS2, Halo on the Xbox, Donkey Kong on the Gamecube</p>	<p>Hardware oligopoly</p> <p>Sony, Microsoft, Nintendo</p>	<p>Hardware developed as a loss leader and money made on sales of software.</p> <p>Games sold on CD through shops. Premium retail price.</p> <p>Many games now adding online and multiplayer functionality.</p>	<p>Closed.</p> <p>Proprietary and non-interoperable hardware systems.</p>	<p>Games expensive to develop, little follow-up service costs.</p> <p>Average length of dev. 18 months.</p> <p>Average team size 12-40</p>
1B	<p>Handheld</p> <p>Pokemon on GBC, GBA, GBASP.</p> <p>Gamepark, N-Gage and Zodiac.</p> <p>Sony's PSP</p> <p>Nintendo's DS</p>	<p>Until recently a Nintendo Hardware Monopoly</p> <p>New entrants Nokia, Tapwave and Sony.</p>	<p>Hardware developed as a loss leader and money made by on sales of software.</p> <p>Games sold on cartridges through shops. Premium retail price.</p> <p>Newer handhelds include multiplayer functionality.</p>	<p>Closed.</p> <p>Proprietary and non-interoperable hardware systems</p>	<p>Games expensive to develop, little follow-up service costs.</p> <p>Average length of dev. 9 months.</p> <p>Average team size 12-20</p>

Segment 2 Std PC Games	Examples of Platforms and games	Market Concentration	Revenue Model	Openness of Hardware System	Software Production Process
2	Harry Potter and the Philosopher's Stone, Quake, Black and White, Diablo II & battle.net	Numerous	Games sold on CD through shops. Many games now adding online functionality and downloadable elements. Cheaper retail price than segment 1	Common standards, non-proprietary technology.	Games less expensive to develop than console & handheld. Average length of dev. 15 months. Average team size 12-15

Segment 3 Massively Multiplayer Online Games	Examples of Platforms and games	Market Concentration	Revenue Model	Openness of Hardware System	Software Production Process
3	World of Warcraft Blizzard/Vivendi Lineage II, NCSoft	Oligopoly EA, Sony, Microsoft, NCSoft, Vivendi	Games sold on CD through shops but played online. Consumers pay monthly subscription fee and online service charges to a telecoms operator.	Common standards, non-proprietary technology. Developed mainly for PC	Very expensive to develop and significant ongoing costs. ⁸

Segment 4 Mini/ Games	Examples of Platforms and games	Market Concentration	Revenue Model	Openness of Hardware System	Software Production Process
4A		Numerous players including the major players in other segments	Advertising used to support free games distributed via portals on the internet. Also pay per play and monthly subscriptions	Common standards, non-proprietary technology.	Inexpensive to develop and small teams.
4B	Mobile Snake, Frogger,	Numerous players. DoCoMo in Japan, Sprint in the US, also Sega and Sony.	Games sold online and pay per download model Revenue divided between developer and operator.	A number of competing proprietary technologies	Inexpensive to develop and small teams. Average length of production 6 weeks - 3 months.
4C	Digital Television PlayJam in the UK and CableVision in the USA.	Numerous players	Games channels offered as part of a digital subscription package. Advertising an important revenue source as is SMS and telephone calls.	A number of competing platforms and input devices	Inexpensive to develop and small teams.

TABLE 3.3

	AOL Time Warner	Walt Disney	Viacom	Sony*	Bertels mann	Vivendi Univers al**	News Corp.
Filmed entertainment	24.5	26.4	14.8	28.8		34.5	26.6
Cable channels		18.6	19.2			12.3	18.0
Broadcasting		20.0	30.4		23.8	26.6	28.1
Cable	17.2						
Interactive (games, online, new media)	22.2			44.6		4.4	
Theme parks		25.5					
Music	10.3			26.6	14.8	34.5	
Radio			15.3				
Publishing	13.2				30.2		28.7
Retail		9.6	22.6		14.8		
Other					20.3		4.3
Intersegmental Elimination	-6.1		-2.4		-3.9		

Table 3.3 Total Turnover by Segment of the Top Seven Media Companies, 2002.**(%) Source:**

*game, music and pictures only ** excluding telecoms

TABLE 3.4

1. Harry Potter and the Goblet of Fire
2. Star Wars: Battlefront 2
3. WWE SmackDown!Vs Raw 2006
4. Pro Evolution Soccer 5
5. FIFA 06
6. The Matrix: Path of Neo
7. World Tour Soccer
8. The SIMS 2
9. Gun
10. Grand Theft Auto: Liberty City Stories

Table 3.4 UK Games Charts , top selling games on all platforms, November 2005.

Source: www.elspa.com

FIGURE 3.1

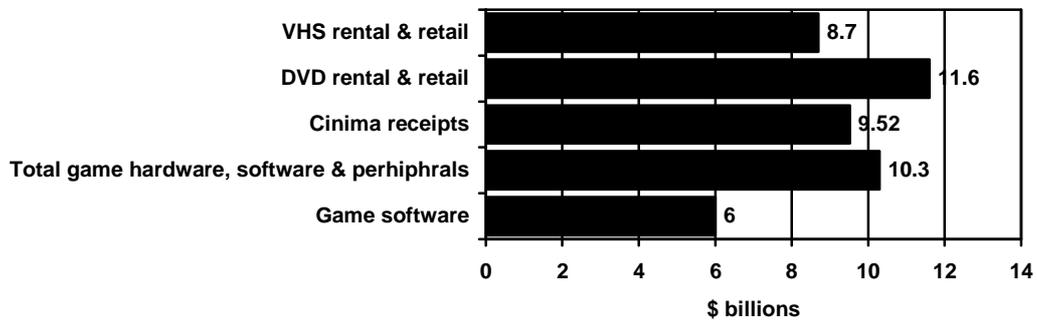


Figure 3.1 Total Sales by Media, USA, 2002. Sources ESA, MPAA and DVD information.com (Accessed 2003).^{ix}

FIGURE 3.2

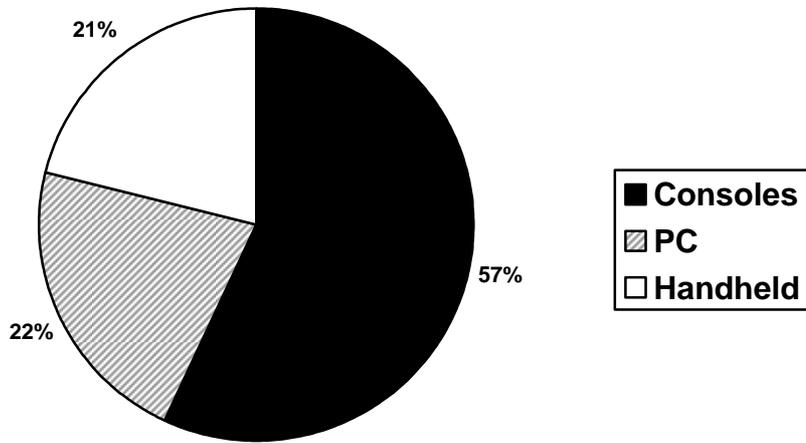


Figure 3.2 Software Sales by Platform, 2001. Source: (Deutsche Bank, 2002)

FIGURE 3.3

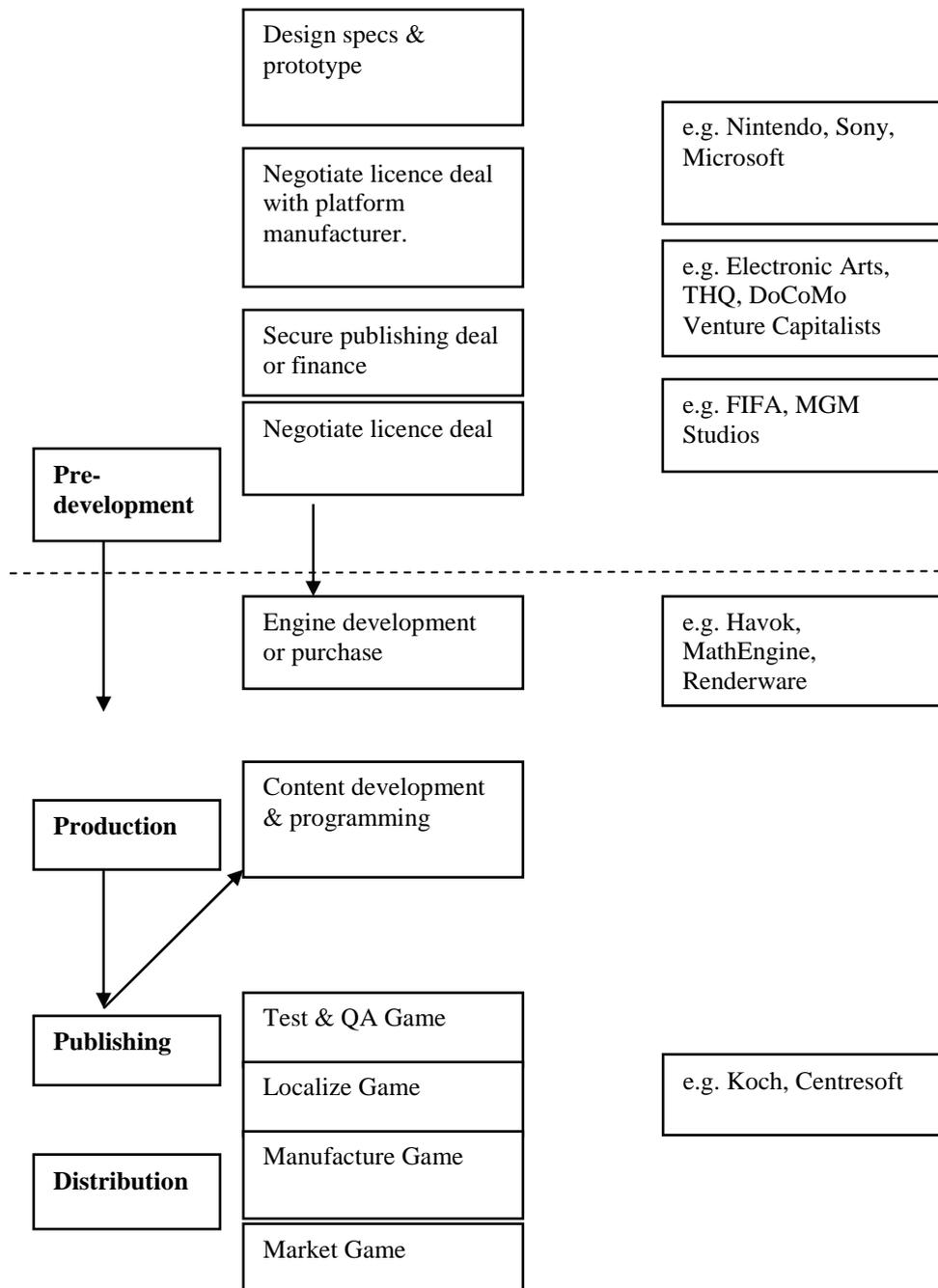


Figure 3.3 The production cycle for a console game.

FIGURE 3.4



Figure 3.4 The Digital Games Industry Value Chain - what each stage contributes to the final price of a game. (Source: Deutsche Bank 2002:18)

ⁱ The ESA was formerly known as the Interactive Digital Software Association (IDSA).

ⁱⁱ See http://www.gameinfinity.or.kr/en/sub2_1.php

ⁱⁱⁱ Kline, Dyer-Witheford et al. (2003) provide an alternative to figure 2 in their book 'Digital Play: The Interaction of Technology, Culture and Marketing' Montreal: McGill-Queen's University Press.

^{iv} See [http://www.gameinfinity.or.kr/en/pdf/Chapter%202\(18%7E32\).pdf](http://www.gameinfinity.or.kr/en/pdf/Chapter%202(18%7E32).pdf)

^v For more info on this title see <http://www.mobygames.com/game/versions/gameId,5416/>

^{vi} An oligopoly is where control or power rests with a small group of companies.

^{vii} A loss leader is a product sold below cost to attract customers.

⁸ One source estimate that EverQuest costs \$10 million annually to run
<http://www.gamespy.com/amdmmog/week3/>

^{ix} Figures for game software and total game hardware, software and peripherals from NPD Funworld and the ESA, see <http://www.npdfunworld.com> and <http://www.theesa.com/>. Figures for cinema receipts from the MPAA, see <http://www.mpa.org/useconomicreview/index.htm>. Figures for DVD and VHS rental and retail see <http://www.dvdinformation.com/news/index.html>.