

The business and culture of digital games Gamework/Gameplay

Aphra Kerr

Pre-publication version

Published by Sage Publications, 2006.

Chapter 3 Digital Games as Cultural Industry

Journalists have written many books on the digital games industry. Some of these books focus on one company, for example, (Sheff 1993; Asakura 2000; Takahashi 2002) while, as we saw in the last chapter, others provide a very broad historical account (Herz 1997; Poole 2000; Wolf 2001; Kent 2002). Although useful, these texts do not provide us with an understanding of the structure of the industry, the relationships between the main players and the relationship between the games industry and other industries. In addition, very little attention is given games for emergent platforms like mobile phones, the internet and digital television.

This chapter begins by situating digital games both conceptually and statistically within the wider economic and media environment. It considers how digital games might fit into what is commonly known within media studies as the cultural industries and analyses the growing economic significance of the global games industry as compared with other cultural industries in major markets. It then moves on to examine the structure of the digital games industry and its key sub-sectors. Finally, the chapter examines two important trends in the industry, namely vertical integration and licensing.

This chapter adopts a theoretical perspective known as political economy, which was introduced in the introduction. Political economy differs quite fundamentally from orthodox economic theory. While there are different theoretical traditions within political economy, in general it is characterised by its holistic approach (which sees

the economy not as separate from, but fundamentally linked to political, social and cultural processes) and its historical perspective. Mosco (1996:25) notes that a political economy of the media studies the structure and social relations which constitute the production, distribution and consumption of symbolic goods and is particularly concerned with the extent to which these social relationships may be unequal. Garnham (2000:39) argues that political economy focuses on how power operates in the capitalist system and its 'effect on the structure and performance of the media system and on the relation between the producers and consumers of culture.' In this chapter a political economic perspective is applied to highlight the contested relationship between development companies, independent publishers and hardware manufacturers/publishers and to explore the impact that increasing vertical integration and licensing is having on the ability of new entrants to enter the industry and on the diversity of games produced.

The Digital Games Industry as Cultural Industry

The term 'cultural industry' originated as a critical and political term and was used to highlight the industrialisation of culture in the USA in the 1940s (Adorno and Gurevitch 1977; Adorno and Horkheimer 1979). For these writers the industrialisation of culture was the opposite of what culture was meant to do. They believed that culture was meant to offer a critique of everyday life and the prevailing political and economic system, not be a fundamental part of it. Over time the concept of the 'cultural industry' has become pluralized and the focus now is not so much on the fact that industrialisation and commodification in themselves are a bad thing but rather on the ways through which the capitalist system structures and influences the products

that get produced. Within political economy of the media the 'cultural industries' signifies those institutions which are directly involved in the production, distribution and circulation of meanings via symbolic forms. With the increasing diversity of information industries even this definition may now be too imprecise. However, in media studies, and in this book, the core cultural industries refer to the traditional media industries of television, radio, books, newspapers, magazines, film and music as well as the newer media industries of the internet and, I would argue, digital games. Advertising, marketing and education are also usually included (Garnham 2000; Hesmondhalgh 2002).

Can the digital games industry be conceptualised as a cultural industry? Any attempt to define the digital games industry as a cultural industry must attend to the key features which have traditionally been seen to characterise the cultural industries and describe how these features operate in the digital games industry. From a political economy perspective three features are especially pertinent in this context: the high risk involved in cultural production, the high production costs but low reproduction costs of cultural products and the semi-public good nature of cultural products and services (Preston 2001:231; Hesmondhalgh 2002:17). Broadly speaking the cultural industries have developed a number of strategies to respond to these features and when one analyses these strategies one begins to find a number of similarities between the traditional cultural industries and the digital games industry.

Only a small number of cultural products make a profit. These small numbers of 'hits' must cover the production costs of a large number of products which fail to make a profit. The primary reason for this level of risk is that consumer tastes in cultural

commodities are driven by irrational factors like fashion and style more than need, and are thus highly unpredictable. A related reason stems from the status of cultural products as information and has to do with the fact that audiences need to sample an information good before they can decide if they want to buy it or not. In order to cope with these consumption uncertainties major cultural corporations produce a large repertoire or portfolio of products using a number of formulae that communicate clearly to the audience what they can expect from a product.

For example, in the film industry the production of films in easily identifiable genres serves as one formula which signals to the audience what type of pleasure they can expect from a particular film (see Chapter Two). The use of 'stars', 'serials' and 'trailers' are other strategies which attempt to reduce risk and thus overcome the high rate of failure. Similar strategies are evident in the digital games industries. It is estimated that only 3 percent of digital games make a profit and in an effort to introduce some similarity and predictability to the production process publishers tend to commission games which fall into particular generic categories, as in the film industry. Another response has been to attach a license to a game which means that 'intellectual properties' from other media, or the real world, are used to create or 'pre-figure' certain expectations in the market. We will explore this strategy in more detail later in this chapter. In addition, successful games increasingly spawn sequels, tie-ins and merchandise. Finally, as in the film and television industries, the digital games industry circulates playable demos and screenshots, especially through game magazines and websites, in advance of a game's release in order to communicate to their consumers the key features of a new product.

Secondly, within the cultural industries the relative costs of production are very high when compared to the relative reproduction costs. For example, to produce a film master and to market that film is very expensive when compared to the relatively cheap costs of reproducing multiple copies of that film. In order to recoup these production costs cultural industries have a strong incentive to maximise their audience and this translates today into a search for global markets, a desire to distribute the product across as many media as possible and a desire to control distribution channels. Analysis of the Hollywood film industry highlights the importance, for example, of overseas markets to that industry and the extent to which the film industry depends on broadcast television, DVD and video rental and retail for revenue (Wasko 1994; Hesmondhalgh 2002:187-189). Similarly within digital games a PC or console gold master can cost \$3-10 million to produce and the same again to market. However the reproduction costs of a game on CD are minimal and thus digital game publishers work to maximise global sales and to 'port' their games from one platform to another. Interestingly, this feature does not hold true for the entire field of digital games as a subscription based online game incurs ongoing production costs. Nevertheless it applies to the vast majority of games which are sold on CD or cartridge through standard retail outlets.

Throughout the cultural industries there is a strong tendency to integrate vertically and horizontally in order to control costs and ensure access to as wide a set of distribution channels as possible. Doyle (2002:22) defines horizontal integration as 'when two firms at the same stage in the supply chain or who are engaged in the same activity combine forces' while vertical integration is expansion 'either forward into succeeding stages or backward into preceding stages in the supply chain.' A third

form of expansion is diagonal integration whereby ‘firms diversity into new business areas.’ In the film and broadcast industries in many countries regulators have stepped in to control the extent to which companies are vertically integrated. The trend towards vertical, horizontal and diagonal integration is also evident in the digital games industry where publishers, in particular, are vertically integrating both upstream with developers and downstream with distribution companies as well as buying other publishers. In addition publishers are increasingly operating across gaming platforms and sectors, from PC to console and mobile. Companies like Vivendi also operate across a range of other media and non-media sectors. Vertical integration in particular will be examined in more detail towards the end of the chapter.

Finally, to define a cultural product as a public good is to point to the fact that it is not destroyed during use and can be reused by others who may not have to pay for it. This is a feature of many knowledge products, as Machlup (1984) noted. However, it does cause clear problems for producers in terms of how they are to recoup their investment in terms of creating the original, and costly, product. While the dissemination and copying of a cultural product may be almost costless, certainly its original production is not. This characteristic gave rise to the development of ‘intellectual property rights’ and ‘copyright’ which are monopoly rights afforded to a producer in return for their investment and effectively turn public goods into private goods (Garnham, 2000:58). The traditional cultural industries developed complicated ticketing, payment and collection systems and began to rely on advertising revenues to ensure production costs were covered. While there are marginal costs and increased returns involved in sales in the digital games industry, as in the print industry, the

industry has also developed both technological and institutional solutions which attempt to ensure that the publisher and the developer receive payment for their investment. There is a constant battle against piracy and hackers in the digital games industry although recent examples whereby the source code for *Half-Life 2* (2004) was stolen and the Xbox and the N-Gage encryption systems were hacked illustrate that these solutions are not entirely secure.

Estimating the economic value of the digital games industry

While clearly the digital games industry displays many of the characteristics of other cultural industries how does it compare economically? Constructing an accurate picture of the size of the global games industry in terms of software and hardware sales is a difficult task as estimates vary widely and do not remain accurate for long. Government, consultancy and press reports usually fail to give a global perspective on the industry and indeed often offer contradictory information depending on their particular agenda. This section explores data commissioned by the publisher associations the Entertainment Software Association (ESA) in the USA, the Entertainment and Leisure Software Publishers Association (ELSPA) in the UK as well as government reports from the UK, Japan and South Korea.¹

While there have been dramatic collapses in the digital games industry over the past thirty years, particularly the 1983 crash in the USA, statistics over the past ten years point to a steady growth in digital game sales, both in monetary and unit terms, across all platforms. The rate of overall growth across all sectors of the industry is crucially tied into the console lifecycle and thus just before the launch of a new generation of platforms, roughly every five years, the rate of overall growth in the industry slows as

consumers wait in anxious anticipation of the new platforms and games. Indeed in 2000 the overall value of retail sales shrank slightly and in 2001 remained weak with growth of only 7 percent (Deutsche Bank 2002:10). By 2002 the launch of the PS2, the GameCube and the Xbox was having an impact on overall sales and this continued until the end of 2004 when the market slowed in anticipation of the next generation of consoles (DataMonitor 2002; DFC Intelligence 2004). In the first quarter of 2005 console game sales in the US remained around 7 percent but overall sales in the games market in the US grew by 23 percent driven by handheld hardware sales following the launch of Nintendo's DS and Sony's PSP (NPD Group 2005).

While hardware and software are intimately tied in this industry it is useful to just look at software sales. A UK government report published in 2002 suggested that the global 'leisure software' industry in 2000 was worth approximately £13bn of which almost £10bn was accounted for by games software (Spectrum Strategy Consultants 2002:10). Within this total the USA was the largest market with 35 percent of total sales, followed by Europe with 31.5 percent and then Japan with 18.5 percent. These figures are largely corroborated by figures published by Deutsche Bank in 2001 but this report estimated that the USA 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 more recent report estimate that the global games industry was worth \$27 billion in 2002 of which two thirds was accounted for by software. It expected the industry to decline somewhat in 2005 and then to accelerate to reach \$30 billion by 2010 (Forfás 2004:2). Another report estimated the industry to be worth \$21 billion in 2003,

although it is not clear is this figure includes hardware or not (OECD 2004). A third source estimated that the global interactive software market was worth \$18.2 billion in 2003 (Screen Digest 2004). The last three references draw upon consultancy reports to which this author did not have full access and so they are used with caution. It is not clear for example to what extent wireless/mobile games are included or revenues for Asian markets. For industrial strategists, policy makers and academics the lack of independent and affordable data on the digital games industry makes strategic planning and rigorous analysis with other industrial sectors difficult.

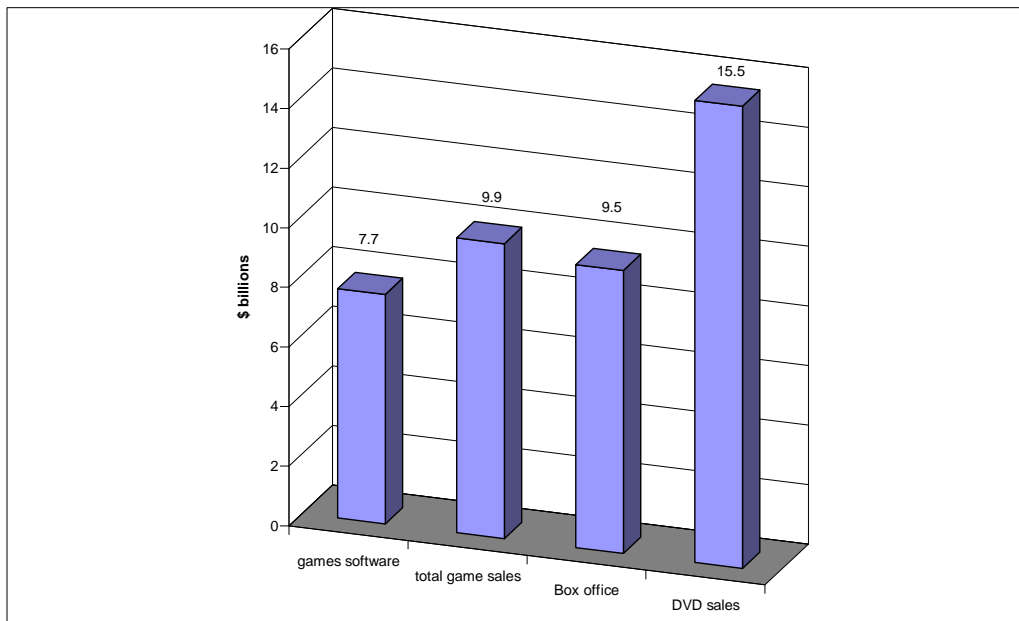
**Table 3-1 Value of Global Software and Hardware Sales.
(Billions of \$)**

	Software sales	Hardware, software and peripherals	Sources
2002	18 billion	27 billion	Forfás 2004 report which draws on data from a variety of consultancy reports.
2003	21 billion		OECD 2004 report which draws upon a variety of sources.
2003	18.2 billion		Screen Digest report. Introduction available on the web. Figure refers to interactive leisure software which is broader than games.

So how big is an industry, which generates around \$18 billion annually in software sales? These figures become more meaningful when we compare them to sales figures for other cultural industries. Unfortunately, there is no source which collates this data on a global scale but figures for the USA from a variety of trade associations provide an interesting basis for comparison. The Entertainment Software Association in the US and the National Purchase Diary (NPD) Group, a consultancy based in New York, estimates that total sales of video and computer game software in 2004 generated \$7.3

billion and when hardware and accessories are added the total comes in at just under \$10 billion. By comparison, domestic box office in 2004 in the USA generated \$9.5 billion (MPAA 2004). Interestingly, while growth in the digital games industry has been fairly steady over the past five years, growth in US box office and the domestic recorded music sales has been almost nil and declining respectively since 2001 as new formats emerge (ESA 2004; OECD 2004). Meanwhile growth in DVD sales has been accelerating and one source estimated that US consumers spent \$15.5 billion on DVDs and a further \$5.7 billion on renting DVDs (DEG 2004). This figure does not include sales of DVD players.

**Figure 3-1 Sales of US Entertainment Media, 2004
(billions of \$)**



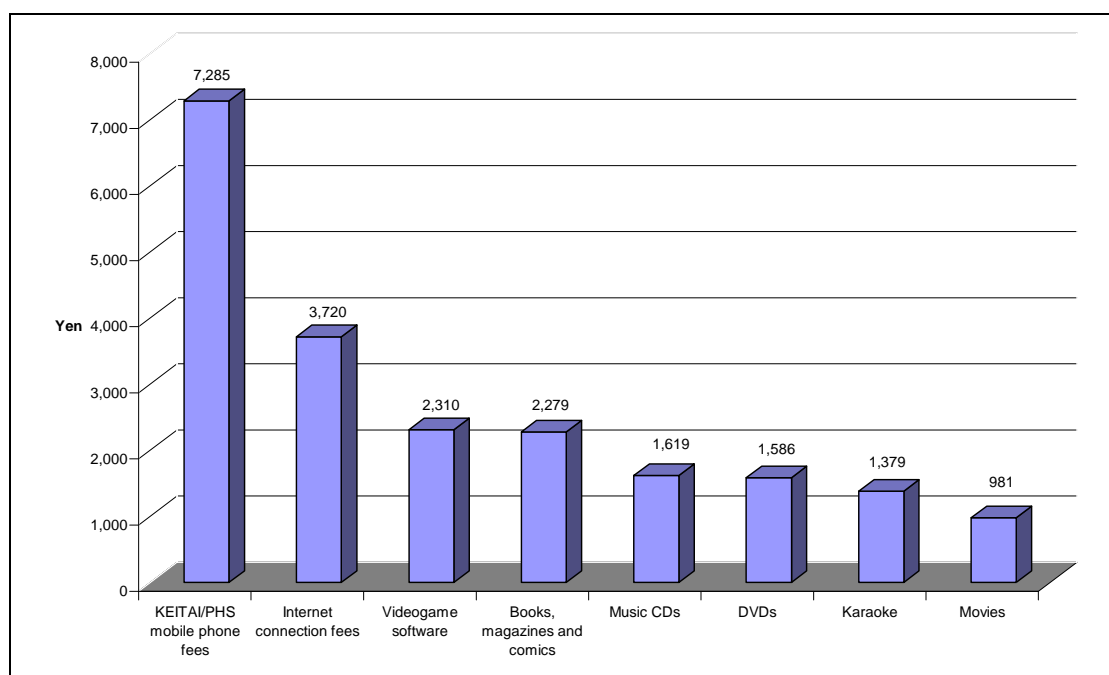
Sources: Entertainment Software Association, National Purchase Diary, Motion Picture Association of America, Digital Entertainment Group. Accessed May 2005.

The figure for 'total game sales' is often used to suggest that the digital games industry earns more revenue than the film industry. Indeed the claim is made so often

in the popular press and game magazines that it demands closer investigation. What these comparisons usually fail to point out is that 'total game sales' includes sales of game hardware, accessories and leisure software, which is a very broad category of products. When we compare game software sales only to content only sales in other sectors we get a more accurate picture. In addition, these comparisons often fail to explain that cinema receipts or box office form only a small percentage of the total revenues made by a film. Indeed box office receipts only account for 25 percent of the total revenue of a film 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).

While these sales figures provide one means of comparing the economic value of digital games to other cultural industries, another way is to consider how digital games compare to other media in terms of monthly consumer expenditure. The MPAA in the USA found that in 2001 consumers spent most on television, with home video and books coming in second and third. Games were included in a category with interactive television and cinema box office and came fourth.² By comparison a survey of monthly expenditure by 1,000 people in Japan in 2002 on leisure activities found that people spent most on mobile phone fees, followed by Internet connection fees and then videogame software. Fees for mobile phone and internet of course would include payment for accessing online games. Books, magazines and comics came a close fourth (CESA 2002). Interestingly spend per capita was greatest for DVDs, followed by mobile phone connection fees and videogame software. This reflects the slightly higher prices spent by lower numbers of people on these media.

Figure 3-2 Average Monthly Expenditure on Leisure Activities, Japan, 2002



Source: CESA (2002:90)³

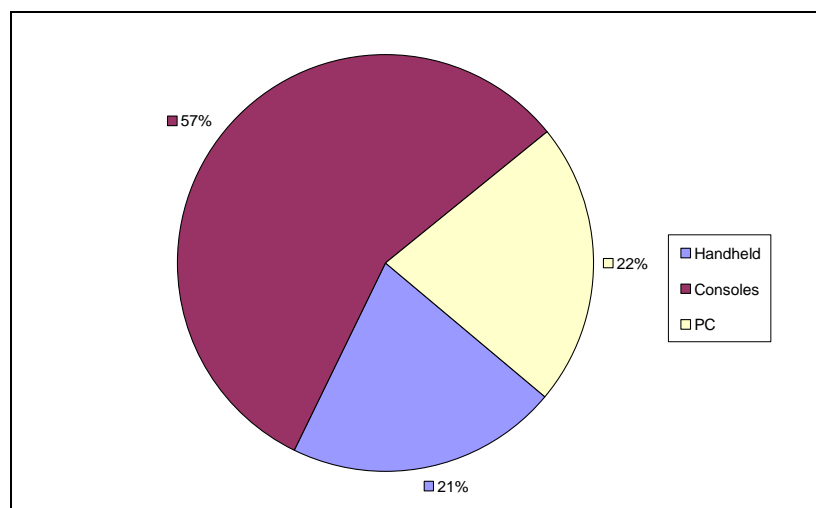
The various figures and tables in this section have provided us with a lot of data. To summarise briefly it would appear that while the digital games industry is growing in economic terms it is still not as large in total value terms as some other cultural industries and total sales are vulnerable to changes in hardware particularly in the console and handheld sub-sectors. Growth in the industry is nevertheless steady (4-8 percent per annum) and while this is impressive compared with cinema box office receipts in the US since 2001, it should also be measured against the growth of new emerging media formats to give perspective. Finally, the amount spent by people per month on digital games is dwarfed by what they spend on television, home video and books in the USA and by the mobile phone and the Internet in Japan.

The Structure of the Games Industry

Different Market Segments

Total sales figures tend to hide very interesting dynamics in different sub-sectors of segments of the digital games industry. Williams (2002) divides the games industry into three market segments according to the main hardware platforms: consoles, handhelds and personal computer (PC) and argues that each have their own underlying dynamics. Such a segmentation is applied widely in industry reports and in terms of sales, console games currently dwarf games sold for other platforms and constitute anywhere from 57 to 78 percent of total global software sales (DataMonitor 2002; Deutsche Bank 2002; Spectrum Strategy Consultants 2002). At present the main consoles are Sony's PlayStation 2 (PS2), Microsoft's Xbox and Nintendo's Gamecube (GC). Some reports group games for handhelds such as the GameBoy Advance (GBA), with the other console platforms.

Figure 3-3 Global Software Sales by Platform, 2001



Source: Deutsche Bank (2002)

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 USA and 55 percent in Europe (Spectrum Strategy Consultants 2002:10; ESA 2003). Europe is by far the largest market for sales of PC games, at 47 percent, followed by the USA at 35 percent (Spectrum 2002:11). Sales of games on other platforms form only a small proportion of total revenues currently. However, the Spectrum report estimates that the mobile games market in Europe, the USA and Japan was worth £73m in 2001, with Japan constituting over 50 percent of this total (2002:15). They predicted 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. Other sources claim that online gaming will increase dramatically as broadband becomes more widely available, and point to the growth of online games in South Korea where broadband penetration is very high and online games constitute over 60 percent of the total domestic game market (KGDI 2004). It is anticipated that the next generation of consoles from late 2005 will all incorporate online capabilities.

In what remains of this section we will develop a slightly different market segmentation of the digital games industry. This segmentation takes games themselves, or what we might call the software aspect of the industry, rather than hardware as its starting point. Table 3-2 differentiates between four game segments: console games, standard PC games, massively multiplayer online games (MMOGs) and mini games.⁴ There are two reasons why this segmentation makes sense. Firstly, while sales of console, handheld and PC games are the most significant in terms of sales at the moment (see Figure 3-2) it is clear that other segments are emerging which offer alternative business models, new types of games and are attracting new

types of gamers. Many industry reports offer only scant attention to these segments. Secondly, a hardware based segmentation is unsatisfactory given the tendency for hybrid and new platforms to emerge at relatively regular intervals. The development of MMOGs, for example, currently combines online capabilities with PC platforms to produce a new market segment with unique characteristics which are different from other types of multiplayer online PC and console games. Mini games like PC web downloadable games and puzzle/card games are currently played on personal computers, mobile phones, digital televisions and handhelds.⁵ The development of systems like Infinium's Phantom, which will be able to play a variety of game types, suggests that platform based segmentations may become redundant.

Table 3-2 gives examples of games in these four market segments and further outlines how the segments differ along the following four economic and industrial dimensions:

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

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	Console/ Video Final Fantasy on PS2, Halo on the Xbox, Donkey Kong on the Gamecube	Hardware oligopoly Sony, Microsoft, Nintendo	Hardware developed as a loss leader and money made on sales of software. Games sold on CD through shops. Premium retail price. Many games now adding online and multiplayer functionality.	Closed. Proprietary and non-interoperable hardware systems.	Games expensive to develop, little follow-up service costs. Average length of dev. 18 months. Average team size 12-40
1B	Handheld Pokemon on GBC, GBA, GBASP. Also Gamepark, N-Gage and Zodiac. Sony's PSP Nintendo's DS	Until recently a Nintendo Hardware Monopoly New entrants Nokia, Tapwave and Sony.	Hardware developed as a loss leader and money made by on sales of software. Games sold on cartridges through shops. Premium retail price. Newer handhelds include multiplayer functionality.	Closed. Proprietary and non-interoperable hardware systems	Games expensive to develop, little follow-up service costs. Average length of dev. 9 months. Average team size 12-20
Segment 2 Std PC Games	Examples of Platforms and games	Market Concentration	Revenue Model	Openness of Hardware System	Software Production Process
2A	Harry Potter and the Philosopher's Stone, Quake, Black and White, Diabho 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
	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	Common standards, non-proprietary technology.	Very expensive to develop and significant ongoing costs. ⁶

			and online service charges to a telecoms operator.	Developed mainly for PC	
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.

Segment one includes games developed for both handheld and console platforms and is clearly the most significant in terms of market share at the moment (see Figure 3-3). These two platforms are combined into one segment because of their similarities across the different criteria in all but their storage device. This segment is often described as an oligopoly with three platform developers involved in both hardware and software production: Nintendo, Sony and Microsoft, alongside a relatively small number of independent publishers.^{vii} While Nintendo have held a dominant position in the handheld market for a number of years there have been a number of new entrants recently and Sony launched a competing platform, the PSP, in 2005. While one might describe the segment as an oligopoly there is strong competition between the major players in this segment and previously dominant market players like Atari and Sega have found that having market share is no guarantee that one can keep it (Gallagher and Park 2002; Williams 2002).

Segment one is marked by the fact that console games are played on a small number of proprietary, closed and non-compatible technological systems which are upgraded every four/five years. Hardware lifecycles are a unique characteristic of this segment whereby every four to five years the major platforms are upgraded and often changed so fundamentally that they impose not only an extra cost on the consumer but also a steep learning curve on developers who must strive to produce games which harness the particular technological strengths offered. Gallagher and Park (2002) identified six distinct generations of console platforms between 1976 and 2002. In each generation particular hardware systems usually offer little backward compatibility. In this regard Sony's PlayStation 2 broke with tradition.

The oligopolistic nature of this segment combined with the closed technological systems has a strong structuring effect on the software production process and means that the major platform developers erect a number of barriers in order to protect their market share and prevent the entry of competitors. Thus while games can be 'ported', from one platform to another the main platform developers go to great lengths to control the flow and quality of content onto their system and to ensure that non-licensed software from non-accredited developers will not work on their platforms.

Nintendo, for example, is well known for introducing both a hardware solution, the 'lock-out' chip, and an economic/management solution, high and strictly controlled licensing fees, to control the production of console games for its platforms. Indeed, across all the platforms in this segment publishers/developers must pay a license fee on every game sold to the platform developer, which is estimated to add \$7 to \$10 to the total cost of a console and handheld game. In some cases they must also pay the platform developer to manufacture the software. In addition, all the platform developers impose stringent quality control, known as Technical Certification Requirements (TCRs), on publishers/developers before they will allow a title to be released on their platform and sometimes they will want exclusive rights to a title so that it will only be available on their platform. These extra fees and barriers help to offset the hardware production and marketing costs incurred by the platform producers and help to keep the price per unit of each game high.

The core business strategy adopted by the platform manufacturers in the console segment are to sell their hardware as a 'loss leader' in order to build market share and

to rely on the sales of software to make their profits (Alvisi, Narduzzo et al. 2003). This pricing strategy is similar to that adopted by manufacturers of razors, who sell their razors at a loss but make their money back on the sale of razor blades. If the platform developer succeeds in building a large installed base then they can make generous profits on their software and in turn reduce the cost to the consumer of their hardware which should in turn spur sales of software. The relationship between hardware and software in all segments of the digital games industry can be defined as 'complementary', but in segment one of the industry the development of competing proprietary technology systems means that in order to build market share each system must exploit these complementarities and create 'switching costs' to stop people buying alternative systems and products. Thus while market share is dependent upon the sale of consoles, consoles sales are directly related to the number of high quality titles available for the console.

Console games are sold at a premium price through specialist and non-specialist shops and are generally distributed as CDs, DVDs or cartridges and packaged in boxes or jewel cases. While retailers currently constitute an important stage in the value chain (see Chapter Four) an interesting development is the growth of console games with online functionality which may overtime reduce the role of the retailer in the value chain. To date both Sony and Microsoft have launched networks to support online multiplayer play - PS2 Network Gaming and Xbox Live – allowing users to play against other players online and to download additional game content. The continued development of online functionality may ultimately lead to more downloads and less high street retail, although a key barrier to this in many markets is the lack of broadband availability.

Segment Two includes most PC games but not MMOGs. In contrast to segment one this segment has a much smaller market share, particularly in Japan and the USA. While this might prove a disincentive for some developers, for others, the smaller market share is outweighed by the cheaper development costs given that PCs/Macs are based on common standards and open architectures. In addition, developers do not have to pay a license fee or royalties to the platform manufacturer. These facts are reflected in a cheaper retail price than for a console game. The downside of this openness is that there is greater competition. Williams (2002) notes that there were 4,704 PC titles available in 1998 compared to 44 for the Nintendo 64 and 399 for the PlayStation. PC games are generally sold as boxed CDs through specialist and non-specialist retail outlets although many companies release upgrades and patches, i.e. software that fixes bugs, online.

Despite the fact that console and PC games have both been developing online elements MMOGs are marked by specificities which require classification as a separate segment; not least the fact that they are persistent games with ongoing production and customer service costs. It is difficult to estimate market share as general industry reports do not separate out MMOGs from standard PC games; but many reports would recognise the potential of this segment, particularly when one examines how things have developed in the Korean market, one of the most highly developed broadband networks in the world. At the same time it is important to remember that console gaming was banned in Korea until relatively recently and as such online PC gaming developed in a rather protected market. Other countries are unlikely to follow the same pattern.

Segment Three can also be described as an oligopoly as a small number of large companies like NCSoft, Vivendi Universal and Sony are involved in the development, publishing and distribution of the most successful (in subscription terms) MMOGs including *Lineage II (2004)*, *World of Warcraft (2004)* and *Final Fantasy XI Online (2002)*(Woodcock 2005). However, the main platforms are currently open platform, as in segment two, and mainly 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 community support. Kline et al (2003:161) note that *Ultima Online (1997)* took 2 years to develop, was beta tested with 25,000 players, and support staff cost one million dollars annually. Industry interviews have suggested initial development costs of approximately €15 million. Despite a number of high profile game cancellations last year the sector is still growing and attracting significant venture capital investment (Shamoon 2005). This may have something to do with the fact that while most MMOGs are sold on CDs through shops the consumer must also pay a monthly subscription fee of up to \$15 and ongoing telecommunications charges to persist in the world.

The final segment, segment four, covers the development of mini games for platforms such as digital television, mobile phones, PDAs and the Internet. Again overall market share and value are difficult to estimate but a recent ESA report estimated that while less than 10 percent of games played online were MMOGs, just over 13 percent were browser-based mini games and almost 55 percent were puzzle/card based games (ESA 2004). This segment is embryonic but in general is characterised by shorter development cycles and lower production costs than the other segments. There are

numerous players in this segment and a mixture of open and proprietary technologies. Competition is fierce, margins are low and technical interoperability problems abound.

In segment four there are a number of revenue models including: pay per download, pay-per-play and 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 USA the rate is closer to 80 percent (TerKeurst 2003). Interestingly, some mobile developers have indicated in interviews that as mobile handsets improve mobile games may start to be sold through specialist and non-specialist shops.

Mini games are also available via the Internet and digital television. Often these games are provided free on game portals and the service is supported by advertising or people are charged not to play but actually to upload their score onto a leader board. Another development is advergaming which is the development of free games which are paid for in advance by a client in order to advertise a particular brand, for example, *the Nokia Game (1999)*. Advergaming as a concept is sometimes used to describe the development of product placement in games as the use of Red Bull power ups in *Worms 3D (2003)* and *Judge Dredd:Dredd Vs Death (2003)* demonstrates (Edge 2004).

It is clear from this analysis that the console and the PC segment operate according to what Bernard Miège (1989) called the 'editorial model' of production whereby the publisher finances creative development largely through direct sale to the consumer and the main problems are managing creative personnel and the uncertainty of demand. Interestingly, segment three appears to be developing a mixed editorial and flow model whereby initially there is a need to sell product direct to the consumer but in addition there is a need to supply an ongoing support and content service to consumers and quality and speed of distribution is key.

- INSERT BREAK OUT BOX HERE -

Case Study: Microsoft.

While the four game segments identified above operate according to quite different dynamics some companies operate in more than one segment of the market. Microsoft, for example, currently has a presence in all four of the segments.

When Microsoft entered the games industry it developed and published standard PC games (Segment two) and one of its biggest hits in this market was *Flight Simulator* launched in 1983. With the launch of the Xbox in 2001 Microsoft moved into both hardware manufacturing and into the console segment of the market (Segment one). The company moved to exploit online play in 2002 with the launch of Xbox Live which allows players of console games to access a closed subscription-based service which enables multiplayer 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 their online service, MSN.

Microsoft's move into different market segments can be seen as an attempt to broaden the company's portfolio of software products in order to offset market risk and overcome uncertainty over future business models and delivery platforms. The company's move upstream into hardware and downstream into online distribution signals the company's desire to control distribution direct to the home and to challenge the market share of Sony and Nintendo.

Further sources of information: (Takahashi 2002), www.xbox.com,
<http://www.xboxlivecommunity.com/>
<http://www.microsoft.com/games/ac/>, <http://zone.msn.com/en/root/default.htm>

- END BREAK OUT BOX HERE -

The Production Cycle

One can also analyse the digital games industry in terms of the actors and their role at different stages of the production cycle. The core stages in the production of games software are design, pre-production, production, publishing, distribution and retail. Although these stages vary in duration and type from market segment to market segment the procedure is largely similar. Variation does occur in the MMOG segment where there is a requirement for ongoing community support and content development following retail.

The Spectrum report (2002:9) likens the production cycle in the games industry to the film, music and book industries. In all these industries a publisher provides an

advance to a creative artist and on completion of the work, takes on the role of marketing and distributing it. Once costs have been recouped the artist receives a percentage of royalties. A similar process takes place in the console and PC segments of the digital games industry although 'the artist' who develops the game is usually a team of people. Further, 'the artistic' or production stage is increasingly integrated into the publishing stage in the games industry and game ideas today are just as likely to originate from the publisher as elsewhere, reflecting what Williams (1981:52) has called the 'corporate professional' structure of cultural production. Thus while in the book and music industries the creative stage remains largely independent from the publishing and distribution stages, increasingly in the digital games industry design and production is conducted by salaried staff within publishing companies – and, as we shall see, in the major global companies the first three functions of the production cycle are increasingly vertically integrated and controlled by one company.

There are three types of development company: first party developers or internal teams which are fully integrated into a publishing company; second party developers who are contracted to create games from concepts developed by a publisher; and third party developers, or independent development houses who develop their own projects and try to sell them to a publisher. The extent of first, second or third party development varies from country to country but one source suggests that today close to two thirds of game production is done by first party developers (Williams 2002:47). In other words, a majority of games are developed by teams working within, or owned by, a publisher.

Publishers regularly get a bad press in the industry trade magazines and websites. Horror stories of projects being canned for no particular reason and royalties being withheld do nothing to dispel such beliefs.^{viii} However, interviews with people in the industry provide an equal number of stories of development companies who lack adequate management structures and cannot complete a game on time or within budget. Certainly publishers are the bankers of the games industry and since they incur all the risk and uncertainties involved in such an investment they adopt an aggressive and tough approach to negotiations with, and management of, developers, particularly start-up third party developers. At the same time it is often rarely understood by start-up developers that publishers fund portfolios of projects across the different genre categories and if their portfolio of games in production has enough FPS games then no new project in this genre will get funded, no matter how good the idea. Further, once a project is funded most publishers play a role in the overall management of the production process because they must be able to schedule the game into their localisation, testing, manufacturing and marketing pipeline.

During the 1990s, Cornford et al. (2000) found that the global publishing industry consolidated around 'a core of between 10 and 20 major publishers' including well known companies like Electronic Arts, Nintendo, UbiSoft, Infogrames/Atari and Take2. At the same time fears that the industry would consolidate even more have not been realised and the new trend is towards vertical integration with developers rather than merging and acquiring other publishers (DFC Intelligence 2004). Terkeurst notes that the top publishers now run 'round-the clock, round-the-globe production' with development teams recruited or established in different locations based on labour costs, specialist skills (for example, racing and FPS), and localisation/marketing

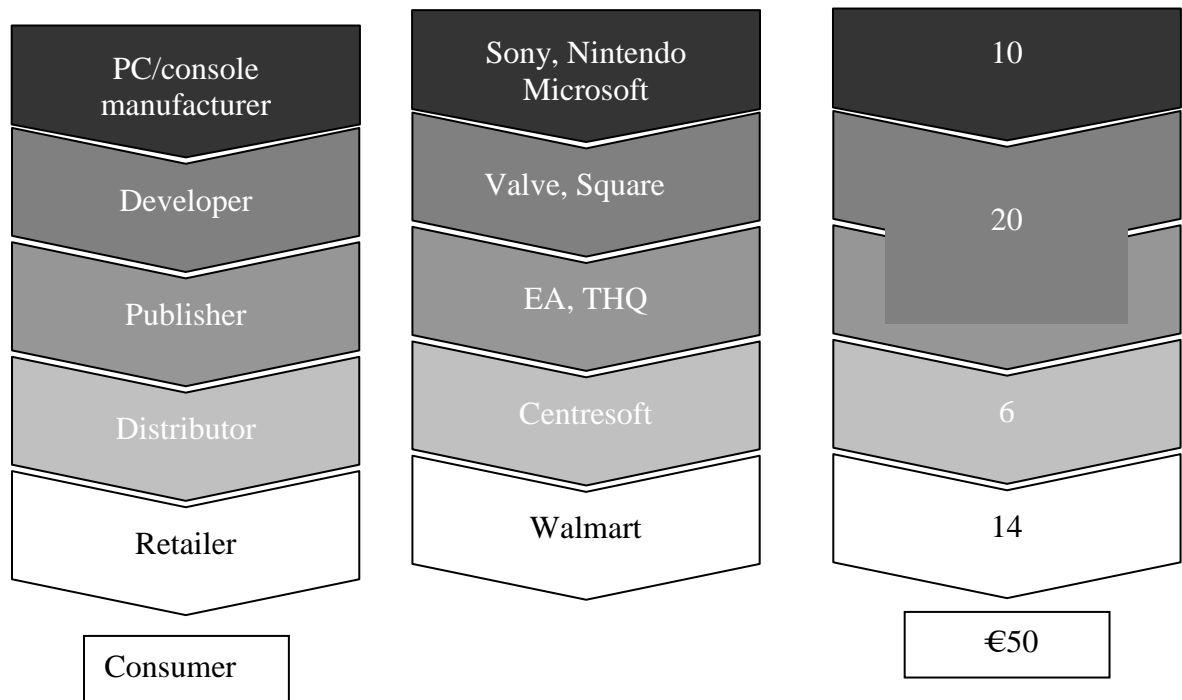
needs. Many publishers also own their own distribution channels, almost 80 percent according to one estimate (Deutsche Bank 2002:26), and so this stage in the cycle is often fully controlled by the publisher.

The retail stage of the production cycle is more and more the preserve of large supermarkets and specialist chains, particularly in the USA where Wal-Mart and Best Buy dominate. In Europe independent retailers still constitute a significant part of the retail sector. 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 acquire more power to negotiate discounts on wholesale products and returns to publishers.

Retailers often charge publishers market development funds (MDF) to cover the cost of posters, end-of-aisle space and other services. They may also force the publisher to bear some of the discounting costs associated with games which do not sell well (Williams 2002). One source estimates that retailers earn a gross margin of 35-40 percent on a full price product (Deutsche Bank 2002). While variations on this production cycle exist, the majority of games follow these production stages.

The production cycle can also be conceptualised as a value chain whereby at each stage of the production cycle companies add value to the core product and contribute to the final price paid by the consumer. Figure 3-4 outlines the different players in the production cycle and estimates, in the column on the right, how much each player in the console value chain adds to the total cost paid by a consumer for a game.

Figure 3-4 The Digital Game Value Chain



Source: Deutsche Bank (2002:18)

Key Trends in the Digital Games Industry

Different industry reports tend to highlight different trends in the digital games industry. The Spectrum report (2002) notes that production costs are rapidly increasing and that there are an increasing number of platforms. The Deutsche Bank report (2002) also singles out the rising production and marketing costs as a significant trend, but they also highlight the fact that publishers are consolidating and that digital games are increasingly being sold by non-specialist retailers. They foresee that next generation ‘convergence’ consoles will provide multiple entertainment options. More recent reports again point to increasing consolidation in the industry but also the growth of middleware and the growing number of licensed games and sequels in the top ten best selling games (Forfás 2004). In the space that remains this chapter

will briefly analyse the trend towards consolidation and licensing in the games industry and trace these trends back to a key feature of the cultural industries, the high risk of failure involved in the production of a cultural product whose success depends on highly volatile factors like fashion and individual taste.

Consolidation: vertical, horizontal and diagonal integration

While early histories describe the games industry as a cottage industry with individuals able to programme a game in a matter of weeks the reality of the industry today is far from this. In the console and MMOG segments we noted that oligopolies have emerged whereby a small number of very large companies dominate the market. While it is true to say that there is fierce competition between the main players (Gallagher and Park 2002; Williams 2002) in the current console lifecycle Sony's installed base of PS2s at over 100 million dwarfs Nintendo's 8 million and Microsoft's 6 million. This generation of consoles might be called the 'Age of Sony' were it not for Nintendo's success in the handheld sub-segment with the GBA and no-one's willingness to underestimate Microsoft. History has shown us that the market leaders in one generation will not automatically become the leaders of the next.

An analysis of trends in the digital games industry across all the market segments finds that the dominant business strategy is vertical integration up and down the production cycle alongside a degree of horizontal and diagonal integration as companies attempt to expand into different market segments. The imperative behind these forms of integration is the need to exploit 'economies of scale' and 'scope', to maximise global sales and to control distribution. These trends are not unique to the digital games industry as Hesmondhlagh (2002) points out in relation to other cultural

industries in general, and the experience of Disney in particular. What is of interest from a political economy perspective is the impact that these business strategies are having on the ability of new players to enter the market, on the diversity of products produced and on the costs of products to the consumer.

We have already seen that the main platform developers, like Microsoft, operate across all stages of the production cycle and are investigating moves into retail through subscriptions services, pay-per-play and downloads. We have also seen how the current organisation of production means that the supply of console games is strictly controlled by the platform manufacturer and the procedures they have put in place meant that console games are sold at a premium price through specialist shops. These business strategies have already come under scrutiny by national and supra-national organisations for their anti-competitive tendencies. Sheff (1993) details a number of instances when Nintendo was taken to court in the USA for anti-competitive practices and currently the European Commission, under pressure from the International Software Federation (ISFE), is investigating whether or not Sony has placed a limit on the numbers of games it will publish on its platforms and if this contravenes competition law.

The dominance of the platform developers/publishers in the console segment and the fact that reproduction costs of games are relatively low have encouraged other companies to adopt business strategies aimed at maximising economies of scale. The past decade has seen many third party developers go out of business and those who remain have attempted to increase the scale of their operations and/or integrate both upstream and downstream (Cornford, Naylor et al. 2000; Pham 2001; Kerr and Flynn

2003). Publishers, in particular, have been forced to increase in scale in order to maintain some control in the production cycle vis-à-vis the platform manufacturers and increasingly large retailers. They have done so by buying each other, acquiring distribution channels and 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 from game sales. Publishers may also acquire development studios in order to gain access to intellectual property, for example, the purchase by Infogrames of Shiny Entertainment for \$47 million in 2002 to obtain exclusive publishing rights to *The Matrix* film license.

Interestingly, and despite the dominant trend towards consolidation, there is still some evidence to suggest that there is also a countervailing tendency, at least with regard to development studios. A number of cases have arisen where publishers or platform developers have bought development companies only for the core of that development team to leave to start a new company because they feel that their creativity was being compromised in the larger corporate structure (Cornford, Naylor et al. 2000; CESA 2002; Edge 2003; Edge 2003). A well known example of this occurred when Black and White designer Peter Molyneux famously left his company Bullfrog when it was bought by EA and founded a new company called Lionhead Studios.

Scale alone is often insufficient to offset the risk and costs involved in developing a cultural product and analysis of the games industry also finds that many companies are exploiting what is known as 'economies of scope'. Doyle (2002:14) defines economies of scope as 'economies achieved through multi-product production' or

variations on existing products. Economies of scope are a fundamental means by which the media industries more generally, and publishers in particular, reduce uncertainty of demand. We have noted that production costs have been steadily rising in the digital games industry across all the segments while at the same time only a small number of games make a profit. As a result publishers tend to develop a broad catalogue or portfolio of titles across genres and platforms in order to ensure they have at least one successful title. They also tend to develop sequels to games and where possible to reuse core technologies. This strategy is found less in development studios, which tend to specialise in the production of particular genres of games, but even here we find the development of ‘super-developers’ in the US and the UK comprised of four or five different teams working simultaneously on different projects. Economies of scope are thus fundamentally linked to economies of scale given that one needs scale in order to distribute a wide range of products to the largest market possible.

Licensing

A further trend which seems to be accelerating in the digital games industry and is certainly exercising many speakers at international games conferences is the increasing use of licenses. A license gives the owner the right to use a certain intellectual property (IP) in certain ways in their game. While initially licenses were very limited and games might only use the licensed IP in the packaging and marketing of a game, increasingly licenses include the rights to use the voice and likeness of the

main characters in a game, and in some cases the production of a game may proceed alongside the production of, for example, the film, whose license it will use. This occurred in the case of the *Enter the Matrix (2003)* game.

Licensing is a strategy which publishers and developers use to overcome the uncertainty of demand for games because of, what film historian Thomas Schatz has called, their ‘pre-sold’ properties (Schatz 1993). Kline et al. (2003) note that drawing on pre-existing IP reduces marketing costs because the most expensive element, building awareness, has already been done. From real world properties like, David Beckham or Tony Hawk, to television properties, like Starsky and Hutch, to film properties like The Matrix it would appear that licensing is becoming more ubiquitous. Sports licenses are also an important feature of sports games, adding considerably to their perceived realism and sales. Screen Digest found that in 2000 ‘licence-based titles accounted for 45 per cent of all-formats in the UK top 100, up from 28 per cent in 1997 and 42.5 percent in 1999 (Screen Digest 2001).’ Table 3-3 would suggest that the trend is continuing, particularly in the console segment.

Table 3-3 Top 10 selling console games in the US Jan.- June 2003

Title	Publisher	Developer	Developer Type	Licensed IP	Sequel
Zelda:Wind Maker	Nintendo	Nintendo	In-house	No	Sequel
Enter the Matrix	Atari	Shiny	In-house	Yes	New
The Getaway	Sony	SoHo	In-house	No	New
GTA: Vice City	Take 2	Rockstar North	In-house	No	Sequel
The Sims	EA	Maxis	In-house	No	Sequel
NBA Street Vol. 2	EA	EA	In-house	Yes	Sequel
Def Jam	EA	AKI Corp	Independent/	Yes	New

Vendetta			third party		
Tom Clancy: Splinter Cell	Ubi Soft	Ubi Soft	In-house	Yes	New
SOCOM	Sony	Zipper	Independent/ third party	No	New
Dragon Ball Z	Bandai	Bandai	In-house	Yes	Sequel

Source: Forfás (2004).

Four things stand out in the above table. Firstly, half the games are based on licenses and only two of the new titles are non licensed IP. Secondly, only two of the developers are third party developers. Thirdly, half of the titles are sequels. Finally, of the top ten selling console games in the USA in the first six months of 2003 only one, *SOCOM*, was based on original IP and developed by a third party developer.

One argument which could be made here is that increased cross-media licensing helps to increase sales and broaden the market by providing themes, narratives and characters that non gamers are already aware of. Certainly, both developers and publishers currently feel that the addition of a license increases their chances of firstly getting a publishing deal and secondly, reaching a large enough market to make a profit. A political economy perspective however suggests that the increasing interdependence between media products in different media industries may lead to a reduction in the overall diversity of texts and the scope for radical innovation to emerge (Wasko 1994). It would also suggest that the growth of licenses, combined with consolidation in the digital games industry is making it increasingly difficult for new entrants and independent developers to operate (Kerr 2003; Kerr 2003; Kerr and Flynn 2003). Given that only one of the top ten selling games in the console segment of the market in the US in 2003 was developed by a third party developer, and this

was based on licensed IP (*Kingdom Hearts (2002)* developed by SquareSoft), the signs are not good.

In summary, it is clear from the arguments and data presented in this chapter that the digital games industry is now an important part of the wider cultural industries.

Looking beyond the data it is clear that the industry is far from uniform and one finds a number of competing technologies and business models, and while the console segment currently dominates in terms of sales, MMOG and mini games provide interesting alternative business opportunities. In addition, markets are far from uniform with, for example, sales of console games dominant in Japan and the US while online PC games and MMOGs dominate in Korea.

As the industry matures companies in the digital games industry are adopting a range of business strategies to reduce their investment risk and increase their returns. These strategies have much in common with the strategies adopted in more traditional cultural industries. In this chapter we have focussed on just two: increasing consolidation and the increasing use of licenses. Both these trends suggest that there is decreasing space for small and/or independent publishers and developers, and consequently, fewer opportunities for original game ideas to make it to the market place, especially in the console segment of the market. Political economic analyses of older media industries would suggest that these two trends are linked and that increasing concentration will over time lead to less diversity in terms of the range of content available. Notwithstanding the appearance of some original titles, when one examines the top selling games across all platforms this suggestion appears to have some resonance.

Finally, it is worth noting that while the digital games industry has professionalized and many of the companies have grown into global companies, there is a constant need for innovation, creativity and new games. Even after an intense period of vertical integration and large scale licensing there is still recognition within the industry that third party developers or small scale independent operations could produce the next *Half-Life* or *GTA*. In this regard one cannot ignore the contribution of modding groups and fans and companies like Valve and Maxis have been keen to foster relationships with their fans (Postigo 2003). A weakness with much political economic work to date is that it focuses on the formal market while tending to ignore the work of academics, artists and user/fan groups which operate on the fringes of the market. While the goods that these groups produce may not be formally bought and sold they may nevertheless contribute to overall innovation and the diversity in the industry. This aspect of the games business will be examined in more detail in Chapter Five.

In summary, in this chapter we established that the digital games industry displays many of the characteristics of more established cultural industries and while growing in economic terms it is still less significant than industries like television, recorded music and DVD sales. The chapter noted that the industry is internally diverse with the console and PC segments operating somewhat like the book publishing industry and the MMOG segment operating more like the broadcasting industry. Finally, we noted that the increasing concentration in the console segment coupled with the erection of high barriers to entry was resulting in less original console games, more licensing and more sequels.

¹ The ESA was formerly known as the Interactive Digital Software Association (IDSA).

² Total number surveyed = 1,013. Different numbers of people responded to each leisure activity.

³ Unfortunately television and VHS were not included in the CESA survey.

⁴ This segmentation could be extended to include arcade games. While this has not been a core focus of my own work, and is almost totally ignored by most industry reports, it remains a significant revenue stream for companies like Sega, Capcom and Namco and an important source of IP for budget 'nostalgia' games and mini games.

⁵ Indeed one possible implication of Microsoft's XNA development platform will be that players will be able to play some types of games across platforms regardless of the platform.

⁶ One source estimate that EverQuest costs \$10 million annually to run

<http://www.gamespy.com/amdmmog/week3/>

^{vii} An oligopoly occurs when a market is dominated by few large suppliers.

^{viii} One industry source told me that almost 70 percent of funded projects get canned at some stage during the production process.