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”A serious business with plenty to play for: The PC, console and mobile gaming sector”

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A serious business with plenty to play for

The PC, console and mobile gaming sector

August 28, 2009



The games market continues to undergo rapid change. Technological advances (for example, more broadband internet connections and improved end user devices boasting sophisticated graphics) are paving the way for digital games to widen their appeal. Allied to this, consumers' growing familiarity with e-commerce and the increasing amount of personal contact made via online social networks are speeding up the changes in the industry. For example, new business models are being created that are based on the user participation idea of Web 2.0 or that are financed via the sale of virtual goods.

Games vendors need well-thought-out business models. Given the long periods that some games take to reach the market and the resulting high production costs the inherent business risk of the games has to be managed using a sound business model. This applies especially to console and massive multiplayer games which are often particularly expensive.

The sector has long since established itself as a serious global economic force. The games industry generates global turnover of EUR 30 bn and this figure is set to rise to EUR 52 bn by 2012. Breaking down the games market, the console segment is by far the biggest, ahead of the online, mobile and offline PC games businesses.

In Germany, too, the market is booming impressively. German gamers generated turnover of EUR 1.6 bn; by 2012 the EUR 2 bn mark is likely to have been breached. Whereas Germany is also seeing offline PC games lose share – in line with the global trend – the still fledgling online games segment in particular is now gaining substantial market share after starting from a low level.

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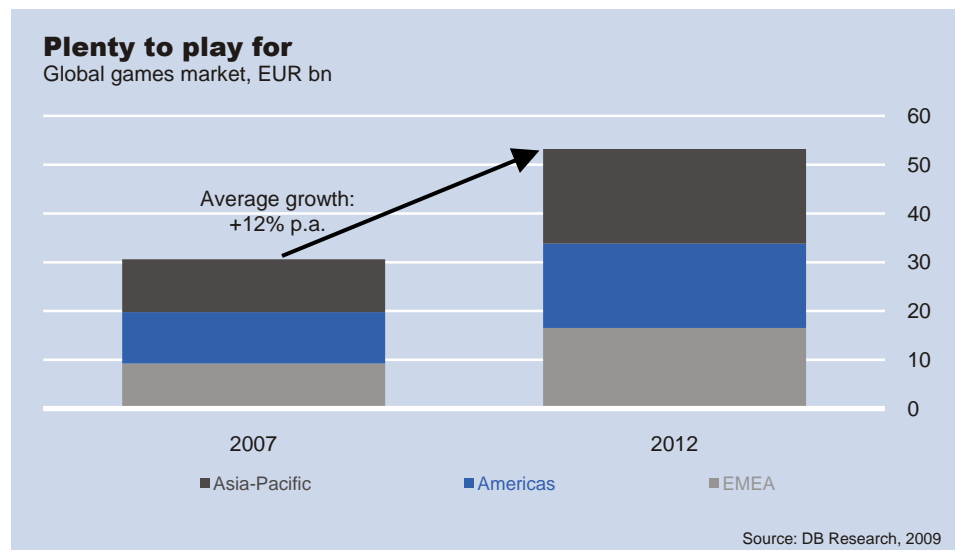
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Games industry reaching the echelons of the film industry

Since the days of TV games in the 1970s, the first programmable systems of the 1980s and the console games of the 1990s the gaming sector has been one of the fastest-growing areas of the media business. This growth has now elevated the games industry to the echelons of the film industry. What this means is that the often ridiculed and sometimes misunderstood games industry has long since become a business factor to be reckoned with in the economy. Dagmar Wöhrl, Parliamentary State Secretary in Germany's Ministry of Economics and Technology, was quoted in November 2008 as saying that the computer games industry is an essential part of the cross-media exploitation chain. She said that the industry and its technologies act as a catalyst in many segments of the media such as the hardware and software industries or motion picture and animated film industries.¹

Success of movies and games is directly dependent on consumer's decision**Gaming has much in common with the movie business**

In discussions about cultural assets, representatives of the games industry regularly call for public funding for the sector (as in Berlin and Hamburg) along the lines of the nationwide film subsidy schemes. This call is underpinned with references to the multitude of parallels between the two segments. The games segment is indeed closely related to the motion picture business in several respects and they are very different from other segments of the entertainment sector. While TV productions and newspapers are largely funded via advertising, the commercial success of motion pictures and games directly depends on consumer decisions. For this reason, the producers of motion pictures and games have to gear their product directly to the preferences of their target consumers. But since games are reliant on the extremely volatile fortunes of the advertising industry to only a minor degree the games vendors (developers and publishers) can also count on a relatively steady income stream. This makes business planning easier.

Long production times not uncommon

A further parallel between the two sectors is the long production times of several years and the resultant high production costs that frequently exceed the EUR 2 m mark. But unlike in the film industry where public subsidies and guarantees are not uncommon, games suppliers often have to rely on venture capitalists because of the considerable business risks involved. This holds in particular for both the console and massive multiplayer games segments (see following section), where budgets sometimes touch the EUR 50 m mark.

Technology, objectives, genre and cultural environment are criteria**Broad variety not always easy to follow**

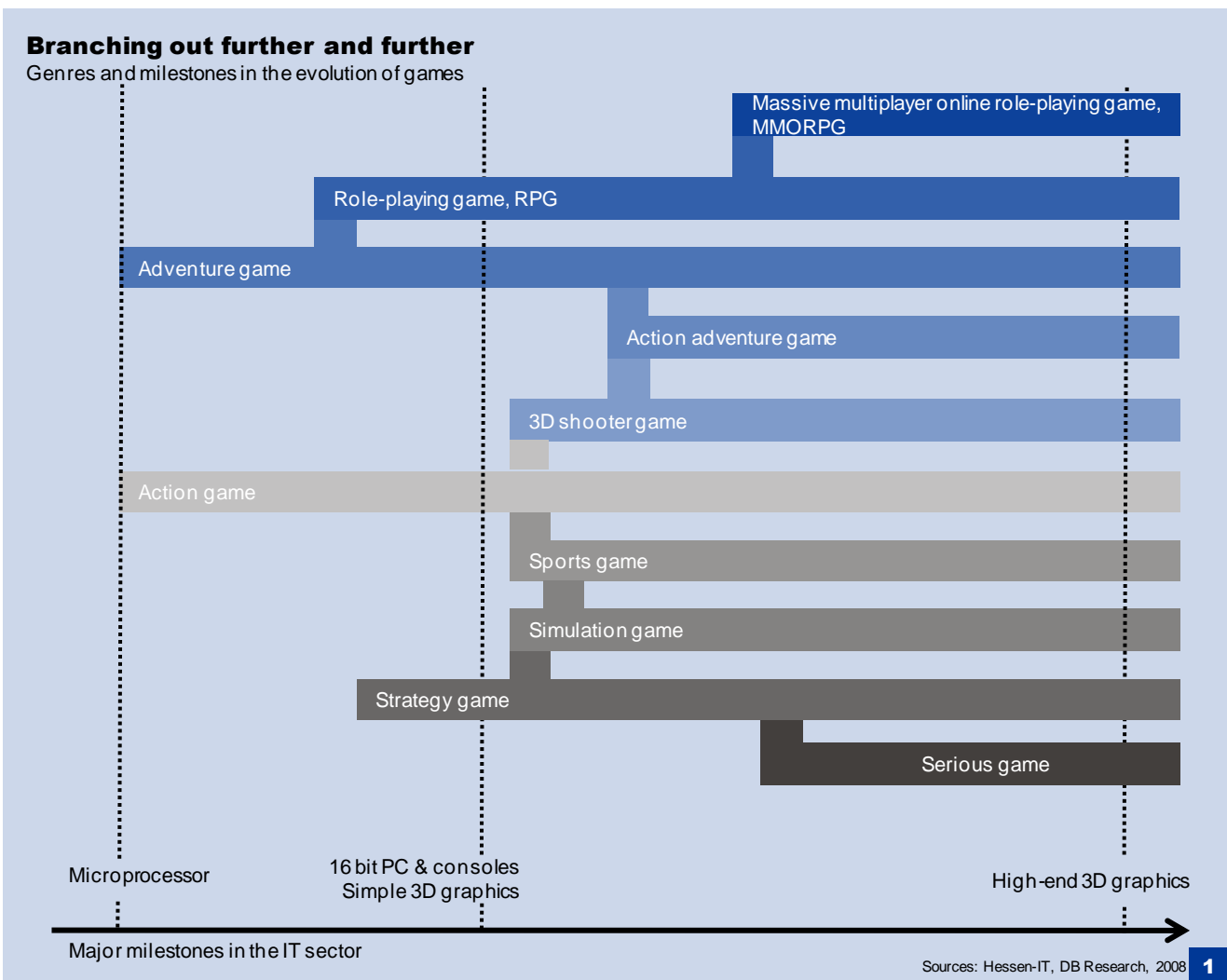
Games (also referred to as computer games, video games and e-games) cover a broad variety of interactive software content. This variety can be differentiated according to the following six criteria:

- *Type of end user device on which the game is played*; i.e. PC, mobile phone, stationary or portable games console;
- *Connection mode of the end user device*; i.e. either offline and not connected or online and linked with other gamers. Note that online games can also be broken down into platform-dependent games, for which special software has to be installed, and platform-independent browser games that use the internet browser. With this subgroup of browser games the gamer can

¹ German government (2008). BMWi press release on the "Initiative Kultur- und Kreativwirtschaft". November 13, 2008.

rejoin the current game at all times, regardless of end user device, at the point where he stopped;

- *Technology/ functionality* of the game; for example: its sound system, implemented artificial intelligence or control facility;
- *Type of task* in the game; for instance, the plot, the design of the various skill levels;
- *Cultural specifics* of the game; for example, preferred colour scheme, culturally specific references in the story told, legal framework (e.g. rules on the protection of minors);
- *Game genre*; e.g. action, sports or strategy games (see following section and chart 1).

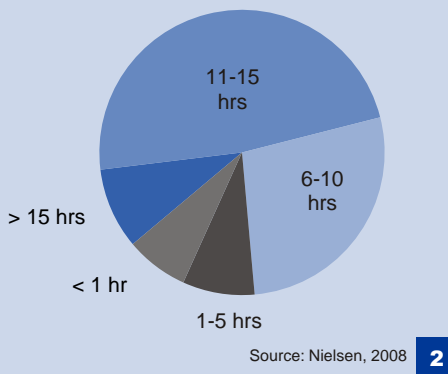


Many foolish things are said / and written, too / Neither body nor soul drops dead / The result – nothing new / But foolish things held before the eye / A magical rightness imply / Giving the senses what they crave / They make the mind a slave.

Johann Wolfgang von Goethe,
Tame Invetives

Five out of six play for more than 5 hours every week

European gamers, time spent per week, 2008, %



Protection of minors also the subject of extensive debate in Germany

The frequently emotional discussion about the games industry focuses particularly on killer games and the accompanying risk of gaming becoming an addiction (see chart 2). Scientific research aimed at achieving a more informed debate of these issues has shown that games have long since established themselves as an integral element of the culture of the cohort of people born after 1980 (see chart 3). Games are part of everyday life not only for children and adolescents – but also increasingly for adults, too. This means that the games debate can no longer centre on whether playing games should be allowed but instead purely about how games should be played.

Since the games sector is highly diverse (ranging from action and sports games right through to strategy games), the potential effects on gamers of game-playing are also highly diverse. It is therefore very important to draw distinctions between the segments of this sector. This is even more pertinent in those cases where the issue is the effect of the violence depicted in the game: Research into the neuroscientific impact on gamers shows that the violence depicted in these games can briefly cause aggressive moods in gamers. There is, however, no conclusive proof of when this short-term mood change also results in a longer-term change in the behaviour of the gamer. In this chain of effects there are other criteria which are more significant, such as personality, gender and the social environment of the gamer (see Hilpert, Wolfram (2008)). Protection of minors and computer games. BPJM, Bonn). For example, research shows that visual media present a much greater risk to the development of boys than of girls (see Rehbein, Florian, Matthias Kleimann and Thomas Mößle (2009)). Computerspielabhängigkeit im Kindes- und Jugendalter). Protecting minors is indisputably a key challenge facing society. The successful protection of minors cannot, however, be founded solely on imposing bans on children and adolescents. It is equally important that parents and teachers learn to understand the special realm of ideas that these games inhabit.

Germany has imposed rules regarding the protection of minors that are strict by international standards. The legislation passed in 2008 included a very extensive list of materials considered highly dangerous for minors because they glorify violence, for example. In addition, the law requires that games be clearly marked with the age limit set by the Entertainment Software Self-Regulation Committee. Furthermore, the protection of minors act allows the Federal German Office for Controlling Media Posing a Risk to Minors (BPJM) to place particularly dangerous games on a binding “blacklist”. The consequence of this “blacklisting” is that the game is banned from being advertised and may only be sold under strict conditions.

Dynamism of the market makes genre categorisation difficult

As in the film industry, the boundaries between genres in the games sector are blurred. Time and again games developers combine popular elements of already established games with new game ideas, thereby creating new hybrids such as simulated settlement, road racing or brain training games. This constant evolution of games means that every attempt at categorisation is doomed to soon be found wanting. All the same, the categories listed below (ranging from action and sports through to strategy games) do help to provide a better understanding of the industry.

- *Action games* are all about reflexes and skill, especially the hand-eye coordination of the gamer. The gamer uses a mouse, a keypad or another controller to move his character through the animated game environment.
- In *adventure games* an important part is played by the recounting of a fanciful, often funny story. Like the hero in a film the (mostly fanciful) animated character has adventures and solves mysteries. The animated character journeys through differing locations and thereby becomes immersed in the plots of the recounted adventure stories.
- The principle of *arcade games* is derived from the familiar slot machines found in bricks-and-mortar arcades. Arcade games designed to provide particularly skilful gamers with the chance to win cash prizes are called *skill games*.

Above all it has to be fun

Main reason for gaming, % of European gamers surveyed



Several thousand gamers simultaneously

- *Role-playing games (RPGs)* have – compared with the closely related adventure games – a stronger focus on the continuous development of the character during the game (e.g. doing magic, riding, hunting). The role-playing segment includes the particularly fascinating massive multiplayer online role-playing Games (*MMORPGs*) with often several thousand gamers interacting simultaneously. MMORPGs are highly capital intensive for providers with regard to development, maintenance and technical specifications.

Games teach information and skills

- *Serious games* are sometimes also referred to as educational games. These games seek to teach information and skills like problem recognition, risk management and teamwork using fun methods. For example, educational games are designed to acquaint schoolchildren with reading, writing and arithmetic using fun methods.

Shooter games are expensive

- *Shooter games* are a sub-group of the action games segment. Most shooter games involve anti-terror missions or fantasy adventures. The production of shooter games is highly capital intensive in most cases.

Simulations games seek to reproduce the physical world

- *Simulation games* aim to reproduce the conditions of the physical world as faithfully as possible (e.g. weather conditions). Many simulation games involve motorsport or aerial, submarine or tank combat. Leaving the leisure segment behind, simulation games have for some time already been helpful training tools for capital intensive, sensitive or hazardous occupations such as pilots and specialist physicians.

Sports games rely heavily on local culture

- *Sports games* feature numerous popular sports such as basketball, ice hockey, football, golf, motor-racing and tennis. Sports games are particularly well received if the sport concerned is an established part of the respective culture (e.g. baseball in the US or football in Europe). Developers face a special challenge to faithfully transpose the sport's typical actions onto the features of the end user device (e.g. manually controlling the shooting movement of the footballer via the joystick).

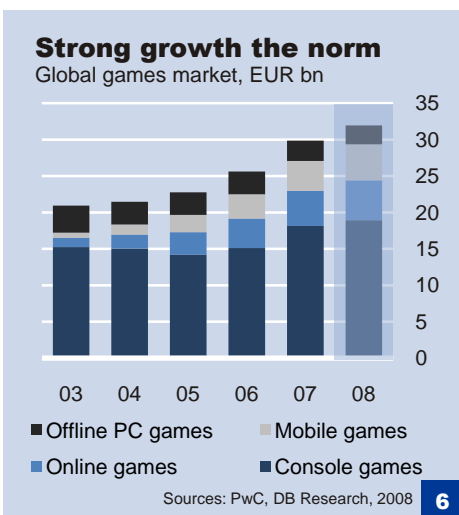
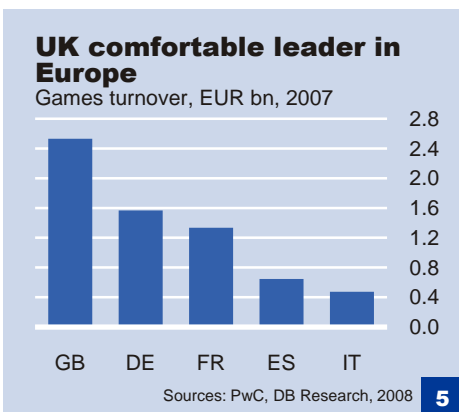
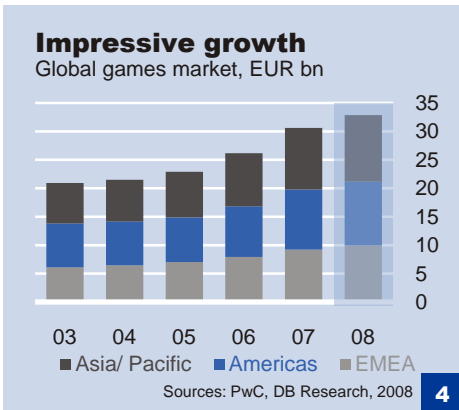
Objective in strategy games is the profitable use of resources

- In *strategy games* the gamer's objectives are to make profitable use of the resources provided within the game (such as money, mineral deposits, club players) and to accomplish the mission that has been assigned. Gamers can achieve their aims by, for example, establishing trade relations or waging wars.

E-sports are recognised as an official sporting discipline**E-sports getting set for the Olympics?**

Sports games satisfy gamers' desire to test their mettle against other players in an amicable sporting contest. The term e-sports has become established as the umbrella definition for these games among those in the business. Politicians, society at large and the business community are taking e-sports increasingly seriously. This is also shown by the fact that in the meantime several countries such as Brazil and China have recognised e-sports as an official sporting discipline and are setting up club and association structures.

Some of these e-sports associations are now even working on presenting e-sports as a demonstration event at the Olympic Games. One important step towards this was the games tournament held in Shanghai at the same time as the 2008 Olympic Games, according to the Global Gaming League.



Ubiquitous wealth of variety

It is not only the games themselves, but also the games vendors that are very broadly based both horizontally and vertically. This means they cannot be neatly categorised. At the horizontal level vendors usually operate in very contrasting genres. The vertical integration of development and publishing activities has been implemented to differing degrees by numerous providers.

Vendors of role-playing games, shooter games, sports games or strategy games tend to be bigger than the makers of serious games; this is even more pronounced if these vendors set out to produce a highly sophisticated blockbuster. All the same, despite all this wealth of variety in the fledgling games segment a clear structure is yet to emerge. Publishers and developers with fewer than 10 employees are just as common as those with several hundreds of employees.

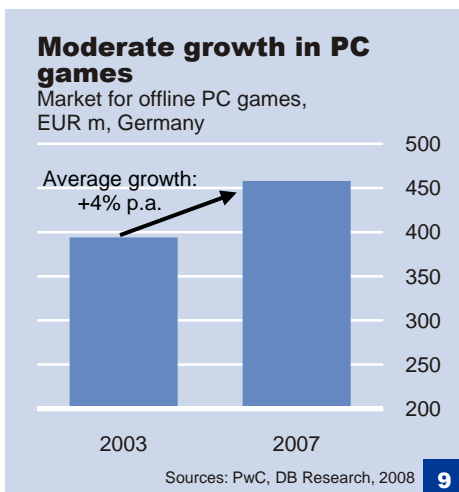
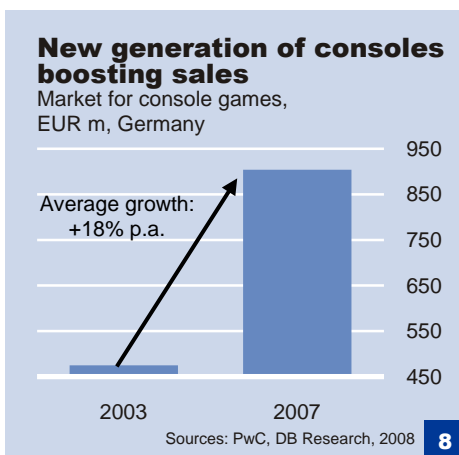
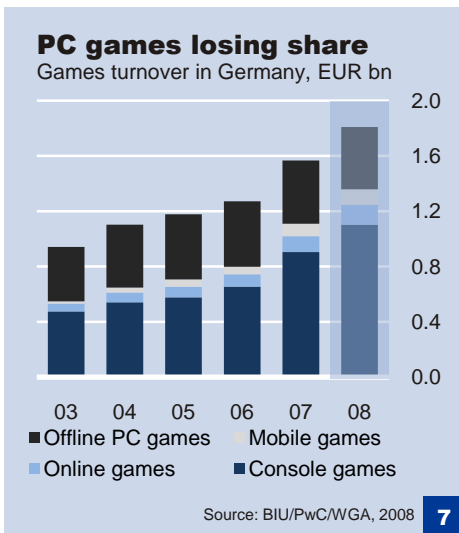
Geographically, the data shows that the biggest “traditional” publishers are based in Canada, the US, Japan, Korea, the UK and France. In Germany in 2007 there were some 200 games vendors with a total of 3,300 employees. These vendors are predominantly based in urban agglomerations such as Munich, Berlin, Hamburg and the Rhine-Main region. However, these German vendors – apart from just a few exceptions – play only a minor role in the major traditional games segments. By contrast, German companies are bigger players in the browser games segment, especially in the skill games and shooter games sections.

Finally, it is also important to note that the games business is far less international than many preconceived ideas about the industry would suggest. A games concept that is successful in one culture can only also be successful elsewhere if the game corresponds with the technical, economic and cultural context (e.g. colour, sound and genre) of the alternative location.

Asia and consoles: The usual suspects are the world leaders

Despite all the challenges associated with collecting statistical data on the industry there is no disputing that the games industry currently constitutes an economically important business.² According to the management consultants PwC, the global games industry (incl. advertising, excl. hardware) generated turnover of EUR 30.6 bn in 2007. The Asia-Pacific market with a volume of EUR 10.8 bn ranked slightly ahead of the Americas (EUR 10.6 bn) (see chart 4). Of the European markets the UK is much bigger than its German and French counterparts (see chart 5). Moving on from the geographical breakdown to the individual games segments, the striking feature is the overwhelming dominance of console games, whose turnover of EUR 18.2 bn accounted for 60% of the global market alone in 2007. A long way behind came online games (EUR 4.8 bn), mobile games (EUR 4.1 bn) and offline PC games (EUR 2.8 bn) (see chart 6). According to PwC data, the expenditure on advertising totalled a good EUR 750 m, equivalent to just over 2% of

² For a long time there were no official statistics collected on the games industry. Only recently have the authorities started to establish an official database separate from the publications issued by private-sector institutes. With the new classification of the business segments (WZ 2008) scheduled for implementation in H2 2009, the Federal Statistical Office also plans to introduce the new category “58.21 Publishing of computer games”.



market turnover.³ This means that contrary to many preconceived notions advertising is only a minor factor in the overall games market.

The ongoing popularity of consoles is underscored by the current new releases. Whereas for a long time the competition between console game vendors centred on technical developments with regard to graphics and sound, the focus of attention now is on motion-sensitive controllers. Games are no longer being played using keys, buttons or a joystick, instead it is the gamers who have to make the appropriate physical movements themselves (e.g. by swinging their arms to play strokes in tennis). Furthermore, “motion capturing” controllers are also being tested at present. With motion capturing, the gamer controls his character solely by moving his hands and legs as well as by using his voice and gestures – without using a traditional controller at all. The new controller enormously enhances the emotional game experience and opens up a completely new spectrum of possibilities spanning not only the sports games segment but also as far as the medical therapy area.⁴ These new features enable games vendors to retain the loyalty of already active gamers and in addition to convince new client segments, such as women and the elderly, to buy their products.

The German market boomed

The German games market was worth nearly EUR 1.6 bn (excl. hardware) in 2007. Between 2003 and 2007 it thus grew by an average of nearly 14% p.a. In this expansionary environment offline PC games lost some 10 percentage points of market share. By contrast, the smaller-sized console, online and mobile games segments managed to record significant market share gains (see chart 7).

With the launch of the third generation of consoles the German market for console games gained considerable momentum over the same period and grew by an average of 18% p.a. to a good EUR 900 m (see chart 8). At the same time sales of offline PC games in Germany rose by an average of nearly 4% p.a. to roughly EUR 460 m (see chart 9). Accordingly, the offline PC games’ share of the total games sales revenues between 2003 and 2007 fell 12 percentage points to 29%. The decline in offline PC games came as a consequence of the gains made by the online games segment. The online games segment is being boosted by newly developed software and hardware, the roll-out of broadband internet, the broad availability of flatrates and consumers’ increasing familiarity with e-commerce. Sales generated from online games climbed by an average of nearly 20% p.a. between 2003 and 2007 and reached a volume of EUR 115 m. However, online games thus still remain one of the small games segments (see chart 10). Mobile games yielded sales of EUR 90 m in 2007 in Germany. Thanks to advances in end user devices and mobile networks the number of users increased and with it also sales of mobile games over the same period by an average of more than 50% p.a.; this was, however, starting from a low base volume (see chart 11).

³ These figures include both direct payments between advertisers and games vendors, netted reciprocal payments and other types of transaction. The figures are, however, very optimistic.

⁴ See Heng, Stefan and Elisabeth Wieland (2009). E-Health: New medical and nursing options help doctors, health insurers and patients. Deutsche Bank Research. Talking point. Frankfurt am Main.



Large increase in online games

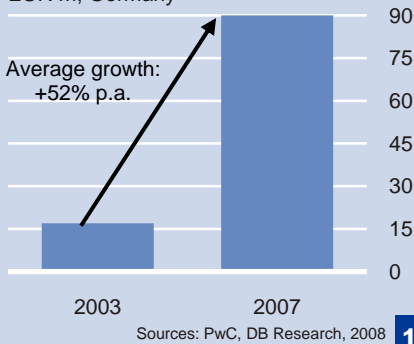
Market for online games, EUR m, Germany



10

Mobile is dynamic

Market for mobile games, EUR m, Germany



11

Producing good advertising is not easy

Piracy is a serious problem

PwC estimates that there are more than 50 m counterfeit copies of games in circulation around the world. This is equivalent to 15% of turnover being lost to the German games market alone. Product piracy is a particularly virulent threat to the offline PC games segment as it is a great deal easier to make pirate copies on a PC than on a games console. In response to this threat several vendors are currently initially releasing their games as console games and only after an extended period issuing them as offline PC games.

Revenue model depends on connection mode

The multi-faceted nature of the industry is reflected not only in the products but also in vendors' revenue models. Staggered according to their connection mode (online versus offline), games are funded via the following sources of revenue:

- *One-time proceeds from selling the software*; i.e. the price that has to be paid at a bricks-and-mortar retailer, or the pay-per-download fee via an online outlet.
- *Regular subscription fee*; that is the amount due at fixed intervals for an online subscription to the games.
- *Item selling*; the sale of virtual goods (e.g. clothing, magic potions or swords) to enhance the aesthetic and strategic qualities of characters in online games.⁵
- *Revenues from in-game advertising*; that is the revenue generated via the various types of advertising conducted during the game.

There are three main types of in-game advertising

The in-game advertising formats are static in-game advertising (SIGA), dynamic in-game advertising (DIGA) or so-called "advergaming". With SIGA the advertising message is a constant element from the beginning to the end of the game. This means that the advertising itself cannot be altered. Perimeter and shirt advertising are prominent examples of SIGA in sports games. DIGA, by contrast, allows location-based and time-based advertising messages to be delivered online or via mobile media. The primary purpose of advergaming (also known as ad games and branded games) is to establish awareness of a brand using a specially designed game.

With the increased popularity of broadband internet the dynamic, linked types of advertising should gain importance relative to static in-game advertising. However, in-game advertising is likely to continue making only a minor contribution to sales of the overall games market since it can only be used extremely sparingly because of its limitations with regard to content and intensity. On the one hand, the advertiser has to ensure that the content vis-à-vis the format and placement of its advertising message is consistent with the image of the brand being promoted. Not every genre is suitable for every advertising campaign. The scope for using fantasy games or a number of shooter games in particular is extremely limited. On the other hand, the advertiser also has to ensure it calibrates the intensity so that the advertising message does not completely dominate the game and thus be given the thumbs-down by fun-seeking gamers. Ultimately the sword of Damocles that hangs over all advertising is jurisprudence. Clarification is required of the point at which in-game advertising crosses the line familiar in other media and becomes subliminal advertising.

⁵ Item selling gives rise to new legal issues that still need to be clarified at the international level. The five most pressing questions are:

- (1) Who do the virtual objects belong to?
- (2) How are sales that are often generated in virtual currency treated in company accounts?
- (3) Can the player who acquires the virtual objects assert a claim against the operator if the virtual world is closed down?
- (4) Is a banking licence required for transactions made in the virtual world?
- (5) Do some deals in the virtual world contravene civil law provisions, such as those relating to the protection of minors?

Free-to-play luring gamers**The games market continues to change rapidly**

The industry is also getting accustomed to changes in revenue models. Today it is already noticeable that besides offerings with conventional types of funding (subscription fees, one-off purchase price) there are increasing numbers of free-to-play offers coming onto the market. These free-to-play games provide the gamer with use of the software required and the link to the games server free of charge. This enables lots of gamers to be made familiar with the offering. Free-to-play providers fund their business by selling virtual goods.

Distribution channels, revenue models and development processes are changing

The change in the business models in the games industry continues apace. The four main drivers of this change are technical advances, price models, online social networks and the trade in virtual goods. The model cycles of rapid advances in software and hardware technology (for example, improved end user devices with sophisticated graphics) and the spread of transparent price models for internet access (online costs can easily be calculated by users) provide the primary basis for ever increasing numbers of digital games enthusiasts. Allied to this, consumers' growing familiarity with e-commerce and the growing amount of contact that people maintain via online social networking media are accelerating the changes in the sector. The five key areas of change are:

Gamers are to be hooked online

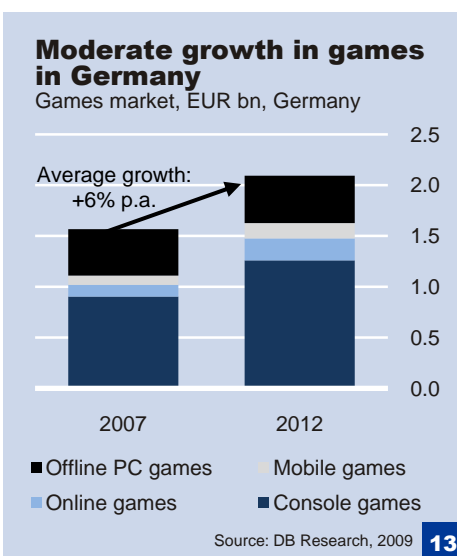
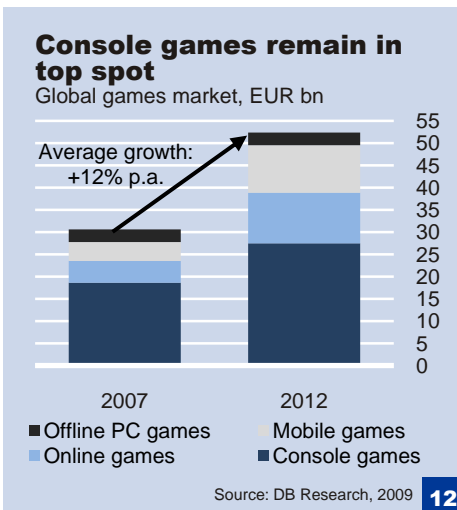
- *Distribution channel*; bricks-and-mortar retailers are set to lose out to online vendors. With one link fewer in the value chain games vendors should then be able to boost their online margins;
- *Revenue model*; item selling is set to become more important;
- *Online element*; more and more gamers want to stay in contact with friends at the game level, even though they may be in completely different locations at the particular time;
- *Process of game development*; the interactive idea of Web 2.0 in developing new games is set to become more prevalent;

Focussing physical and mental fitness

- *Target demographic*; more and more women and elderly people are interested in games. The emotionality of the game experience is growing with the new opportunities provided by social networks and new types of games. This enables the custom of longstanding gamers to be retained and new users such as women and the elderly to be fascinated by the diversity of the sector's offerings (e.g. trainers for physical and mental fitness).

Industry optimism justified**Recession offers special opportunities**

The current recession is impacting the games industry via the changes in funding conditions, advertising budgets and leisure habits; however, this is occurring to differing degrees and even in opposing directions. The recession is restricting the industry's potential via the worsening funding conditions and to a lesser degree via shrinking advertising revenues. On the one hand, the scarcity of debt and equity capital during the recession is making it more difficult to finance commercially risky, innovative projects. This means that investments and also innovations in the software and hardware areas are likely to decline. The smaller number of innovations is making products less appealing and is slowing down sales growth in the games industry. On the other hand, advertisers' budgets will shrink during the recession. Even if advertising can only



Upheaval continues apace

Largely unscathed by the recession

make a small contribution to industry sales this effect does restrict the commercial room for manoeuvre of games vendors.

By contrast, the recession can, however, boost the potential of the games industry. The lever in this case is the changing leisure patterns of private users: it appears plausible that consumers who cut back their consumption during the recession will initially forego costly out-of-home activities such as going to restaurants, the cinema or the theatre and instead will tend to spend more time at home. A portion of their reduced expenditure will then probably be used for home entertainment and thus also finds its way into the games industry. The change in leisure patterns during the recession thus opens up new potential sales opportunities for the games industry. In the end, the current recession should thus at worst slightly restrict the growth potential of the industry. The world market should thus grow by an average of 12% p.a. between 2007 and 2012 to more than EUR 52 bn (compared to an average growth of 10% p.a. between 2003 and 2007).

Over the same period the Asia-Pacific region should continue to post rapid growth and account for nearly 40% of the world market, whereas the share of the Americas is set to remain pegged at 30% (see cover page chart). With regard to the subsegments, mobile games is likely to grow particularly vigorously, while offline PC games is likely to be sluggish (see chart 12).

Between 2007 and 2012 the German market is likely to grow by 6% to EUR 2.1 bn, thereby expanding half as fast as the global market. Unlike at the global level, the fastest growing market in Germany is the online games segment. In the dynamism rankings mobile games only occupies second place, ahead of console games and the offline PC games segment which is also faltering in Germany (see chart 13).

Conclusion: Games have long since become an economic force

With games taking several years to be developed and thus leading to high production costs vendors have to employ sound business models to successfully manage the inherent business risk. This applies particularly to the frequently expensive productions in both the console and massive multiplayer games segments. In these segments the production costs frequently top the EUR 2 m mark, and in isolated cases they even exceed the EUR 50 m mark.

Advances in software and hardware technology, the roll-out of broadband internet, the spread of transparent pricing models for internet access, the growing familiarity with e-commerce and the increasing volume of personal contacts maintained via online social networks are driving change in the games industry. This change is focused on the distribution channels, the revenue models, the games development and the target demographics. For example, there are now more and more business models geared towards the interactive idea of Web 2.0 or being funded via item selling.

The often ridiculed games industry has long since matured into an economic factor to be taken seriously. The current recession certainly poses challenges for the games industry, but ultimately it should not significantly impair the generally positive development. In 2012 the global games market is likely to be worth EUR 52 bn – up from just EUR 30 bn in 2007 (average growth of 12% p.a. between 2007 and 2012). German gamers alone generated turnover of EUR 1.6 bn in 2007; by 2012 it should reach EUR 2 bn (average growth

of 6% p.a. between 2007 and 2012). The offline PC games segment is also losing market share in Germany, in line with the global trend. However, the still fledgling online games segment – starting from a low base – will probably gain share in an expanding overall market.

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