

The Road to E-Services: Online and Mobile Games as Enablers

Giuditta De Prato, Claudio Feijoo and Jean Paul Simon

Abstract In this chapter, De Prato, Feijoo and Simon discuss the growth of the video games software market, which is expected to be primarily driven by online and wireless game softwares, while the hardware would proportionally decline in terms of revenues, changing hence the rules of the game. It is forecasted that especially the online space will substitute, in the long run, the currently available boxed product.

In less than 40 years, software games have developed from scratch into an industry producing billions in terms of profits and, today, its revenues and investments give the video games industry a relevant position among other mainstream media industries. In 2009, the global video games market was estimated at US\$52 billion and is expected to grow to over US\$80 billion by 2015 (PriceWaterhouseCoopers 2009, 2011). This market is expected to grow four times faster than the media and entertainment market as a whole. The former is expected to grow by almost 70 % by 2013, whereas the latter is expected to grow by only 17 %. The growth of the video games software market is expected to be primarily driven by online and wireless game softwares, while the hardware would proportionally decline in terms of revenues, changing hence the rules of the game. It is forecasted that especially the online space will substitute, in the long run, the currently available boxed product.

Disclaimer: the views expressed are those of the authors and may not in any circumstances be regarded as stating an official position of the European Commission.

G. De Prato (✉)
JRC-IPTS, Seville, Spain
e-mail: Giuditta.DE-PRATO@ec.europa.eu

C. Feijoo
Technical University of Madrid, Madrid, Spain

J. P. Simon
JPS Public Policy, Seville, Spain

1 The Size of the Global Video Game Market

Regarding the future development of the video games market, it is expected that the video games market will continue to grow. However, there are some differences in the dynamics of individual segments. In particular, whereas the online and wireless product segments will grow and, as a result increase their overall importance, the sales value of PC-based video games will decline and, by 2013, it is expected that it will have dropped to around US\$4 billion, or 6 % of the overall video games market value. The online and wireless video games segments will reach around 18 % of the total video games market, in other words this segment will account for nearly 40 % of the total (PriceWaterhouseCoopers 2009).

This is likely to be further boosted, from a technological viewpoint, by the new mobile devices (tablets) and cloud computing. Cloud computing may deteriorate the PC segment, especially when consumers will renew their equipment, but will act as an additional enabler for online distribution, adding more casual gamers to the market, as gamers can play without having to download the games on a sophisticated piece of equipment.¹

One should also stress that each of the regions displays specific features in terms of the dominant platform: PC video games are significant in Europe, North America is the number one market for console and handheld video games, and Asia leads in online and mobile games. PriceWaterhouseCoopers (2009) estimated the value of console and handheld video games sold in North America to reach by 2013 US\$15,535 million against the US\$14,497 million of EMEA. On the other hand, in 2008, the PC games market accounted for US\$2,559 million in the EMEA area against US\$789 million in North America (PriceWaterhouseCoopers 2009). The Asia-Pacific region became the largest market as of 2010 (PriceWaterhouseCoopers 2011) and is expected to be the fastest growing during the next 5 years. Three of the top four countries are located in that region. China overtook South Korea in that same year and ranks third behind the United States (over US\$15 billion according to PriceWaterhouseCoopers 2011 but a total of US\$ 25 including hardware and accessories according to US industry sources, ESA 2011) and Japan. PWC predicts that China will overtake Japan in 2011. EMEA is still rating second with a market of 16.9 billion US\$ in 2010. The market remains (1.3 billion US\$ in 2010) and will remain modest (1.8 billion in 2015) in Latin America for the size of its economy, especially with fast growing economies like Brazil (PriceWaterhouseCoopers 2011).

¹ In June 2010, OnLive introduced an on-demand game based on cloud computing and in December 2010 Gaikai followed that track. Major companies like Take Two, Electronic Arts or Ubisoft are supporting the move and offering popular games.

2 Online Value Creation

2.1 *The Online Games Industrial Ecosystem*

The browser-based game (BBG) scenario proposes the simplest solution to playing online: accessible to everybody, in most cases for free, offering simple, cheap and easy ‘casual’² entertainment to the widest variety of users of basically all ages. The narration is not articulated, so the effort in terms of time investment per game required of the player is not high. Generally the virtual world proposed, if any, is simplified, as are the graphics, so no last generation hardware is necessary. Users prefer to play stand-alone games, possibly to fill in a short break rather than to invest a lot of their free time, and the level of inter-user communication and interaction is absent or very low. These games can also be played by multiple players, and what differentiates these games from the complex MMOGs is the simplicity, recognisable in easier graphics, easier plot and easier interaction. The development time for BBG’s projects is generally short, and the level of investment required by the production of a title is low. Publishing usually takes place on dedicated websites acting as portals of online BBGs, where a huge number of games is offered and users know how to find their favourite types or to look for new experiences (Bogdanowicz et al. 2010).

On the contrary, MMOGs offer the most typical example of client-based, multiplayer, highly complex video games where users are confronted with a persistent world, real-lifestyle graphics and evolved development of characters. Among users, communication is intense and relies on many tools, the system resources exploited and required are huge, and the investment in terms of users’ time is also considerable. The virtual world that users access is impressive. The distribution is relatively complex, as big dedicated portals are in charge of delivering software and access to users depending on the platform adopted. Titles are differentiated by platforms, and all famous games are not necessarily available for all the main platforms. In particular, the policy followed by console owners has been rather differentiated until now. The development requires huge efforts and impressive teams, the most advanced techniques are applied to improve the rendering of real effects, integration of real landscapes, textures and advanced graphics. Physics and rendering engines are exploited together with other middleware tools to improve the results and the impression of reality (De Prato et al. 2012).

2.2 *Changes in the Value Chain*

Publishers are often presented as the central economic actors in the video games value chain, ruling the overall organization of the market. The strong position of

² Casual game: ease of use games (to learn, to access and to play) spanning all genres.

the publishers is due to their specific intermediary role in the value chain: they have the scale and skills to generate the relevant deal-flow, manage large budgets, develop global branding, and organize marketing and property rights. They often integrate several positions in the value chain vertically, growing their own developer departments, absorbing developer companies or acting as distributors and retailers. The progressive but impressively fast switch to online gaming introduced new distribution methods and started to rearrange the relative roles and interaction dynamics among the actors at the different levels in the supply chain. The publisher, in many cases, directly distributes games, without the need for a distributor to act as intermediary between the publisher and the retailer: i.e. ‘disintermediation’ is taking place, cutting out the role of the distributor.³

2.3 The Business Models

The sources of revenues and business models are bound to change, and to keep evolving at the same pace as the underlying products, or services. The alternative business models which users face when entering the world of online games are actually rather different from those they were used to. At least in the first phases of the online era, video games publishers tried to adopt the ‘old’ video games industry business models. In the offline world, publishers used to hold the rights for the games, and licenses from software developers had allowed both publishers and console manufacturers to profit. The latter were even prepared to sell console hardware at loss per unit, while game titles were often pre-sold to publishers (Fig. 1).

Currently, the emerging revenue stream from selling virtual goods online is attracting a lot of attention in the online video games industry (Wi Jong 2009).⁴ In-Stat (2010) forecasts that total virtual good revenues will reach more than \$14 billion by 2014.⁵ The virtual items model allows gamers to buy individual digital components such as virtual currency, items, characters and any in-game good which are not a full game in themselves. The flexibility of this model is bound to be exploited by creative producers and publishers. Basically, every item could be sold as a virtual item. This allows extending the exploitation of virtual items to a specific genre or category of games, but leaves room for creativity to find different interpretations and applications of increased and consolidated users’ acceptance of this type of cost.

³ Disintermediation is also taking place in the case of off-the-shelf games, where the increase in structure and negotiation power of big retail chains has allowed them to interact directly with publishers, leaving distributors with a marginal role.

⁴ For a description see Wi, J.H., Chap. 2, ‘Business models and corporate strategy’.

⁵ Zynga clearly leads with \$364 million in 2010, to be noted that the first EU firm, Bigpoint, ranks n°5 with nearly \$55 million of revenues.

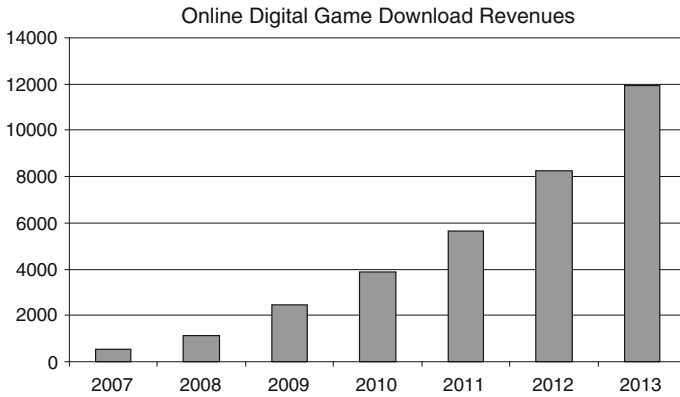


Fig. 1 Online digital game download revenues. *Source* isuppli—consumer platform q1 2009 topical report—gaming platform

3 Going Mobile: The Role of Platforms for Innovation and Developers

The rapid diffusion of mobile games goes beyond just being online, in the sense that mobile games offer new opportunities to include wider demographics, ubiquity, personalisation and social and context awareness. In the early 2000s, it started to become possible to download casual games to be used as time-fillers. The dramatic change started in 2006–2007, when smartphones with higher computer power, storage capacity and AV-capabilities and mobile broadband with flat data rates made mobile games diffuse rapidly.

3.1 The Mobile Ecosystem

The ecosystem of mobile gaming allow for three basic mechanisms to deliver and consume mobile games: over mobile telecommunications networks, over some short-range wireless system (context delivery) and over some fixed ‘Internet access’ and, later, side-loading. A new approach to mobile games, which completes those of mobile operators, content providers (game publishers) and device suppliers, has appeared with considerable strength: the application stores and the platforms that support each of them. The new concept has given developers a direct-to-consumer channel that circumvents carrier domination. Game developers for application stores must no longer adjust to operator platforms conditions and users do not need to connect to carrier decks and retailer websites in search of games optimized for their particular device or operating system. Application stores introduce new paths in market evolution and strongly influences the users’ perception of the value and experiences related to mobile content.

The impact of new platforms and application stores has been considerable from the perspective of mobile gaming development: while development and marketing costs for a console or pc game may run in millions of euros, such costs for a mobile game were already typically in the range of hundreds of thousands, sometimes even less before the emergence of platforms. In the new platforms these costs may be even an order of magnitude less.⁶ Thus, the low entry barriers for mobile games have helped spawn a proliferation of small mobile game software developers and the possibility to account for the long tail of potentially interested gamers. At the same time, and due to the increasing competence, mobile software developers require more than ever marketing help either in the traditional publishing scheme or via the new platforms.

3.2 *Leading Platforms*

In the mobile domain, software for games, either in the shape of content or as an application, is developed for a particular platform; we will only consider here Apple, Nokia, Google and Microsoft.⁷ The most prominent platform today is Apple's. It is composed of four main pieces: the iPhone-iPod-iPad as the mobile/portable devices (including Apple's OS X as operating system), the App Store where applications are available for users to download, the iTunes software as the billing and control system and a software development kit (SDK) for interested parties. The Apple strategy suits the 'closed' platform model (Ballon 2009) where Apple reserves for itself a high degree of control on every element of the platform—hardware, operating system, software development kit—and in particular on the approval of applications.

Nokia, is the second platform in terms of monthly downloads and the first in terms of mobile phones market share. It is made of three main elements: Nokia handsets, the Symbian operating system for mobile devices and the Ovi services and application store. Interestingly, Nokia was the pioneer in blending mobile phones and games through its N-Gage products. However, this visionary proposal has been a failure in practical terms in the markets.

Google's platform is the third in line, but has caused a considerable impact on the ecosystem. Google's strategy is based on three main elements: Android as an open operating systems basically—but not only⁸—for mobile devices, a set of

⁶ According to Nokia sources, these costs would be in the range of €10,000 in 2010 for an average application.

⁷ Due to the lack of space in this chapter, there are indeed many more, obviously Sony-Ericsson, Samsung, Linux, Sun, Qualcomm and those from mobile operators. The list continues to increase. A more comprehensive table will be shown at the conference.

⁸ The ambition of Google is extending this operating system to a number of other devices, mobile or not. It has been already ported to set-top-boxes for digital television. For further information, see <http://gizmodo.com/5348128/1080p-android-set-top-boxes-are-set-to-invade-your-living-room>.

software facilities for developers on this platform and the devices supplied by an increasing number of manufacturers and, lately, Google itself through its own brand Nexus. Google strategy follows very closely the ‘open innovation’ model where available knowledge, both internal and external, is used to accelerate internal innovation and expand the markets for external use of innovation.

The Microsoft approach to mobile applications is based on Windows Mobile and Windows Market. Windows Mobile is an operating system combined with a suite of basic applications for mobile devices based on the Microsoft Win32 API. Devices that run Windows Mobile include netbooks, smartphones, portable media centers and on-board computers for certain automobiles. It is designed to be somewhat similar to desktop versions of Windows, feature-wise and aesthetically. Additionally, a number of third-party software developments are available for Windows Mobile.

3.3 The Ecosystem Challenges for Mobile Game Developers

The heterogeneity and current fragmentation of the mobile ecosystem causes the unavailability of widely accepted common technical rules. This absence of standards avoids that innovators and established companies profit from economies of scale and increases the transaction costs involved. This barrier emerges in every layer of the ecosystem, be it on the mobile device (operating systems, applications, content players, location based services, etc.), in the infrastructures part or in any of the mobile platforms (billing, aggregation, content and applications management, context management, etc.).

As a consequence, the mobile gaming ecosystem is evolving towards a collection of ‘open, but not open’ approaches; the already-mentioned platformisation (Ballon 2009). This platformisation implies also a clash of business models and cultures. Content and application providers intend the network to be neutral and a mere system of transport and distribution while operators try to complement connectivity with value-added content and applications. In addition, it is now the—hardware and software—suppliers of mobile devices which are looking into silo models to extend their control along the value chain. The—partly latent—conflict implies that the market is still in an early stage of competition focused on platform control.

At the same time, the lower entry barriers for the development of games in each of the mobile platforms in comparison with other game platforms have caused a proliferation of small mobile game software developers. However, on the other side of the coin, they confront the major challenge of getting their products to consumers since they lack in general strong marketing and distribution networks. Because of this they usually seek for partnerships (publishers, device suppliers mobile operators) or platforms that include marketing tools (the emergent app stores). The relatively low costs of mobile game development also help the creation of the ‘economics of long tail’ (Jaokar and Gatti 2010) where developments for a minority of users may be profitable. However, this long tail reinforces the

role of application storefronts, since developers need a virtual marketplace to reach the scattered demand.

Finally, due to the increasing relevance of mobile gaming, a number of big players are crafting their own strategies into the domain (e.g. Disney). Most of them include building an in-house development team for mobile gaming. This team can be created from the inner knowledge already existing in the company and/or hiring/acquiring external knowledge. If this becomes the usual case for mobile games development, the precedents in the console industry indicate that in-house developer teams become favoured, at the expense of publishing partners.

4 Conclusions

Online and mobile opportunities may give new companies the chance to become essential intermediaries in the video games value chain, such as online portals (MSN, Google, Yahoo, pogo.com), Internet service providers, social networks (Facebook, MySpace) or even telecom operators (e.g. Vodafone) or handset manufacturing companies (e.g. Nokia). New market dynamics are created as these opportunities also allow the formation of new partnerships with other organisations (movie industry, sports organisers...) and more lifestyle partners, opening up new experiences.

The video games software industry appears to be one of the most innovative labs for the coming digital economy: it is developing and experimenting new digital services (online, offline and mobile) that manage to reach a growing share of the population, across all demographics. Born digital, the industry shows a digital growth that is taking advantage of many opportunities to offer user-friendly, intuitive services on a very large scale. Such services, mainly based on software development, are progressively invading other areas in the sector such as casual games, advergames or edutainment, multiplying the supply-side actors. Evolving from mere entertainment into virtual worlds, the online game segment is providing a marketplace for online economic activities. A process of deep change is presently affecting not only the supply chain, but every aspect of the industrial value chain. Such a process is expected to cause a reshaping in the value chain itself, and in the resulting landscape service innovation matter more than innovation in services as an engine for growth, and the video game sector play a positive role.

Acknowledgments The present work is a follow-up of the research activity carried out between 2009 and 2010 by the JRC-IPTS in the framework of the COMPLETE Project.

References

- Ballon, P.: The platformisation of the European mobile industry. *Commun. Strat.* **75**, 15–34 (2009)
- Bogdanowicz, M., De Prato, G., Feijoo, C., Nepelski, D., Simon, J.P.: Born digital/Grown digital. Assessing the future competitiveness of the EU video games software industry. JRC-IPTS Publication. <http://ipts.jrc.ec.europa.eu/publications/index.cfm> (2010). Accessed 21 Oct 2012

- De Prato, G., Lindmark, S., Simon, J.P.: The evolving videogames ecosystem. In: Zackariasson, P., Wilson, T.L. (eds.) *The Video Game Industry: Formation, Present State, and Future*. Routledge, London, pp. 221–243 (2012, forthcoming)
- In-Stat: Virtual Goods in Social Networking and Online Gaming. In-Stat, Santa Clara (2010)
- Jaokar, A., Gatti, A.: Open mobile, Understanding the impact of Open Mobile: Implications for Telecoms/Devices, Web, Social Networks, Media and personal Privacy. Futuretext, London (2010)
- PriceWaterhouseCoopers: Global Entertainment and Media Outlook 2009–2013, 10th Annual Edition. PriceWaterhouseCoopers, London (2009)
- PriceWaterhouseCoopers: Global Entertainment and Media Outlook 2010–2015. PriceWaterhouseCoopers, London (2011)
- Wi Jong, H.: *Innovation and Strategy of Online Games*. Imperial College Press, London (2009)

Trends and Applications of Serious Gaming and Social
Media

Baek, Y.; Ko, R.; Marsh, T. (Eds.)

2014, VIII, 186 p. 87 illus., 83 illus. in color., Hardcover

ISBN: 978-981-4560-25-2