



# Transposing freemium business model from casual games to serious games <sup>☆</sup>



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## ABSTRACT

The casual game sector represents one of the fastest growing segments of the video game industry with successful business models. The Serious Games (SG) sector on the other hand is far behind with lower business benefits. This study explores how the casual game business models can be transposed into the SG sector, focusing on the freemium business model. We analyse the freemium business models in relation to four components: value proposition of the games, user's segmentation, available distribution channels and revenue streams. After the theoretical analysis, the empirical analysis is completed through end-users survey ( $n = 237$ ) and the analysis of three companies. Based on the end-users survey and the company analysis, the paper introduces key findings in relation to the four components of the free trial and freemium model and their transposition to the SG sector. Findings from the study include the opportunity to transpose the casual games freemium business model into the SG sector in order to allow the development of the SG sector through optimising their potential revenue streams.

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## 1. Introduction

Serious Games (SG) sector is growing but is far behind the casual games industry in terms of revenues. Gao and Mandryk [1] define casual games as “games that players can learn easily and access quickly, using simple rules and special game mechanics”. The casual games are revolutionizing the traditional image of the videogame industry, introducing non-violent content [2] that enlarge their audience to “men and women, young and old” [3].

According to Juul [3], one of the successful attributes of casual games is their ease-to-use, “players need not possess an intimate knowledge of video game history or devote weeks or months to play”. A second aspect that makes casual games as one of the fastest growing sectors in the video game industry, engaging a large number of players worldwide [4] is having successfully developed business models to transform the end-users play/engagement into revenues. Casual games are currently based on two business models: the free trial and the freemium model. Free trial games are

downloadable games, usually wrapped within ‘the try before you buy’ model, where the players can play a trial version of the game for free during a certain time. The second type is called freemium, in which the users play the game for free. The freemium model generates revenues by indirect service, such as the purchase of virtual goods within the game environment.

With the perspective that SGs as not as widespread in the public domain as casual games, this paper investigates the casual games freemium business model and its relevance to the SG sector. The next section analyses the SG market and its current business models. The following Section 3 provides the general background on casual gaming. Section 4 describes the methodology employed in the study reported by this paper, followed by the analysis of the outcomes in Section 5. Section 6 correlates the findings and discusses how SG can implement a similar business model. Section 7 concludes the paper and discusses the scope and limitations of the study as well as possibilities for further works.

## 2. Casual games and SGs – the markets and business models

In this section, we discuss the market for SG and casual games in terms of the components of a business model: *value proposition of the games, user's segmentation, available distribution channels and revenue streams*, identified by Osterwalder and Pigneur [5,6]. The

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final subsection will summarise the differences between the two markets and explain the potential of the casual games market for SG.

### 2.1. Value proposition

Casual games are generally described as games for everyone, which are easy to learn, play, access and require low level of involvement [2]. According to a survey conducted by PopCap in 2006 [7] and a later research by the Interactive Software Federation of Europe [8], the main motivation of the players is for stress relief, mental exercise, fun, or relaxation. SGs, on the other hand, are digital games designed with the primarily objective to teach, educate and train while entertaining [9]. They encourage players to adopt many of the skills required in the 21st century: problem solving, systems thinking, information tracking and resourcing, collaborative information sharing, leadership, teamwork, communication [10], designing smarter cities through SG such as *CityOne* [11] or increasing player's awareness regarding issues related to flood policy and Government expenditure [12].

Of high importance for the value proposition of the game will be the game design. Trefry [13] identifies the following casual games design elements as important for the players:

- Clear rules and goals.
- Players needs to be able to quickly reach proficiency.
- Casual game play adapts to a player's life and schedule.
- Game concepts borrow familiar content and themes from life.

These will be even more essential for SGs design with an aim to achieve learning outcomes. In addition, Gagne et al. [14] provides the following instructions:

- Inform learners of the objective and provide learning guidance.
- Stimulate recall of prior learning.
- Provide feedback and assess performance.

The main design challenge for SGs will remain the incorporation of fun and learning principles. Failing to achieve this balance will either make the game boring and therefore, players will lose interest [15,16], fail to achieve the intended learning outcomes or both.

### 2.2. User's segmentation

Casual games tend to be developed for everyone [17]. Existing research highlights the impact on females aged 30 and above [2]. Considering user's demographics offered by Alexa – a website providing traffic information for instance, the main audience of two of the largest publishers in the casual games industry – Big Fish Games and GameHouse are females aged 18–35 and 55–64 [18,19]. Another major publisher, Funkitron, on the other hand, attracts mainly males between the age of 18 and 34 [20]. Zynga, one of the key developers on Facebook, is most popular among females at the age between 18 and 24 [21]. This diversification among the players' demographics and the different interests of these groups suggest opportunities for the developers for a number of niche markets.

In contrast, the market for SG can be described as predominantly Business to Business (B2B) market in which the games are developed for schools, companies, governments or any institution that can provide the necessary funding. Although not as widespread, SG titles within the Business to Customer (B2C) market exist and they are targeted at various customer groups [15]. For example *Wolfquest*, a game about ecology and the life of wolves, was designed for children at the age 9 and above. However, the core audience consists of wolf enthusiasts [10]. SGs can also be

designed for niche markets such as games for children with extremely low or high achievements [10]. Games that can be integrated into their learning process and help them receive more practical experience can significantly increase in popularity [22]. SGs are designed also for older users, aged 55 and above, as for example *HappyNeuron* (by SBT), designed to stimulate player's memory and brain [15].

### 2.3. Available distribution channels

According to Osterwalder et al. [23], one of the building blocks of a successful business model involves the various distribution channels that a company will use to reach the users. The company can use their own website, various gaming websites or even social platforms, such as Facebook in order to distribute the game to the correct user group [6]. Game's developers can specialise in a particular platform, which will then shape their opportunities to distribute the game to the consumers.

Casual games can usually be downloaded from major portals like Yahoo! Games, Google Play or Apple App Store, from publishers' websites (Big Fish Games, GameHouse, or Funkitron) or directly from the developer's website [24]. Social games delivered through social networks are relatively unexplored research topic since they have recently become popular, mainly after the development of Zynga's game "Farmville" in 2009 [25].

As SGs distribution is commonly very targeted and not as widespread, marketing will play a crucial role for the distribution of games. Reviews on video game sites, different contents, updated screenshots of the game, or even press releases on the company's website can be very beneficial for word-of-mouth marketing [10]. Distributing SGs via gaming portals can vastly increase reach and popularity of the game if the portal has already garnered enough traffic [10]. The PLAYER project for instance intended to promote entrepreneurship education for young people was distributed through Facebook and had enjoyed around 3000 register players [26].

### 2.4. Revenue streams

Casual games developers will usually combine several revenue streams to monetize their games. Two main models are try-before-you-buy (users can download stand-alone version of the game and play it for one hour) and the freemium model (the game is free and players can purchase in-game goods). Other possible revenue streams include subscription, advertisements, affiliate programs, pay for play or pay per minute [27]. Revenue flow through advertising materials can be achieved using web banners, advergames or short videos between different levels of a free online game [27]. Another option for developers is to allow users to earn virtual money if they complete surveys, watch adverts, subscribe to magazines or even making a purchase from shops such as Body Shop, Adidas or Puma. The amount of money will vary with the offers/subscriptions that the users complete. The developer of the game will receive a fee from all the purchases that the player of that game had made.

Video games provide an environment for product placement – the association of a game with a well-established brand. For example, Walt Disney has developed a number of games and other products that are based on their famous film characters [28]. Other games are based on popular American TV series such as *House* or *CSI: City of crime*, developed by Ubisoft or *Ice Age* (Gameloft). Another type of product placement, used in *Need for Speed* (Racing game by Ubisoft), involve the placement of billboards in the game, which represents advertisements from real-life companies. Also in social network games (*Monopoly Millionaires* or *Solitaire Blitz*) players are presented with virtual goods representing the Toyota brand. The product placement approach can be even

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