

*Patrycja Klimas*

Management Theory Department  
University of Economics in Katowice

## Current Revenue (Monetisation) Models of Video Game Developers

---

### ABSTRACT

---

This paper aims at exploration of revenue models and recognition of revenue streams currently exploited by video game developers. The fact that the monetisation models are fast changing and expanding in business practice, but fragmentary researched in management science makes them worth consideration. Therefore, different revenue models have been identified and discussed in the light of the results of desk (literature and industry reports review supported by analysis of evidence from global business practice) and field research (semi-structured interviews with Polish video game developers). Using triangulated data it was possible to identify: (1) four revenue models aimed at selling paid games: paid game for order, premium, paid mobile, and subscription; (2) one revenue model aimed at selling free games: freemium; and (3) one revenue model aimed at selling intellectual property rights: licensing. In a more detailed perspective, six different revenue models and nine different revenue streams exploited under these revenue models have been revealed and discussed. The main contribution of the article is the recognition of a wide portfolio of revenue streams and revenue models possible to consider by video game developers during decision making process on the structure of their revenue logic. Additional, theoretical and managerial implications are as follows: development of general framework of the revenue logic being integral part of business models, identification of currently used revenue models by video

game developers which have been overlooked in prior literature (e.g. selling customised games for order or licensing parts of game content or game components).

**Keywords:** revenue logic, revenue models, monetisation, revenue streams, digital industries, creative industries, video game industry, video game developers

**JEL Codes:** D22; L11, L21, L24, M21

---

---

## 1. Introduction

Modern strategic management faces deep and fast changes related to digitalisation and expansion of mobile solutions, shortening distribution channels, growing innovation and time pressure. Among industries being particularly impacted by digitalisation one can find digital industries delivering digital products, e.g. video game industry (VGI). In this paper the focus is paid on video game developers (VGD)<sup>1</sup> for several reasons. First, VGDs have become an integral component of video game industry, perceived as its *spiritus movens* and loci of innovation<sup>2</sup>, responsible for the majority of the total VGI turnovers. Given the latest estimates global video game industry will exceed \$99.6 billion in revenues in 2016<sup>3</sup> what makes this industry crucial in the world economy.

---

<sup>1</sup> In this paper video game developers are understood as companies whose core business activity is related to creation and sale of electronic/digital, computer, console, mobile, or video games (commonly abbreviated to video games). Note, that there is a difference between video game developers and video game publishers. First, the majority of game developers outsource publishing activities and/or distribution of video games on retail market, but it is possible that developer publishes and/or distribute created games. Second, the majority of video game publishers are global companies which have their own development studios (e.g. Ubisoft or Electronic Arts) or even provide their own gaming platforms (e.g. Microsoft or Sony) but they remain outside the scope of exploration presented in this paper as game development is not their core business activity.

<sup>2</sup> As indicated in: B. Ip, *Technological, Content, and Market Convergence in the Games Industry*, "Games and Culture" 2008, vol. 3(2), pp. 199–224; A. Marchand, T. Hennig-Thurau, *Value Creation in the Video Game Industry: Industry Economics, Consumer Benefits, and Research Opportunities*, "Journal of Interactive Marketing" 2013, vol. 27(3), pp. 141–157; G. Parmentier, R. Gandia, *Managing Sustainable Innovation with a User Community Toolkit: The Case of the Video Game Trackmania*, "Creativity and Innovation Management" 2013, vol. 22(2), pp. 195–208; SuperData, *Global Games Market Report – 2015. Entering the Next Era of Interactive Entertainment*, www.superdataresearch.com (17.11.2016).

<sup>3</sup> NewZoo, *Global Games Market 2016*, <http://newzoo.com> (10.01.2017).

With regard to Poland, it is estimated that video game industry will generate a total of PLN 1.75 billion in revenues in 2016 and PLN 1.85 billion in 2017 – M. Bobrowski, P. Rodzińska-Szary, M. Socha, *The State of Polish Video Games Sector*, Warsaw 2016, [http://www.kpt.krakow.pl/wp-content/uploads/2015/09/Raport\\_A4\\_Web.pdf](http://www.kpt.krakow.pl/wp-content/uploads/2015/09/Raport_A4_Web.pdf) (11.20.2016).

Second, the observable digital and mobile revolutions in global market including video game industry are leading to changes in VGDs revenue (monetisation<sup>4</sup>) models. In particular, video game developers have to confront growing competition<sup>5</sup>, increasing pressure for digital distribution, lowering game prices, and dynamic popularisation of games available for free, thereby they must adapt to the new revenue framework<sup>6</sup>. Given the above, this paper aims at exploration of revenue models of video game developers as modern revenue models are changing in business practice but remain fragmentary researched in management science. In order to reach the above objective, different revenue models exploited by VGDs have been identified and discussed using both desk (literature and industry reports analysis) and field research (semi-structured interviews).

The structure of the paper is as follows. First, the revenue models are discussed from strategic management perspective. In this part the focus is on the conceptual approach and identification of the need for further exploration of revenue models. Second, the research design is outlined. Third, the main findings are presented. Based on the conducted research six revenue models and nine revenue streams are discussed in detail. Fourth, at the end of the paper the main contributions, limitations, and future research directions are provided.

## 2. The Significance of Revenue Models

From strategic management standpoint revenue models attract interest as generation of revenue does play the crucial role for companies' survival and development. Simultaneously, these models are acknowledged to identify the ways of "making money", which is being perceived as the essence of making business<sup>7</sup>. Furthermore,

---

<sup>4</sup> Note, that in strategic management literature there are authors applying broad understanding of monetization considering not only the ways of revenue generation and value capturing (like here) but also pricing strategies – C. Baden-Fuller, S. Haefliger, *Business Models and Technological Innovation*, "Long Range Planning" 2013, vol. 46(6), pp. 419–426. In this paper an approach is followed, in which this broader perspective suits revenue logic considered at the higher level of analysis – R. Rajala, M. Rossi, V.K. Tuunainen, *A Framework for Analyzing Software Business Models*, European Conference on Information Systems (ECIS) Proceedings, 2013, pp. 1614–1627, <http://bls.buu.ac.th/~se888351/2556/20030126.pdf> (12.10.2015). Thus, in this paper the term revenue logic is used as a synonym for monetisation model.

<sup>5</sup> S. Aleem, L.F. Capretz, F. Ahmed, *Empirical Investigation of Key Business Factors for Digital Game Performance*, "Entertainment Computing" 2016, vol. 13, pp. 25–36.

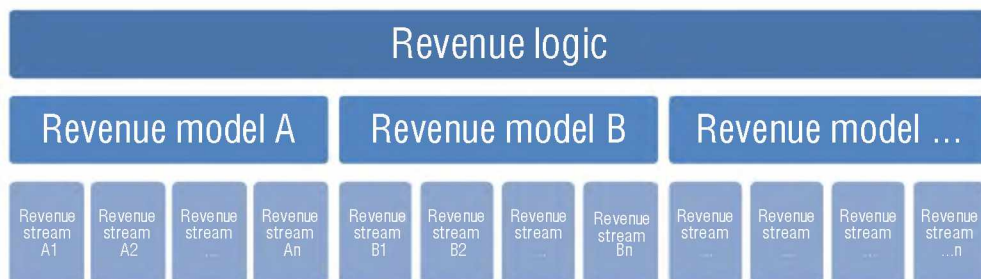
<sup>6</sup> N.D. Bowman, S. Joeckel, L. Dogruel, *The App Market Has Been Candy Crushed: Observed and Rationalized Processes for Selecting Smartphone Games*, "Entertainment Computing" 2015, vol. 8, pp. 1–9.

<sup>7</sup> S. Gunelius, *Content Marketing for Dummies*, John Wiley & Sons, 2011, p. 50.

from theoretical perspective, monetisation models deserve managerial interest as they are considered under revenue logic<sup>8</sup> being integral component of business models<sup>9</sup>.

It is claimed that companies follow one, inimitable, and specific revenue logic being one of the generic components of business model<sup>10</sup>. However, it is possible to exploit more than one monetisation model under one specific revenue logic. Thereby, revenue models should be perceived in a narrower sense than revenue logic. Furthermore, given that companies may exploit wide range of different revenue streams (different sources and ways of generating revenue) under particular revenue model it is assumed that these revenue streams co-create the revenue model. Given the literature on the business models, and focusing on revenue logic in particular, it is believed that companies define their revenue logic by identifying exploited set of revenue models consisting of utilised revenue streams. Thus it is claimed that the whole set of exploited revenue streams under different revenue models co-creates specific revenue logic of the company – Fig. 1.

**Figure 1. The general framework of the revenue logic**



Source: own study.

In this paper, the research attention has been restricted to game developers as their revenue models are dramatically changing<sup>11</sup>. They remain under research and

<sup>8</sup> R. Rajala, M. Rossi, V.K. Tuunainen, *A Framework for Analyzing...*, op. cit., pp. 1614–1627.

<sup>9</sup> D.J. Teece, *Business Models, Business Strategy and Innovation*, “Long Range Planning” 2010, vol. 43 (2–3), pp. 172–194; T. Falencikowski, *Spójność modeli biznesu: koncepcja i pomiar*, CeDeWu, Warsaw 2013; T. Falencikowski, *Strategia a model biznesu – podobieństwa i różnice*, “Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu” 2012, no. 260, pp. 80–93; C. Baden-Fuller, S. Haefliger, *Business Models...*, op. cit., pp. 419–426.

<sup>10</sup> R. Rajala, M. Rossi, V.K. Tuunainen, *A Framework for Analyzing...*, op. cit., pp. 1614–1627.

<sup>11</sup> D. Lescop, E. Lescop, *Exploring Mobile Gaming Revenues: The Price Tag of Impatience, Stress and Release*, “Digiworld Economic Journal” 2014, vol. 94, pp. 103–122; F. Waldner, M. Zsifkovits, K. Heidenberger, *Are Service-Based Business Models of the Video Game Industry Blueprints for the Music Industry?* “International Journal of Services, Economics and Management” 2013, vol. 5(1), pp. 5–20; T. Rayna, L. Striukova, *‘Few to Many’: Change of Business Model Paradigm in the Video Game Industry*, “Digiworld Economic Journal” 2014, vol. 94, pp. 61–81.

further exploration applying strategic management perspective is needed<sup>12</sup>. Indeed, if we take a look on the prior academic literature we will find out that there have been very few studies so far and the research field seems to be at very early stage of development as the growing interest in this issue has become observable in academic journals just recently – Table 1.

**Table 1. Number of articles in academic journals considering revenue models in the context of video game developers**

Database	No. of papers	2010	2011	2012	2013	2014	2015	2016	2017	Area of Business or Management
Science Direct	5 (6*)	0	0	0	0	0	1	4	1	1
Ebsco	2	0	0	0	1	0	1	0	0	2
Proquest	5	1	0	0	1	2	1	0	0	1

\* One of the papers does not relate to game industry at all but to the demand for electricity, inter alia analysed within game industry.

Searching process run on 15<sup>th</sup> of November 2016 using three most important databases indexing prestigious journals related to management and possessing IF. Search requests contained the following keywords: „monetisation strategy” or “revenue model” and „video game”. Among additional inclusion criteria there were: articles from academic journals (e.g. no working papers, no proceedings), articles written in English.

Source: own study.

However, in a broader perspective the popularity of this research direction seems to be increasing as the number of industry reports, conference papers and articles in journals not indexed in the considered databases is increasing too<sup>13</sup>.

The question about the revenue models of game developers is popular as their ways of value creation are changing<sup>14</sup>, while our knowledge remains fragmentary and outdated. First, to the author’s best knowledge, prior literature does not provide detailed investigation of revenue models<sup>15</sup> currently used by game developers. However, the previous studies applying strategic management perspective resulted

<sup>12</sup> M.T. Payne, G. Steirer, *Redesigning Game Industries Studies*, “Creative Industries Journal” 2014, vol. 7(1), pp. 67–71; K.L. Hsiao, C.C. Chen, *What Drives In-App Purchase Intention for Mobile Games? An Examination of Perceived Values and Loyalty*, “Electronic Commerce Research and Applications” 2016, vol. 16, pp. 18–29.

<sup>13</sup> Nowadays, there are many scholars calling for research on business models and on revenue models in particular, for instance see the articles published in special issue of “Communication and Strategies” (2014, vol. 94) edited by P. Chantepie, L. Michaud, L. Simon, and P. Zackariasson titled *Video Game Business Models and Monetization*.

<sup>14</sup> F. Waldner, M. Zsifkovits, K. Heidenberger, *Are Service-Based Business Models...*, op. cit., pp. 5–20; T. Rayna, L. Striukova, *‘Few to Many’...*, op. cit., pp. 61–81.

<sup>15</sup> S. Voigt, O. Hinz, *Network Effects in Two-Sided Markets: Why a 50/50 User Split Is Not Necessarily Revenue Optimal*, “Business Research” 2015, vol. 8(1), pp. 139–170.

in primordial and interesting findings about business key factors in online game industry<sup>16</sup>, determinants of playing mobile games<sup>17</sup>, identification of differences among business models aimed at selling paid and free games<sup>18</sup>, or influence of selling free games on revenues generated from selling paid games<sup>19</sup>. Second, currently game developers face the problem of dramatic expansion of mobile games what triggers changes in the adopted revenue models. Indeed, the global mobile revenues show the highest increase year-over-year in game industry (19% in 2014 over 2013)<sup>20</sup> exceeding in 2015 the level of 22.3 billion USD. Expansion of mobile games leads to changes in market structure considered the monetisation strategies adopted in games. The traditional revenue model based on revenue streams from paid games (Pay-To-Play, P2P, premium model) becomes less and less reasoned as the majority of mobile games is currently available for free (Free-To-Play, F2P, freemium model). Creation of revenues from F2P games is challenging as the majority of gamers playing such games never spend a dime on games they play<sup>21</sup>. Given the above, the following research question is set:

*What are the revenue models currently used by video game developers?*

In particular, author would like to explore what different revenue streams are exploited by game developers under different revenue models, as usually the first question required to be answered when the business model is created sounds: “*How do we want to make money?*”<sup>22</sup>.

### 3. Research Design

The exploratory nature of the research’s aims, as well as the lack of prior studies on the revenue models of video game developers (not of video games) taking strategic management standpoint resulted in application of qualitative approach in the study.

<sup>16</sup> S. Aleem, L.F. Capretz, F. Ahmed, *Empirical Investigation...*, op. cit., pp. 25–36.

<sup>17</sup> N.D. Bowman, S. Joeckel, L. Dogruel, *The App Market...*, op. cit., pp. 1–9.

<sup>18</sup> M. Davidovici-Nora, *Paid and Free Digital Business Models Innovations in the Video Game Industry*, “Digiworld Economic Journal” 2014, vol. 94, pp. 83–102.

<sup>19</sup> J. Hamari, N. Hanner, J. Koivisto, *Service Quality Explains Why People Use Freemium Services but Not If They Go Premium: An Empirical Study in Free-To-Play Games*, “International Journal of Information Management” 2017, vol. 37(1), pp. 1449–1459.

<sup>20</sup> SuperData, *The Mobile Market. August 2014*, www.superdataresearch.com (18.11.2016).

<sup>21</sup> In general only 2–3% of people playing F2P games spend money on in-app purchases – as indicated by our interviewees.

<sup>22</sup> Speech made by Frederic Wester (CEO, Paradox Interactive) during Digital Dragons 2016 in Cracow. The title of the speech: *Marrying Business Design with Game Design*, <https://www.youtube.com/watch?v=jaDzniW6O4A> (17.07.2016).

The data sources and research methods were triangulated in order to increase the methodological rigor of both investigation and conclusions drawing.

On the one hand, primary data was collected using semi-structured interviews, but the scope of this part of the study has been restricted to Polish video game developers and business models exploited by them on the global video game market. Primary data gathering process started in May 2016, however some prior findings from the field research run by the author since May 2014 have been used as a base for general considerations and identification of the basic contexts and perspectives important for video game developers. The sample study included the 32 VGDs<sup>23</sup> represented by speakers in business and management sessions organised during the biggest video game industry events in Poland *Digital Dragons 2016* (in Cracow) and *Game Industry Conference 2016* (in Poznań). All in all, it was possible to run 11 semi-structured interviews (3 during Digital Dragons 2016, 2 during Game Industry Conference, and 6 during individually organised meetings in companies' headquarters). Given the level of employment, the sample consisted: 1 micro, 4 small, 4 medium, and 2 large developer studios. Among the interviewees there were CEOs, members of the boards, and owners in case of the smallest companies. The interviews took from 50 up to 150 minutes.

On the other hand, several secondary data sources were used. First, prior academic literature devoted for business models and revenue models in the context of video game industry was reviewed in order to provide theoretical reasoning for the study. Second, industry reports (e.g. NewZoo, SuperData, deltaDNA), content available on the most important online portals (e.g. gry-online.pl; gamespot.com, metacritic.com) and YouTube channels presenting interviews and panel discussions with leading companies in video game industry (e.g. Game Developers Conference, Game Industry Conference, and Digital Dragons) were reviewed and analysed in order to support evidence from field research. Moreover, this part of desk research was aimed at exploration and providing evidence from business practice in order to reveal other revenue models used by video game developers as the field study has been restricted to eleven Polish VGDs.

---

<sup>23</sup> There is no formal list of video game developers in Poland. It is estimated however, that there are approximately 150 video game developers in Polish video game industry – M. Bobrowski, P. Rodzińska-Szary, M. Socha, *The State...*, op. cit., p. 43.

## 4. Empirical Findings

The revenue model of particular game developer is seen as a set of different revenue streams used for value generation, appropriation and capturing. Prior literature focuses on two main revenue models<sup>24</sup>. These models are premium or freemium described as characteristic in creative industries<sup>25</sup> as well as in video game industry<sup>26</sup>. However, the results of author's investigation show that those two models do not cover all possibilities for revenue generation, appropriation and capturing. In general, it is possible to distinguish nine different revenue streams related to six revenue models – Table 2.

The first way of revenue generation comprises selling paid games. However, these paid games can be sold under different revenue models: game made for order, premium, paid mobile, or subscription.

In case of **games made for individual orders** (customised games, ordered games) revenues are generated from customers which are not individuals or even gamers but are rather corporate clients interested in ordering a customised game. For instance, a head-hunting company may be interested in buying a game used during recruitment or selection processes (e.g. *Archipelago* allowing evaluation of team-working, risk-taking, and communication skills).

---

<sup>24</sup> An in-depth analysis of non-academic, non-scholar, digital data sources related to video game industry including websites, blogs, forums, and YouTube channels shows that it is possible to find much more detailed approach to differentiation of revenue models. However given the theoretical claims about the meaning of this component of business models (e.g. developed by Baden-Fuller and Haefliger (2013), Rajala, Rossi and Tuunainen (2013), or Osterwalder and Pigneur (2010)) the majority of them refers rather to revenue mechanisms, revenue streams or revenue strategies possible to exploit under particular (considered as more general and fixed) revenue models.

For instance, commonly cited by practitioners D. Perry (available here: [www.dperry.com](http://www.dperry.com)) identifies 29 business models for games which substantially are referring to 29 monetisation methods. Indeed, the majority of described “monetisation models” does not meet the definition of revenue component of business models in terms of Baden-Fuller and Haefliger (2013) or Osterwalder and Pigneur (2010). Moreover, some of described “monetisation models” refer rather to:

- distribution channels, e.g. “Retail” or “Digital distribution”;
- promotion tools and marketing strategy, e.g. “Try Before you Buy”;
- mechanisms used for reputation development and promotion, e.g. “Freeware”;
- extension of game life cycle, e.g. “User Generated Content”;
- new source of funding, e.g. “Crowdfunding”.

<sup>25</sup> First Motion, Filmby Århus, Alexandra Institute, *Report on Business Models, Value Chains and Business Development Services in the Audiovisual/Creative Industries: Cases of the Łódź and Małopolska Provinces and West Denmark*, 2011, <http://www.firstmotion.eu> (22.10.2016).

<sup>26</sup> M. Davidovici-Nora, *Paid and Free Digital...*, op. cit., pp. 83–102.



**Table 2. Revenue models of game developers**

Aim	Revenue model	Revenue stream	Waldner, Zsifkovits & Heidenberg, 2013 (N=30) *	Lescop & Lescop, 2014 (N=not specified)**	Field research 2016 (N=11)***
Selling paid games	Paid game for order	Single payment for a game made for order	Not considered	Not considered	2
	Premium	Multiple single payments for a game	3	Not considered	7
	Paid mobile	Multiple payments for a game	Not considered	6%	7
	Subscription	Multiple seasonal and time-limited payments for playing the game divided into parts on PC	Not considered	Not considered	0
		Multiple regular, fixed payments for playing the game online	3	Not considered	0
Selling free games	Freemium (free to play)	Multiple current payments for advertisements in game	1	2%	6
		Multiple micropayments for In-App Purchases	23	92%	6
Selling IPR	Licensing	Single (or multiple) temporal license fee (-s) for the access to IPR	Not considered	Not considered	2
		Single (or multiple) one-time license royalty (-ies) for the access to IPR	Not considered	Not considered	2

\* Note that the research was exploratory in nature and was restricted to video game start-ups – F. Waldner, M. Zsifkovits, K. Heidenberger, *Are Service-Based Business Models...*, op. cit., pp. 5–20.

\*\* D. Lescop, E. Lescop, *Exploring Mobile Gaming...*, op. cit., pp. 103–122.

\*\*\* Some of the interviewees have indicated more than one revenue streams exploited by their companies – thus the total number exceeds 11. In general, at a particular time developers may generate income from more than one title sold on the market. More often, those games use not only different revenue streams but also different revenue models in order to expand covered market segments and reach different customers. It is also possible to take benefits from different revenue streams under one revenue model chosen for one particular game.

Source: own study.

On the other hand, games are becoming more and more popular marketing tool, thus more often companies order promotional games, e.g. in 2009 Bayerische Motoren Werke ordered F2P game *BMW M3 Challenge* to promote its sports cars. Given the progressive gamification process<sup>27</sup>, expanding demand for serious games,

<sup>27</sup> The difference between serious games and gamification is based on the fact that the first category refers to the type of games, while the second to the process of using some game elements in non-game context.

and growing specialisation among game developers (3D graphics, virtual reality, augmented reality etc.) it is believed that in the future more and more game developers will have opportunity to take benefit from this revenue model.

Traditionally game developers were used to exploit **premium model**<sup>28</sup>. In this model the revenues are generated by selling games for a particular price to customers who buy the game to play it. In contrast to games made for individual orders in premium model the game is standardised and company is focused on selling as many game's copies as possible to take the benefits from economy of scale. It should be noted that from the early beginning each paid game is targeted for a particular segment of gamers (e.g. casual players in case of *Rayman*, hardcore gamers in case of *Grand Theft Auto*), as well as for a particular price segment (e.g. AAA games<sup>29</sup> like *The Witcher 3: Wild Hunt*), which influences the level of potential revenues. Note that developers using premium model aim at selling a full game which will be played on PC or game console, not on mobile devices. However, in the digitalisation era it is not assumed that game will be sold using traditional distribution channels only like in case of "box" games. It is possible to distribute the game online taking benefits from higher margin according to the shorter distribution channels and savings, e.g. on CD manufacturing, CD pressing, or spatial distribution.

When mobile technologies have started to expand rapidly some of game developers decided to use **paid mobile model** of revenues. In this model company decides to create a paid game available on mobile devices only (smartphones, tablets)<sup>30</sup>. However, the study shows that utilisation of this model seems to be limited (given the share in the global market<sup>31</sup>), suitable especially for the market leaders and the biggest global studios. For instance, Square Enix decided to launch *Hitman Go* being

---

Gamification is understood as "the use of game design elements in non-game context" – F. Groh, Gamification: State of the art definition and utilisation. *Proceedings of the 4th Seminar on Research Trends in Media Informatics*, Institute of Media Informatics Ulm University, 2012, pp. 40–41, <https://oparu.uni-ulm.de> (7.11.2016).

Serious game is understood as "any piece of software that merges a non-entertaining purpose (serious) with a video game structure (game)" – D. Djaouti, J. Alvarez, J.P. Jessel, *Classifying Serious Games: The G/P/S Model*, in: *Handbook of Research on Improving Learning and Motivation Through Educational Games: Multidisciplinary Approaches*, ed. P. Felicia, IGI Global, 2011, p. 120. It is highlighted that serious games are not games for learning or training only. Among such games there are: games for health, advergaming, games for training, games for education, games for science and research, games for production, and games as work. See B. Sawyer, P. Smith, *Serious Games Taxonomy*, Presentation during Game Developer Conference 2008, <http://goo.gl/xc1ZX> <http://goo.gl/xc1ZX> (13.07.2016).

<sup>28</sup> Games sold in this model are usually called premium games, but also boxed or full game. E.g. SuperData, *Eastern Europe Digital Game Market 2014*, [www.superdataresearch.com](http://www.superdataresearch.com) (17.11.2016).

<sup>29</sup> The most expensive games in development, promotion and pricing (average price remains between \$ 40 and \$ 70).

<sup>30</sup> Such games are never available in a traditional "box".

<sup>31</sup> SuperData, *Global Games Market Report – 2015...*, op. cit.

a paid mobile game related to the whole game series *Hitman* sold on the market in the premium model. Moreover, due to the real explosion of popularity of free mobile games this model of revenues seems to be less profitable than it used to be at the beginning. For instance, Ubisoft decided to launch a mobile, paid game related to one of their premium bestsellers – *Rayman*. However, even though the two first two mobile games were sold in paid mobile model (*Rayman Jungle Run* and *Rayman Fiesta Run*) since *Rayman Adventures* (2015) all mobile games about Rayman are sold in the freemium model.

Among the models based on selling paid games, there is also a **subscription model** of revenues. This model assumes that gamers are paying for the access to the game for the particular period of time. The time during which the customer has the access can be either preliminarily set and limited or not restricted in time and unlimited. First, it is possible to divide a game into some logical parts which will be available for purchase in the coming months. This approach suits episodic games. In that case the subscription takes the form of periodic payments. This solution has been adopted from TV industry as the gamer pays for the following episodes of a game. Second, it is possible to give players the possibility of playing the game on PC using paid access through the Internet. The access is charged and available for a particular period of time, usually a month or a quarter. This approach is reasonable for specific games without finished and closed content/gameplay, usually characteristic for massively multiplayer online role-playing games (MMORPG). During the field research no game developer has been identified as the one using the subscription model, however, there are solid evidence from game industry proving reasonability of this model – e.g. *Walking Dead* (revenue streams from selling game in episodes), *Final Fantasy*, or *World of Warcraft* (revenue streams from selling temporal access to the game). In general, the interviewees described this type of revenue stream as marginal for the industry and profitable only for one company, namely Blizzard – a development studio responsible for *World of Warcraft*. The second way of revenue generation, appropriation and capturing is “selling” free game in a **freemium model**. Indeed, today the biggest challenge encountered by game developers is dramatic change in market structure in favour of the freemium model. Nowadays, almost 80% of games sold on the market apply freemium model (Free-to-Play, F2P). The growing popularity of F2P is related to megatrends of growing general mobility of products and services, growing mobility of customers, increasing popularity of mobile devices (mainly smartphones and tablets), and usually it is economically reasoned or even needed in order to survive on the market. In freemium model the game is sold for free and the game developer generates revenue either from micropayments or from advertisements embedded inside the game.

The first possibility is to offer the game for free while the gamers are charged micropayments<sup>32</sup> to get access to some premium features or content (In-App Purchases, IAPs). Given the type of IAPs made available inside the game it is possible to distinguish traditional micropayments and micropayments labelled as “play to win”. In case of traditional ones the gamers can buy “things” which do not have influence on the gameplay, e.g. special avatar, nice hat, acceleration of time, national uniform for a soldier, customisation of the game menu etc. – like in *South Park*. On the other hand, in some games it is possible to buy premium features improving the chances of winning the game, e.g. better weapon, faster car, more tank slots, additional lives, life extensions, enhancement of character’s skills etc. – like in *Need for Speed World*. It is worth noting that revenue streams based on micropayments (especially in pay to win approach) are claimed to be monetary dark patterns intentionally used by game developers in game designing as some of the gamers are spending much more money than they predicted when they started playing the game<sup>33</sup>.

Another option to generate revenue streams in freemium model is to incorporate in-apps into the game. Using ad-based revenue streams video game developer does not charge gamers but the revenue is created from relationships with companies using the game as a promotional channel. Among the most popular in-app advertisements there are banners, interstitials, natives, videos, rewarded videos, and offer walls. It is worth noting, that from customers’ engagement and retention perspectives the type of in-apps used in a particular game does matter. On one hand, it is possible to include “watch to play” ads which have to be watched by gamer to continue the game (e.g. short video), thus the ads are playing the role of price for possibility of playing the game – e.g. in *Angry Birds* video advertisements are pausing the game for a while. On the other hand, more attractive for gamers are ads which if are watched result in giving the gamer some extras like game currency (silver, gold, diamonds, etc.) which can be exchanged in further gaming or provide additional energy, time boost, etc. – e.g. 20% of boost in *Flight Pilot Simulator* for watching a rewarded video.

The main problem with freemium model is that the majority of gamers playing F2P games are not willing to make in-app purchases. As indicated by the report on Eastern Europe Digital Game Market, in 2014 only 8.4% of Polish gamers playing F2P games bought some extras and the average in-game monthly expenditures

---

<sup>32</sup> It is a common (but not mandatory) practice that particular micropayment does not exceed the value of \$0.99.

<sup>33</sup> J.P. Zagal, S. Björk, C. Lewis, *Dark Patterns in the Design of Games*, in: *Foundations of Digital Games 2013*, <http://soda.swedish-ict.se/5588/> (15.11.2016).

(ARPPU – Average Revenue Per Paying User) were at the level of \$17.57<sup>34</sup>. On the other hand, the market reports show that the majority of developers use IAPs<sup>35</sup> while ads seem to be rather additional than exclusive way of monetisation. Indeed, most game developers see ads as necessary evil (51%) or significant monetisation opportunity (38%)<sup>36</sup>. Given the above, as well as in the light of the research results, more and more developers decide to implement both revenue streams, namely ads and IAPs simultaneously (“hybrid freemium model”) in their F2P games – five out of six video game developers studied during the field research.

Last but not least way to generate revenues is selling intellectual property rights (IPR) related to games developed by the company.

The revenues made from selling intellectual property rights are considered under the **licensing model**. These revenue streams can be based either on selling protected IPR related to the game content or to the technical components. There is evidence, that if a game developer is the owner of the source code copyrights or patent rights for some technical, modular components of the game it is possible to take benefits from selling them under licensing model. In particular, it is possible to sell rights to such technical components like game engine, mechanics, and user interface – e.g. the license given by Techland to Citi Interactive for development of *Sniper: Ghost Warrior* which has been based on the Chrome Engine developed by Techland. It is worth pausing to consider that in contrast to both previously discussed approaches, namely selling paid or free games, the revenues from licensing model have to be perceived as additional, available for limited reputable game developers, usually those developers whose games have achieved a global market success.

## 5. Conclusion

Companies, including those developing video games are aimed at profits. To reach the main strategic goal, they are trying to generate revenue from wide range of revenue streams under different revenue models. Given digital and mobile revolutions, but also taking into account the growing technological and innovation pressures accompanied by shortening products life cycles and growing differentiation

---

<sup>34</sup> SuperData, *Eastern Europe Digital Game Market 2014...*, op. cit.

However, three of the interviewed game developers admitted that among the gamers only 2–3% of them are willing to pay.

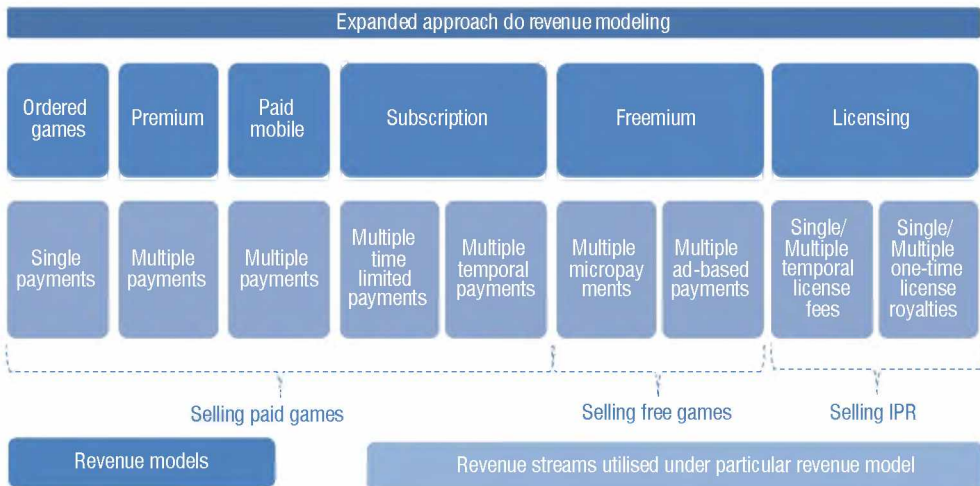
<sup>35</sup> The share of revenue from IAPs was 62% in 2015 and 65% in 2016 – deltaDNA, *Ad Survey Results 2016. An In-Depth Study of In-Game Advertising*, <https://deltadna.com/> (15.11.2016).

<sup>36</sup> Ibidem.

of customers' requirements, companies are looking for new revenue streams, and even revenue models.

In this paper, the focus is narrowed to revenue models of video game developers, as original and until recently the only revenue model – the premium one – is no longer sufficient. Nowadays games based on the freemium model generate two-thirds of the global revenues<sup>37</sup> while Pay-To-Play market declines around 6–7% every year<sup>38</sup>. The findings from an extensive literature and report analyses, supported by results from field investigation prove that video game developers follow revenue logic based on more than one revenue model, and most of them generate revenues from more than one stream under those revenue models – Figure 2.

**Figure 2. Revenue models exploited by game developers**



Source: own study.

To the author's best knowledge, prior studies on revenue logic of game developers were not only scarce but also limited usually to premium and freemium<sup>39</sup> models. Thereby, it is argued that this paper provides several theoretical and managerial contributions.

<sup>37</sup> SuperData, *Payment Preferences of Digital Gamers. Global Payment Methods & Brands. Industry Trends & Analyses. 2016*, [www.superdataresearch.com](http://www.superdataresearch.com) (17.11.2016).

<sup>38</sup> SuperData, *De-Risking Game Development in the Digital Ara*, [www.superdataresearch.com](http://www.superdataresearch.com) (17.11.2016).

<sup>39</sup> M. Davidovici-Nora, *Paid and Free Digital...*, op. cit., pp. 83–102.

First, development of an expanded portfolio of revenue models currently exploited by game developers. Based on empirical findings, the author claims that revenue models are not restricted to premium and freemium only. The research has revealed six models and nine different revenue streams used by game developers. However, given the restricted and exploratory scope of the study it is possible that there are other revenue streams or even revenue models not identified here. The findings confirm however some of the preliminary results suggesting utilisation of more than one revenue streams<sup>40</sup> or even revenue models<sup>41</sup> by game developers. Similarly, the latest report about British game developers proves that more often companies (also independent studios) use several revenue streams and more than one revenue model to reduce the risk of business activity<sup>42</sup>. Surprisingly, even the biggest companies, which have traditionally been associated with premium model only, have just recently made decisions to implement freemium model into the revenue logic as well – e.g. CD Project Red decided to launch *Gwent* based on F2P model.

Second, the study identifies and characterises revenue streams overlooked in prior works, however exploited by game developers in business practice: selling games made for order and selling IPR. **Selling games made for order** – to our best knowledge this logic so far has not been discussed in academic literature while it is more and more often used by game developers. It is claimed that this revenue model is associated especially with expanding mega trend – gamification – of using games in many different areas of contemporary life and economy. Exploitation of revenue from games made for order seems to be applicable for SMEs. The findings suggest that this type of revenue streams is used mainly by independent game developers, mainly small and medium companies as they seem to be interested in revenue streams from development of games for companies from outside the video game industry (training/serious games, promotion games). **Selling intellectual property rights** – prior research has not considered revenue model based on licensing of some “technical” parts of games. However, it is a common practice among game developers, usually SMEs, to buy a license from large developer for a game engine for example. It is argued that the growing industry specialisation, increasing technological complexity and expanding pressure for applying radically new solutions (also from other industries) will influence the need for licensing of modular, technical game components.

---

<sup>40</sup> T. Hossain, J. Morgan, *When Do Markets Tip? A Cognitive Hierarchy Approach*, “Marketing Science” 2013, vol. 32(3), pp. 431–453.

<sup>41</sup> H.K. Bhargava, *Platform Technologies and Network Goods: Insights on Product Launch and Management*, “Information Technology and Management” 2014, vol. 15(3), pp. 199–209.

<sup>42</sup> SuperData, *De-Risking Game Development...*, op. cit.

The author is aware that the nature of this paper in exploratory and the research approach adopted in this paper does not confer the right to generalisation. However, it is believed that the triangulation of the data sources and longitudinal data collection process have increased the level of the rigor of drawing conclusions. In general, the study should be seen as a justification for the need for future, more in-depth studies on revenue models not only in video games but also other digital, and creative industries as models used so far are becoming insufficient. It is believed, however, that some of the research findings are applicable in other IT and digital industries like software (e.g. revenue streams under freemium or premium model exploited by FoxitReader), mobile application (e.g. revenue streams under paid mobile, subscription, or freemium model used by Endomondo), or mobile phones (e.g. revenue streams under freemium model as #Freemium offered by Virgin Mobile). Furthermore, it is possible to exploit identified models in other creative industries like TV and film (e.g. revenue streams under subscription model used by Netflix), or digital radio (e.g. revenue streams from freemium or subscription models used by Tuba.FM).

## References

1. Aleem S., Capretz L.F., Ahmed F., *Empirical Investigation of Key Business Factors for Digital Game Performance*, "Entertainment Computing" 2016, vol. 13, pp. 25–36.
2. Baden-Fuller C., Haefliger S., *Business Models and Technological Innovation*, "Long Range Planning" 2013, vol. 46(6), pp. 419–426.
3. Bhargava H.K., *Platform Technologies and Network Goods: Insights on Product Launch and Management*, "Information Technology and Management" 2014, vol. 15(3), pp. 199–209. Bobrowski M., Rodzińska-Szary P., Socha M., *The State of Polish Video Games Sector*, Warsaw 2016, [http://www.kpt.krakow.pl/wp-content/uploads/2015/09/Raport\\_A4\\_Web.pdf](http://www.kpt.krakow.pl/wp-content/uploads/2015/09/Raport_A4_Web.pdf) (11.20.2016).
4. Bowman N.D., Joeckel S., Dogruel L., *The App Market Has Been Candy Crushed: Observed and Rationalized Processes for Selecting Smartphone Games*, "Entertainment Computing" 2015, vol. 8, pp. 1–9.
5. Chantepie P., Michaud L., Simon L., Zackariasson P., *Video Game Business Models and Monetization*, "Communication and Strategies" 2014, vol. 94.
6. Davidovici-Nora M., *Paid and Free Digital Business Models Innovations in the Video Game Industry*, "Digiworld Economic Journal" 2014, vol. 94, pp. 83–102.
7. deltaDNA, *Ad Survey Results 2016. An In-Depth Study of In-Game Advertising*, <https://deltadna.com/> (11.15.2016).



8. Djaouti D., Alvarez J., Jessel J.P., *Classifying Serious Games: The G/P/S Model*, in: *Handbook of Research on Improving Learning and Motivation Through Educational Games: Multidisciplinary Approaches*, ed. P. Felicia, IGI Global, 2011, pp. 118–136.
9. Falencikowski T., *Spójność modeli biznesu: koncepcja i pomiar*, CeDeWu, Warsaw 2013.
10. Falencikowski T., *Strategia a model biznesu – podobieństwa i różnice*, “Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu” 2012, no. 260, pp. 80–93.
11. First Motion, Filmby Århus, Alexandra Institute, *Report on Business Models, Value Chains and Business Development Services in the Audiovisual/Creative Industries: Cases of the Łódź and Małopolska Provinces and West Denmark*, 2011, <http://www.firstmotion.eu> (22.10.2016).
12. Gunelius S., *Content Marketing for Dummies*, John Wiley & Sons, 2011.
13. Hamari J., Hanner N., Koivisto J., *Service Quality Explains Why People Use Freemium Services but Not If They Go Premium: An Empirical Study in Free-To-Play Games*, “International Journal of Information Management” 2017, vol. 37(1), pp. 1449–1459.
14. Hossain T., Morgan J., *When Do Markets Tip? A Cognitive Hierarchy Approach*, “Marketing Science” 2013, vol. 32(3), pp. 431–453.
15. Hsiao K.L., Chen C.C., *What Drives In-App Purchase Intention for Mobile Games? An Examination of Perceived Values and Loyalty*, “Electronic Commerce Research and Applications” 2016, vol. 16, pp. 18–29.
16. Ip B., *Technological, Content, and Market Convergence in the Games Industry*, “Games and Culture” 2008, vol. 3(2), pp. 199–224.
17. Lescop D., Lescop E., *Exploring Mobile Gaming Revenues: The Price Tag of Impatience, Stress and Release*, “Digiworld Economic Journal” 2014, vol. 94, pp. 103–122.
18. Marchand A., Hennig-Thurau T., *Value Creation in the Video Game Industry: Industry Economics, Consumer Benefits, and Research Opportunities*, “Journal of Interactive Marketing” 2013, vol. 27(3), pp. 141–157.
19. *Marrying Business Design with Game Design*, <https://www.youtube.com/watch?v=jaDzniW6O4A> (17.07.2016).
20. NewZoo, *Global Games Market 2016*, <http://newzoo.com> (10.01.2017).
21. Osterwalder A., Pigneur Y., *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers*, John Wiley & Sons, 2010.
22. Parmentier G., Gandia R., *Managing Sustainable Innovation with a User Community Toolkit: The Case of the Video Game Trackmania*, “Creativity and Innovation Management” 2013, vol. 22(2), pp. 195–208.
23. Payne M.T., Steirer G., *Redesigning Game Industries Studies*, “Creative Industries Journal” 2014, vol. 7(1), pp. 67–71.

24. *Proceedings of the 4th Seminar on Research Trends in Media Informatics*, Institute of Media Informatics Ulm University, 2012, pp. 40–41, <https://oparu.uni-ulm.de> (7.11.2016).
25. Rajala R., Rossi M., Tuunainen V.K., *A Framework for Analyzing Software Business Models*, “European Conference on Information Systems (ECIS) Proceedings” 2013, pp. 1614–1627, <http://bls.buu.ac.th/~se888351/2556/20030126.pdf> (12.10.2015).
26. Rayna T., Striukova L., ‘*Few to Many*’: *Change of Business Model Paradigm in the Video Game Industry*, “Digiworld Economic Journal” 2014, vol. 94, pp. 61–81.
27. Sawyer B., Smith P., *Serious Games Taxonomy*, Presentation during Game Developer Conference 2008, <http://goo.gl/xclZX> (13.07.2016).
28. SuperData, *De-Risking Game Development in the Digital Era*, [www.superdataresearch.com](http://www.superdataresearch.com) (17.11.2016).
29. SuperData, *Eastern Europe Digital Game Market 2014*, [www.superdataresearch.com](http://www.superdataresearch.com) (17.11.2016).
30. SuperData, *Global Games Market Report – 2015. Entering the Next Era of Interactive Entertainment*, [www.superdataresearch.com](http://www.superdataresearch.com) (17.11.2016).
31. SuperData, *Payment Preferences of Digital Gamers. Global Payment Methods & Brands. Industry Trends & Analyses, 2016*, [www.superdataresearch.com](http://www.superdataresearch.com) (17.11.2016).
32. SuperData, *The Mobile Market, August 2014*, [www.superdataresearch.com](http://www.superdataresearch.com) (18.11.2016).
33. Teece D.J., *Business Models, Business Strategy and Innovation*, “Long Range Planning” 2010, vol. 43 (2–3), pp. 172–194.
34. Voigt S., Hinz O., *Network Effects in Two-Sided Markets: Why a 50/50 User Split Is Not Necessarily Revenue Optimal*, “Business Research” 2015, vol. 8(1), pp. 139–170.
35. Waldner F., Zsifkovits M., Heidenberger K., *Are Service-Based Business Models of the Video Game Industry Blueprints for the Music Industry?* “International Journal of Services, Economics and Management” 2013, vol. 5(1), pp. 5–20.
36. Zagal J.P., Björk S., Lewis C., *Dark Patterns in the Design of Games*, in: *Foundations of Digital Games 2013*, <http://soda.swedish-ict.se/5588/> (15.11.2016).