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EFFECTS OF MICRO TRANSACTIONS ON VIDEO GAMES INDUSTRY

During the twentieth century, the entertainment industry recorded a steady revenue growth. The progress of information and communication technology (ICT) influenced the creation of a new segment in the industry at the beginning of the 80s, known as the video game industry. During the first two decades, the dominant model of earning for video games publishers was sale of a full game, which means that users were obliged to pay in order to play the game (pay-to-play concept). In the past ten years, publishers have developed a new approach, which instead of selling entire game content at once tends to decompose the sale into several smaller transactions. The prices of these supplements are often calculated in the virtual currency that is considered to be the currency of video game, and not in one of convertible currencies, which creates additional confusion. The subject of the paper is to explain the essence of microtransactions as type of electronic payments created in the video games industry and to observe their role in the process of industry transformation.

Keywords: *microtransactions, freemium, mobile games, pay-to-win, virtual money*

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1. Introduction

The video game industry flourished in the '80s of XX century, under the influence of the great innovations in ICT. With the change of the computer architecture an increase of processing power was achieved, while the size and price of the computers was reduced. For the first time this resulted in the possibility for serial production of computers for personal use, with the opportunity to adapt the software to the end user. Video games were among the first software products offered to users.

The great success of initially published games led to the expansion of the video game industry in 80's and 90's of the 20th century. With a short recession in the period between 1983 and 1985[1] every year the number of published titles surpassed the number of titles published in previous year. The number of developers and publishers was also constantly increasing. The success of video games on the PC market, has led to the development of special gaming consoles intended exclusively for playing, while at the arcades centers video games have been gradually replacing the pinball machines. Great appetites of the fast growing market led to the creation of different video games genres, because there was a demand for all types of products. Development teams often program sequels of popular games that are combined with other aspects of popular culture (primarily film and music industry[2]).

The basic principle of ensuring profitability for publishers was the sale of the entire game to the customer at once, whereby the customer had to pay the full price in order to install the game on his computer (pay-to-play concept, selling at a premium price). Although this concept seems proper, at the beginning of XXI century there was a restructuring and subsequently the closure of several major publishing companies[3] [4]. Overproduction of video games, along with the changed preferences of the market led to the different approach of the publishers, who began to perform partial content sales instead of selling the complete version of the game. The point of this approach is to make the basic game content more accessible, or even free, and to charge all additional content, and all optional extensions. In gaming terminology, games that are basically given for free are known as free-to-play games or freemium games, and all purchases that are subsequently performed are called microtransactions.

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1 Ernkvist Mirko (2008): "Down many times but still playing game: Destruction and industry crushes in early video game industry 1971-1986", *History of Insolvency and Bankruptcy*, 161, 181-184

2 Boxer Steve (2013): "How video games are transforming the film industry", *The Guardian,* November 17th

3 Freudenheim Milt (1999): "Hasbro to Cut 20% of Its Jobs and Take $97 Million Charge", *The New York Times*, December 8th

4 Weiner Anastasia (2007): "Zoo Digital: Ian Stewart", *Startups UK*, August 9th

The paper analyzes the effects of microtransactions on publishers and gaming community, and explains their role in the process of the industry transformation. The aim is to examine factors and circumstances that led to the introduction of microtransactions as a business model in video games publishing, and to determine the consequences this method has created. In the first part, there is an explanation of the concept of microtransactions, its origins, factors that have led to the business model growth and forms in which it may occur. In the second part there is an analysis of microtransactions method on different services for video games purchasing. In the third part, the impact of microtransactions on video game industry stakeholders is analyzed.

2. Concept of microtransactions

It is very important to make a distinction between the terms of micropayment and microtransactions. Micropayments[5] include all low amount payments, regardless of the payment purpose. Microtransactions[6] denote payments for purchasing applications for mobile phones or payments for purchasing the additional content for video games. Although the largest part of microtransactions in terms of amount corresponds to the micropayments, it could be said that they are primarily determined by purpose, not by the amount. There are many examples that show that the amount of microtransactions is actually quite high, quite often on the level of price of the entire game, as in the case of *Dead Space 3*[7].

Originally, microtransactions have appeared as a payment method for purchasing applications for mobile operating systems in the second half of the first decade of the XXI century. Today they form the basis of the business model of mobile applications publishers. The largest part of applications has been sold at the price which belongs to the category of micropayments - usually just a few dollars. The principle of the publisher is offering applications at low price on the market with potentially few millions of customers. Another category of applications offers its free download and content use. The publishers usually offer additional content, which can be purchased at low price, which either bring a new functional use of the application, or make some cosmetic change in its design. Some applications have their free versions that are full of third companies' advertisements, so the user has to pay a certain amount if he wants to use an ad-free

5 Rivest Ron, Shamir Adi (1996): "PayWord and MicroMint: Two simple micropayment schemes", *Proceedings of 1996 International Workshop on Security Protocols.*

6 Statt Nick (2013): "Micropayments, mega angst, and the future of console games", *CNet*, December 19th

7 Tassi Paul (2013): "Is $50 Worth of Dead Space 3 DLC Still a 'Microtransaction'?", *Forbes*, January 30th

version[8]. The trick which publishers often perform is giving a trial period of several weeks during which the use of application is free, and after that the use of it begins to be charged. The idea is to get user accustomed to the use of application and in that way, to influence him to pay in order not to lose the product.

Table 1: *Revenues on video games market in USA for period 2010-2014 in millions of US dollars; the amounts are rounded*

	2010	**2011**	**2012**	**2013**	**2014**
Mobile and social network games	**1428**	**1538**	**1649**	**1775**	**1877**
Mobile games	1001	1097	1204	1321	1430
Browser games	427	441	445	454	447
Console games	**10539**	**10143**	**8279**	**8357**	**8845**
Physical selling	9400	8800	6700	6521	6515
Digital selling	1048	1210	1388	1559	1756
Microtransactions	92	132	191	276	574
PC games	**2167**	**2531**	**2787**	**2988**	**3275**
Physical selling	**700**	**450**	**380**	**257**	**244**
Digital selling	**182**	**399**	**431**	**478**	**501**
Microtransactions	**1284**	**1684**	**1976**	**2253**	**2530**
Total	**14134**	**14212**	**12714**	**13120**	**13998**

Source: PricewaterhouseCoopers (2015)

Although selling the entire game has never been abandoned as a business model in video games publishing, from Table 1 it can be concluded that the publishers, following the example of mobile application developers, have begun to allocate their cash flows to microtransactions. This trend is less expressed on the consoles market, more on PC games market, and in particular on mobile games market. The Table 2 represents average daily revenue for most popular games on social networks that can be played via mobile app or social networks in the browser.

In addition to the psychological moment, that it is easier to charge the customer smaller amounts several times than great amount at one time, there are also other factors that have led to these market changes.

[8] Hof Robert (2015): "Why Most People Won't Pay To Block Mobile Ads", *Forbes*, July 9th

Table 2: *The average daily revenue of 10 most popular freemium mobile and social games in US dollars, for the first half of 2015*

Game	Daily revenue
Clash of Clans	1 639 220
Game of War – Fire Age	1 145 999
Candy Crash Saga	978 065
Candy Crash Soda Saga	397 734
Bottom Beach	313 883
Big Fish Casino	263 321
Farm Heroes Saga	220 763
Hay Day	186 209
Hit it Rich!	159 662
GSN Casino	141 117

Source: Statista (2015)

a. Utilization factors

The market success of video games depends on a whole range of factors with associated impacts[9]. Regarding developments that have caused the application of microtransactions in video games, we can identify at least five factors.

1. The above-mentioned **mobile phones** and other portable devices that rely on mobile operating systems[10] are one of the factors which contributed to faster microtransactions breakthrough on the video games market. Like all other mobile applications, mobile games rely on microtransactions as well. It is impossible to charge the same price for mobile games as for PC or console games. In that situation, developers were not able to put a game on the market without losses, no matter how well it was designed. The solution was found in the freemium approach, wherein users were offered a basic version of the game completely free. As the average user spends more time during the day using a mobile phone than a computer, the chance that he would play these games is much higher. Depending on the game genre, a lot of optional content could be offered for sale, and potential revenue exceeds the earnings of a single charge for the full version of the game.

2. A wider commercial use of the **Internet** has changed publisher-user relation. The role of the Internet in the rise of microtransactions is twofold: on the one hand it provides the infrastructure for selling and distribution of games

[9] Aleem Saiqa, Capretz Luiz Fernando, Ahmed Faheem (2016): "Empirical investigation of key business factors for digital game performance", *Entertainment Computing*, 13, 25-36

[10] Filipović Aleksandar (2013): „Video igre kao najozbiljniji biznis kreativne industrije na početku 21. veka", *Megatrend Revija*, 10(2), 177-192

directly to users, on the other hand it serves as a payment channel, because most of the microtransactions are performed through online electronic payment systems. In a broader sense, the Internet use influenced the growth of mobile phones performances, and the functioning of mobile market. Also, the internet changed the way in which players interact with each other by introducing the concept of multiplayer gaming from home.

3. Originally, video games were designed for one player only. Although games that allowed the participation of two players soon emerged, that was technically possible to perform only on the same console or the same personal computer. The expansion of commercial use of the Internet and increase in data transfer speed led to the development of **multiplayer game** modes**,** so the playing in pairs or groups from home became possible[11]. Games designed for single player have not disappeared, but the innovations led to the changes in users' preferences which turned the market more towards multiplayer games. Publishers notice that the players are more willing to spend their money on these games than on single player games.

4. Throughout the time of over three decades of video games market development, players' preferences have also changed. During the first decade and a half there was a high demand for first person shooter (FPS) games and adventures, wherein both **genres** were intended for single player. At the beginning of the XXI century, the demand for team modes of FPS games increased, and brand-new genres MOBA (multiplayer online battle arena) and MMO (massive multiplayer online) were introduced, including games such as *DOTA 2* and *World of Warcraft*. Both genres are intended exclusively for playing on the Internet, and are based on the simultaneous presence of large number of players[12]. Consequently, it is easier to sell additional content that would distinguish a player from a mass[13].

5. The **revenue instability** for publishers in the period after 2003 was also pointed out by some authors[14]. At the end of XX centrury and at the beginning of XXI century, mass production of video games made the demand curve unpredictable, so that a number of developers and publishers shut down. Sale of first class titles at premium price became increasingly difficult and thus publishers' cash flow became less certain. Along the changes in demand, with the increasing speed of data flow on the Internet piracy became widespread. AAA titles could be found and downloaded for free on specialized forums just a few months after

[11] Pelkonen Tommi (2005): "Mobile Games: An emerging content business area", 109-125, in: Bruck A. Peter, Buchholz Andrea, Karssen Zeger, Zerfass Ansgar (eds.) *E-Content – Technologies and perspective of the Europan market*, Heidelberg: Springer

[12] Tassi Paul (2014): "Are MOBAs the new MMOs?", *Forbes*, May 5th

[13] Rosenberg Dave (2009): "MMPORGs, microtransactions, and user experience", *CNet*, July 16th

[14] Sandqvist Ulf (2012): "The development of Swedish game industry: A true story success?", 134-153, in: Zackairasson, P., Wilson, T.L. (eds) *The video game industry: Formation, present state, future*, New York, NY: Routledge

the release. Instead of premium price sales, publishers slowly turned towards freemium approach, by offering the game for free or at low cost, with the constant possibility of subsequent purchases. Theoretically, revenue from microtransactions per user could be higher than revenue in premium sale, and the same content could be sold to the same customer multiple times. Besides, with freemium approach a constant contact with users is maintained, as they can try the basic version of the game at any time. Cash flows show greater stability during the year, in contrast to the strong seasonal impact when it comes to the selling at premium prices. Freemium access almost completely eliminates problem of piracy[15].

b. Application domains

Depending on the video game genre, various additional features can be bought through microtransactions. Taking into account the limitations of genres, it depends on the development team and publisher to what extent they would load the game with the need for additional purchase. Generally speaking, microtransactions could make cosmetic changes to the existing game design, additional content unavailable in the free version, improved position of players in the existing conditions or subscribing to access some modes of gameplay.

There are many ways of selling content of cosmetic nature via microtransactions, and that does not affect the gameplay mechanism. This includes buying additional costumes (skins) for existing characters in the game, different looks for characters, additional music tracks, a different voice of a narrator or characters and decorations that change the environment but have no effects on the quality of the game. Many players accept only cosmetic microtransactions, such as those in games *The Division*[16] and *Gears of War 4*, because they believe that all other forms of in-game purchase create an imbalance. Cosmetic changes are often part of a broader package of microtransactions, and serve as an additional stimulus to force players to additional purchasing.

Another large group of microtransactions is the one that brings additional content into the already existing game without the intention to change the existing balance of the game. These microtransactions are frequent in single player games, but also in multiplayer games. Thus, compared to the basic version of the game one can buy a new mission for action games, new fractions or nations and new packages of scenarios for strategic games, new vehicles or track for racing games, classic teams or competitions regimes for sports games, new characters for fighting games, new levels for platform games, new episodes for the adven-

[15] Nickinson Phil (2012): "How high is 'unbelievably high' piracy? Dead Trigger dev's not saying", *Android Central*, July 23rd

[16] Robinson Martin (2016): "What's the deal with The Division microtransactions?", *Eurogamer*, January 15th

ture games or modes of gameplay for managerial simulations. All these additional features are known as downloadable content (DLC) and are often sold as a supplement to both premium and freemium titles, at a price which is frequently as high as the price of premium games. Selling DLC packs is a source of extra income for a publisher because resources used for creation of additional content have already been used in the creation of the original game, so this is an example of achieving economies of scale in video games selling[17].

The third group of microtransactions is especially unpopular among wide gaming community. These are microtransactions which bring certain advantages to the user, thus changing the existing balance in the game.. In single player games, these purchases facilitate the game, in the terms that the player starts with improved initial performances. In multiplayer games they bring privileged position to a player who pays, or discriminate players who do not pay. In practice, particularly in the field of mobile games, "selling the time" is especially popular, which means that players who play a free version have to wait a certain period of time between their turns, while players who pay microtransactions eliminate delay period[18]. Another option is buying improvements for character or fraction that player leads in multiplayer games, which disrupts the existing balance in the game to a lesser or greater extent. In practice this means that players who pay microtransactions have more chances to win under the same conditions than the players who do not pay. Games which by means of in-game purchases create an extreme imbalance of power are pejoratively called pay-to-win games. In certain games it is possible to buy only those accessories that otherwise can be obtained by playing, so the buyer does not get substantial advantage in comparison to the true gamers who do not pay.

Microtransactions are often related to the subscribing for access to certain modes of gameplay. Primarily there are multiplayer gateways for games such as previously mentioned genres MOBA or MMO[19]. As these games practically do not have single-player mode, publishers sell annual or monthly passes for servers on which multiplayer matches are organized. Pass sale presents economies of scale for publishers, because the most of costs they have are fixed. They refer to maintenance of publishers' servers or leased servers, therefore the larger number of players, the lower average cost per player there is. A large number of games from the group of AAA titles support this form of microtransactions.

[17] Campbell Colin (2015): "This is why paid DLC is here to stay", *Polygon*, January 27th

[18] GameSpark.com

[19] Battle.net

3. Virtual money

The term virtual money is defined as "unregulated, digital money, which is issued and controlled by the competent developers, and it is used as a payment method in a given virtual community"[20]. There are a number of substantial differences of electronic and virtual money. In order to issue electronic money, the issuer must request and obtain a license; the system must be registered and monitored in order to avoid frauds. The issuer of virtual money does not have a license; its system is not registered and does not have an obligation to make business report. Electronic money is issued to serve as a medium of exchange for trade with third parties, while virtual money serves as a payment method in transactions in which the issuer is directly involved. All electronic money in circulation could be sold for convertible money, either on the secondary market (if applicable) or directly to the issuer, while most of the virtual currency cannot be exchanged for convertible money (officially, although there are often black markets[21]). All differences are summarized in Table 3.

Attention must be paid to relations of cryptocurrencies and virtual money schemes. Both schemes are less regulated that electronic money systems, but they also have significant differences. While virtual money schemes have precisely indicated purpose, the application of cryptocurrencies is more general, and a creator is not known (or does not have decisive influence on the further functioning of the currency). Cryptocurrencies are controlled by an algorithm that cannot be changed by discretionary decisions of individuals or groups.

Table 3: *The differences in structural characteristics of a centralized electronic money, cryptocurrencies and virtual money*

	Electronic money	**Crypto currencies**	**Virtual money**
Legal status	Regulated	Partially regulated	Not regulated
Issuer	Registered issuer	Issuing algorithm	Unregistered issuer
Usage	Transactions with third parties	Transactions with third parties	Closed communities
Supply	Depending on demand	Determined in advance	Depending on issuer's choices
Conversion	Guarantied	Guarantied	Not guarantied
Supervision	Yes	Partially	No

Source: ECB (2012)

[20] European Central Bank (2012): *Virtual money schemes*, Eurosystem, Frankfurt, Germany

[21] Sutter D. John (2009): "'Virtual currencies' power social networks, online games", CNN, May 19th

Crucial difference between virtual money and electronic money is the subject of trade. Generally, the electronic money systems are used for purchase of physical goods and real services, while the virtual money schemes are used for purchase of virtual products[22]. Virtual money schemes are used in video games or on social networks, for purchase of improvements or cosmetic features. In practice, a large number of publishers take advantage of virtual money as a medium for microtransactions. It draws customers' attention from consumption of real monetary unit, and serves to blur the real cost of service.

ECB divides the virtual currency into three groups using the manner of acquisition and implementation as a criterion for the classification:

a) Closed virtual money schemes - systems which are completely separated from the real economy, with virtual money earned and spent within the system. An example of this class of virtual money is *WoW Gold*, which can be acquired by playing this game, and can be spent on improvements or cosmetic features. It is not transferable (officially), but it is linked to the account of the user who gained it.
b) Virtual money schemes with unidirectional flow-systems in which virtual money can be bought for convertible money, usually by credit card or PayPal, but it is not possible to perform the reverse transaction. Purchased virtual money is used in a closed system, with the possibility of eventual use in the purchase of real goods (e.g. *Nintendo Points*).
c) Virtual money schemes with bidirectional flow-systems in which virtual money can be bought for convertible money, usually by credit card or PayPal, and the unused amount can later be sold for convertible money. Purchased virtual money is used in a closed system, with the possibility of eventual use in the purchase of real goods (e.g. *Linden dollars*).

4. Microtransactions payment mechanisms

The mechanism for microtransactions execution is integrated into online service for distribution of games to the end customer. For mobile games, microtransactions are performed via the stores of applications (App Store in the case of iOS system and Google play in the case of Android system). Programming tools, which are used for in-game store implementation and connection with the application store infrastructure, are available to developers. Since each user has to be registered before accessing the application store (even to download free applications), his existing account is used for issuing the invoice. In order to execute microtransactions, it is necessary to enter the preferred method of payment (in case of a first purchase), or to choose from a list of methods already entered (in case some microtransactions have already been executed earlier).

[22] IMF Staff Discussion Note (2016): *Virtual currencies and beyond*, IMF

When it comes to PC games, from 2003 a digital distribution platform Steam has been in function. Via this platform users could buy video games, perform microtransactions and manage their multiplayer game session. Over the years Steam has become the dominant gaming platform in the field of computer gaming and partly in the field of console gaming. Developing teams receive development kits from Steam (SDK) by means of which they can implement in-game store in game and connect it with the infrastructure of Steam store. User's existing account is used for issuing of the invoice for the desired microtransactions, and payment is made through the already entered payment method.

Speaking of payment methods, application stores normally rely on electronic payment systems. Recommended payment methods are payment cards (debit and credit), PayPal, mobile wallets (Google Wallet and Apple Pay) and application stores gift cards. For each of the previously mentioned methods it is specified in which country and on what conditions it is applicable. Both application stores also accept payment via post paid mobile accounts in a number of developed countries, which is one and only offline payment method. Steam offers wide range of payment, so in addition to previously mentioned methods users can pay with WebMoney, iDeal, Sofortüberweisung or PaySafeCard.

WebMoney is an online digital wallet used for P2P or C2B payments, primarily in Russia and the former Soviet Republics. It functions on the principle of depositing funds on the balance of the digital wallet[23], whereby the balance may be funded by credit cards, PayPal, by conversion of some form of digital cash or by wire transfer. The payment is performed to the limit of the available balance on the payer's account. iDeal is a popular Dutch electronic payment system, which operates on the principle of transferring the funds from one bank account to another[24]. When the payer chooses iDeal as a payment option, the website of the bank in which he has an account is opened as well as the option for paying on the seller's account. The transaction is confirmed through two-factor authentication and it is carried out in the case that the payer has available funds on his account, otherwise transaction is rejected. German service Sofortüberweisung functions on the same principle, which beside Germany can be used in a dozen countries in Western Europe. Paysafe is a British financial group which performs several different tasks in the domain of electronic payment systems, including the role of the acquirer for payments via credit cards. Steam uses as a method of payment pre paid card which supports eight different currencies[25]. This card is not rechargeable, and it is bought with the amount that can be spent.

In addition to accepting local leaders in electronic payments field, Steam ties Steam Wallet for each account. This function does not have to be used, but it is handy for users who do not own a credit card and/or current account - e.g. as a

[23] WebMoney.com

[24] iDeal.nl

[25] PaySafeCard.com

gift for children. In the video game stores around the world Steam gift card can be bought, whose retyping in Steam wallet brings gift credits[26]. The credits are used for payment of the next purchase, and when they are spent another payment method is required.

5. Effects of microtransactions on video game industry

The change in the approach to selling video games produces effects on both stakeholder groups: developers and publishers on the one hand, and the players (those who use microtransactions and those who do not use them) on the other. Roughly speaking, effects can be divided into three major groups: economic, social and ethical. Depending on the point of view, some of the effects are positive, while others can be considered as problems.

a. Economic effects of microtransactions

The economic motive was crucial for adoption of microtransactions model for a large number of publishers. After one game has achieved a great success in particular genre, a large number of copies which takes over the mechanics and dynamics of the original game appear. In such circumstances, inevitably a large number of games could not gain enough market share because of the existence of direct substitutes.

When paying premium price, players tend to take a longer period of time in decision making, usually choosing between more games. Since a large number of first class titles is published at the end of the year (before Thanksgiving and before Christmas), publishers risk that, if they do not invest heavily in marketing, their games would not be noticed. In the case of freemium sale, players can freely download the game and start using it. Users' willingness to play the game and therefore to pay a certain amount of money when necessary depend on its technical characteristics, contents and dynamics. Quality content is sold easily on freemium principle, because there are players who are willing to pay for benefits and optional features more than once, thus giving much higher amounts than premium price sales. Besides, freemium games are not accompanied by a negative publicity in the case of lower quality - players simply would not play the game. On the other hand, premium games are accompanied by negative publicity due to the dissatisfaction of those who paid full price, which could turn away potential buyers from purchasing.

[26] SteamPowered.com

In certain games progress is practically impossible without microtransactions. In cases such as *Dungeon Keeper 2*[27], these games are often stamped on social networks and gaming forums and that aggressive demand of money turns down active players and prevents new players to come. It could be easily concluded that in offering paid contents a balance should be found, because greed for quick profits usually produces the opposite effect, bringing less money than expected.

Another negative example is combining the premium model with microtransactions, used in some first class titles. The example of *Mortal Combat X* is cited[28]. It is an attempt to combine selling of the game at premium prices with the payment of DLC content with new characters and gameplay modes at extremely high price.

b. Social effects of microtransactions

When one talks about social impact of microtransactions, one usually thinks about the subculture of passionate video games players, so-called "gamers". This subculture actually exists in real terms during the last three decades, with its own language, customs and codes of conduct[29]. Gamers were initially considered to be antisocial, strictly dedicated to video games and alienated from everyday life. It is the nature of video games that have partly formed these beliefs, because at first, all games were created for single player, so gamers mostly played alone. When multiplayer games came into focus, gamers became more open and via the Internet they connect with people of the similar interest around the world. Gaming teams, clans or alliances count a large number of players from different continents[30]. All this has contributed to a partial change of opinion of gamers as antisocial people, but they still retain most of their principles, with clear attitudes towards microtransactions.

In single player games, there are often cheat codes, with which the game can be completed easily and quickly (or become easier to play, if it does not imply levels but continuous play). In multiplayer games, classic cheating is impossible, so the players need to use their own skills. However, microtransactions often produce precisely the same effect that cheat codes produced in single player games. The player who buys improvements for a character or a fraction has the advan-

[27] Bramwel Tom (2014): "Console developers need to look at Dungeon Keeper and learn", *Eurogamer*, February 8th

[28] Smith Dave (2015): "I miss the days when I only had to pay once for a video game", *Business Insider*, April 22nd

[29] Dymek Mikolaj (2012): "Video games: A subcultural industry", 34-56, in: Zackairasson, P., Wilson, T.L. (eds) *The video game industry: Formation, present state, future*, New York, NY: Routledge

[30] Zhong Zhi-Jin (2011): "The effects of collective MMORPG (Massively Multiplayer Online Role-Playing Games) play on gamers' online and offline social capital", *Computers in Human Behavior,* 27(6), 2352-2363

tage over other players with the help of these improvements, which, as in the case of the game *World of Tanks,* disrupt the balance of the game[31] . In a game in which payments clearly favor one side, the winner is not the most skillful player, but the one who spends the most money. It was demonstrated in the study[32] that players who spend money on improvements are considered less worthy in the world of gamers, not only by the opponents, but also by their allies. In massive multiplayer games, other players if it is possible tend to bypass those who buy improvements, boycotting matches with them.

Pay-to-win games that create extreme imbalance over a time via microtransactions are boycotted by a large number of players. Sense of justice and fairness takes a high place in the gamers' code of conduct, so these players tend to move to other games that are close substitutes. On the other hand, there are players who simply love to have fun while playing not thinking too much about respecting principles. They compensate the lack of skills by buying improvements in order to stay competitive in the parties with better players. They are not part of the gaming community and could not be, but they do not want that anyway.

From the perspective of wider gaming community the only justified model is purchase of cosmetic features and improvements that otherwise could be won in the game. In particular, a player who does not have enough time to gain experience by playing can buy all necessary improvements, but he would not be in better position than those players who won their improvements through playing. A skillful player retains his advantage, because by gaining skills he collects all improvements other players must buy. In this way the balance in the game is not broken, and publishers can make money through microtransactions.

c. Ethical problems

Besides publisher's damaged image and reputation, inadequate management of microtransactions may lead to legal disputes. The question of ethics is related to the manner and degree of payment content, and the purchase availability. During microtransactions, there is a problem of transaction authorization, even when these transactions are authenticated.

Account registration on application stores or on Steam requires data on the preferred payment method. As the distributed games are integrated with these platforms, the preferred payment method from these accounts is used for microtransactions. In practice, it is not rare that aggressively set up in-game store per-

[31] Phillips Tom (2013): "World of Tanks dev drops "pay-to-win" purchases and hopes the rest of the industry will follow suit", *Eurogamer*, June 4th

[32] Evers Ellen, van de Ven Niels, Weeda Dorus (2015): "The hidden cost of microtransactions: Buzing in-game advatages in online games drecreases a player's status", *International Journal of Internet Science*, 10(1), 20-36

suades unaware children to buy[33]. Initiated purchase is executed via application store account or Steam account, with predefined payment method, so that even children could perform it to the end. Since they do not need to enter any security code for making payment, they may not be aware of actually spending their parents' money.

Additional confusion is often created by the use of so-called in-game currency, which is used for calculation purchases of various improvements[34]. This means that the improvement prices are not expressed in convertible currency, but in virtual money, which is considered to be a specific game currency. It may be crystals, gold coins, hearts, or any other denominator which is considered to be appropriate for the specific genre. The effect of virtual money use is the dematerialization of payment, because the feature prices are expressed in in-game currency, while its particular price in convertible currency is expressed on another page. In this way, the user often has no clear idea of actual cost of the feature he buys.

6. Conclusion

Having in mind the nature of software product, it could be concluded that the mobile stores and Steam have integrated marketing channels, distribution channels and payment channels into a unique business model of video games sale. Freemium model has occupied a dominant position on the mobile applications market for a long time. On the PC and console games market freemium model becomes more prevalent in recent years, although a large number of publishers are opting for a traditional, premium sale approach.

Some authors expect that in the next few years freemium model will become the dominant on PC games and consoles games markets. In favor of this claim goes positive economic experience of the publishers who have implemented microtransactions in their games, as well as increasing market share of MOBA and MMO games, especially suitable for microtransactions implementation.

However, the disappearance or reduction of the premium model on an insignificant proportion is not quite realistic option. First of all, a number of different game genres does not make sense if full content (or the essential part) is not offered immediately and completely. Such are sport simulations, strategic games, driving simulations, platform games. Moreover, a large number of publishers invest a several times more money in developing first class titles in comparison to mobile games publishers, with the aim to sell quickly a large number of games

[33] Hamilton Kirk (2011): "The Daily Show **Gleefully Rips Into Free-To-Play Gaming**", *Kotaku*, September 12th

[34] Gilardoni Paula, Ringland Emma, Ha Angela (2014): "In-game currencies: in the line of fire?", *Lexology.com*, August 19th

immediately after their publishing. It is very important for them to achieve sales volume, because besides the content itself they also sell recognizable brand, and create exclusivity of access to its content. Finally, the concept of Kickstarter, which developers use to sell their games in advance at lower prices in order to collect enough money to finance the development of the game, in fact denies the freemium model. It requires game to be sold after publishing at a price higher than the price of Kickstarter, because otherwise those players who support the creation of the game would be at lose. Although publishers are increasingly deciding for freemium model, Kickstarter approach is in expansion as well, and this approach is especially attractive to unrecognized publishers and developers, because in this way they hedge their business ventures. At a later stage these games can support microtransactions system, but only in combination with a premium price, which leaves them less space for maneuvering.

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EFEKAT MIKROTRANSAKCIJA NA INDUSTRIJU VIDEO IGARA

Industrija zabave tokom XX veka beleži stalan rast prihoda. Razvoj informaciono-komunikacionih tehnologija omogućio je stvaranje novog segmenta ove industrije početkom 80-tih godina XX veka, poznatog kao industrija video igara. Tokom prve dve decenije, dominantan model zarade izdavača video igara bio je prodaja cele igre, odnosno obaveza korisnika da plate da bi bili u mogućnosti da igraju (pay-to-play koncept). Poslednjih desetak godina razvija se novi pristup izdavača, koji umesto prodaje celokupnog sadržaja igre odjednom, teže da prodaju razlože na više manjih transakcija, u cilju prodaje parcijalnih sadržaja igre. Pri tome se cena ovih dodataka često obračunava u virtuelnoj valuti koja se smatra valutom video igre, a ne u nekoj od konvertibilnih valuta, što stvara dodatnu zabunu. Predmet rada je objašnjenje suštine mikrotransakcija, kao tipa elektronskih plaćanja nastalih u industriji video igara, i sagledavanja njihove uloge u procesu transformacije ove industrije.

Ključne reči: *mikrotransakcije, freemium, mobilne igre, plati-da-pobediš, virtuelni novac*