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## Characterization of new business opportunities in virtual commerce

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### ABSTRACT

Last couple of years, the numbers of games based on virtual worlds significantly increased. At the same time, the economy inside these virtual worlds has also developed. Nowadays, virtual environments like Second Life or Entropia Universe give companies various business opportunities, especially in selling their virtual or real products (virtual commerce). This article is aimed to give an outlook on virtual world as a new marketplace and their business potential, specifically in virtual commerce. The final part constitutes some conclusion and suggestions for future research. In order to achieve the assumed goal the author represents a literature review.

**Keywords:** virtual commerce, virtual world, virtual environment, virtual business

### 1. INTRODUCTION

Nowadays, the meaning of computer games considerably evolved. The games are not only a type of entertainment but are also a tool to learn and motivate employees. The video games are commonly utilized on business purposes. In terms of marketing, the games are means of communication, promotion and especially are included in brand building process (Tkaczyk J., 2009). Amongst many kinds of games, special place took those games in which users explore virtual world (Mennecke B., Roche E. M., Bray D. A., Konsynski B., Lester J., Rowe M., Townsend A. M., 2007).

In last years, it can be observed the emergence of numerous virtual worlds (Arakji R. Y., Lang K. R., 2008). Second Life and Entropia Universe have blossomed and start to impact on peoples' communications (Peng Y., Ke, D., 2015). When the virtual worlds gained popularity, the economy inside those worlds was also developed by offering users the opportunity to conduct a variety of virtual business activities. This phenomenon is called virtual commerce (v-commerce) (Arakji R. Y., Lang K. R., 2008).

The games influence on changing in connection's establishing, navigating of websites and approach to running business. The role of virtual worlds interested entrepreneurs as well as scholars in disciplines as diverse as law, sociology, psychology, math, and, more recently, information systems (Mennecke B., Roche E. M., Bray D. A., Konsynski B., Lester J., Rowe M., Townsend A. M., 2007).

This article is aimed to give an outlook on new business opportunities in commerce located in virtual world environment. In order to achieve the assumed goal there was made a literature review. The paper is organized as follows. First part constitutes presentation virtual worlds as a new marketplace. Second part encompass some considerations about business opportunities in virtual commerce. In the final part, there are some conclusion and suggestions for future research.

## **2. VIRTUAL WORLD AS A NEW MARKETPLACE**

V-commerce is a genre of e-commerce, which take place in virtual channel like virtual social world (Kaplan A. M., Haenlein M., 2009). Virtual world is an environment created by technology that encompass virtual representations of various elements appear in the real world (Kock N., 2008). The people are represented by animated characters and have possibility to interact with each other's (W. S. Bainbridge, 2007). This digital representation is named an avatar and can resemble humans, animals or any other creatures or animations (Ramanathan J., Purani K., 2014). Games based on virtual worlds are classified as a particular type of MMORPG (Massively Multiplayer Online Role-Playing Game). This type of games distinguish flexibility in creating characteristics and behavior of characters and the lack of a defined goal of the game (J. Laskowska-Witek, M. Mitęga, 2014).

Various types of virtual worlds might be encountered. The virtual worlds can be divided into worlds replicated real world and worlds depicted fantasy world. Virtual worlds replicated real world are characterized by functioning of users in traditional world. There are examples of this kind of virtual worlds like The Sims and Second Life. Virtual fantasy worlds are created on the purpose of the game and have own rules and no connections with real world.

There is an example of game named Tribal Wars (M. Rzemieniak, 2010). Virtual worlds oriented on the game also can be distinguish, e. g. World of Warcraft and Everquest, and virtual worlds focused on social aspect like Second Life. In the first one, the most important things are the rules of the game whereas the second one gives the users more freedom and enable users involving in various economic activities (B. Koles, P. Nagy, 2012).

Recently, the use of virtual worlds for entertainment and business purposes have been growing (Kock N., 2008). Inside those virtual environments a development of many real-world trading activities can be observed. The development of new economy inside the games mitigates many physical constraints. Many businesses are making real world money. There are increasing interest in moving real life products into virtual worlds to selling this products

within virtual environments (Scarle S., Arnab S., Dunwell I., Petridis P., Protopsaltis A., de Freitas S., 2012). In virtual worlds people buy digital goods for the same reasons why they buy products in real world. The low production cost of a digital goods cause that the prices are based on its perceived or contextual value (Castronova E., 2010).

The most commonly known an example of the developed economy inside the virtual worlds represents e. g. Second Life, Entropia Universe, The Sims. Second Life was founded in 2003 by the company Linden Research, located in San Francisco. Since its launch, it has attracted significant attention from various scholars, institutions and organizations. The game is available free of charge for anyone and can be downloaded from the main website (Koles B., Nagy P., 2012). For free is available First Basic account. Additional Basic and Premium Accounts are accessible after payment (M. Rzemieniak, 2010). Second Life have its own economic system. The virtual market is based on the laws of supply and demand and commodity-monetary exchange. All transactions are held by Linden Dollars that are exchangeable to others national currencies according to the exchange rate. The exchange rate depends on the supply of money and the ratio between the number of active users and the number of premium accounts. Users can obtain Linden Dollars by exchange of real currency in the Linden exchange office (using PayPal, credit cards or SMS) and also they can earn Linden Dollars inside the virtual world (taking up work, running own virtual business, turning virtual property, participating in special games). Setting up own business is free from formalities and charges. The residents can create and sell virtual products, buy and sell real estate or perform a specific activity like dancing in a designed place and for a specified period of time. When users have a virtual money, they can freely modify the avatar's appearance or virtual environment through the purchase of virtual products for example in virtual department stores (Laskowska-Witek J., Mitreęa M., 2014).

Second Life is an important space for marketing and brand promotion of real life products and services, e. g. American Apparel, Adidas, Toyota, Coca-Cola. Some of the well-known companies such as IBM, Reuters, Dell, Cisco, have opened virtual stores in Second Life (endra Sharma G., Baoku L., Lijuan W., 2012).

Entropia Universe was founded by MindArk, located in Gothenburg, on the west coast of Sweden. MindArk was founded in the late 1990s and has been developing its game with new technology and business model. Entropia Universe is a core product and have thousands of people around the globe which meet, interact and entertain themselves every day within the game ([www.mindark.com](http://www.mindark.com), 11.04.2017). Entropia Universe is an advanced 3D online virtual environment with a developed planetary system and one universal Real Cash Economy system. Each planet offers a wide variety of exciting entertainment. Users can travel between the planets through space and socialize with people from all over the world. It does not cost anything to join and there are no subscription fees. The Entropia Universe economy is built on an advanced micro-payment system, giving participants a great freedom-of-choice ([www.entropiauniverse.com](http://www.entropiauniverse.com), 02.04.2017). This real-cash economy is what sets Entropia Universe apart from other virtual worlds and online game. There are activities that any participant can profit from without any investment and also real business have opportunities on a more advanced level. Inside Entropia resources, tools and other items all have a guaranteed base value. In addition to that base value, the free market can set a higher value based on supply and demand. Avatars may for example specialize in trading resources they deem will soon be in high demand and possibly gain a profit from a rising market prices. The economy within Entropia Universe is highly specialized and complex, and thus offers endless

possibilities for participants with sharp market instincts and an entrepreneurial spirit. By investing in one's personal avatar and building up skills in a rich set of professions and trades, it is possible to use more powerful tools and engage in potentially more profitable activities. Participation in Entropia Universe can take many different forms. User can be a wildlife explorer, a city fashionista, a market analyst, event organizer, or any the other professions ([www.mindark.com](http://www.mindark.com), 11.04.2017).

The big difference between Entropia Universe and Second Life make that in Entropia users manage real dollars, while Linden Lab offers its own currency, the Linden Dollar. MindArk's The Mind Bank, which serves as a central bank for all of the different virtual worlds within the Entropia Universe, has been granted official status by the Swedish Financial Supervisory Authority (Swedish government agency responsible for financial regulation in Sweden). MindArk's decision to work with real currency created the conditions for a merged economy and Entropia Universe will become an important indicator as to how real and virtual world economies connect (Castronova E., 2010).

The Sims is stimulation of real life when users can create and control virtual people in various way. Gamers can allocate created people in created house and they are able to live in society of Sims (residents of virtual world) ([www.thesims.com](http://www.thesims.com), 04.04.2017).

There are the hundreds of millions of people participating in virtual worlds and they spent money on virtual assets. Their influence on economic theory and consumer behavior should not be overlooked. More than 300 million teenagers are performing economic tasks in virtual worlds such as Neopets, Habbo, Barbie Girl, etc. Teenagers learn financial management, economic rules, and consumer practices. In addition, when they become adults, their approach to real world economic practice is going to be influenced by their usage of virtual worlds, and they may be willing to adopt their practices into real life.

There is a recognition of the profits made by gamers in the virtual environment. Consequently, many countries consider an implementation of taxes. In China's case, the authority's 2008 decision to tax profits of virtual goods from between 3 and 20%. In the US, taxation of virtual goods varies from one state to the other (Castronova E., 2010).

### **3. BUSINESS OPPORTUNITIES IN VIRTUAL COMMERCE**

Kaplan A. M. and Haenlein M. described most common ways of using virtual worlds in virtual commerce. The first one is selling digital versions of existing real-life products and services. For example, Telecom Italia offered a product called 'First Life Communicator', which enables avatars to call each other and to exchange text messages. The second one is to propose services that connect the virtual and the real world. The example is Deutsche Post World Net, logistics company. The company offered virtual cards to Second Life residents and then this card was delivered as real postcards. This kind of v-commerce can overcome some of the disadvantages of traditional e-commerce, e. g. lack of appropriate product presentation (important for fashion or design items), insufficient social interaction.

Using Second Life for business purposes requires setting up an official corporate presence in the virtual environment and consequently enduring the cost of this presence. At first, the company needs to hold a Premium Membership because the free accounts are not allowed to some activities. The Premium Membership cost about 70 U. S. \$ per year. Second, it is necessary to purchase an island to set up its presence. A private region of 65,5m<sup>2</sup>

currently cost about 1000 US\$ and 295 is maintenance fee per one month. Third, the company needs to build its own flagship store. The cost is comparable to the programming of a traditional website and depends on the type of layout desired. It can be estimated from several hundred dollars for a very simple presence, and can increase up to 200 000 US\$ for highly professional and interactive island.

Companies should be aware that this investment can be recovered in longer period of time. Although several hundred thousand visitors may visit stores, the actual conversion rate of visitors into buyers is only 5% (Kaplan A. M., Haenlein M., 2009b). Arakji R. Y. and Lang K. R. noticed that a customer may buy a virtual product but if he does not, the company gained at least brand awareness and prospect of future purchase real product in real store (R. Y. Arakji, K. R. Lang, 2008).

Involving companies in virtual commerce raise customers' expectations regarding their real-life products. For example, offering virtual shoes in different colors might make consumers believe that the same choice also exists in the real-life store. They can be disappointed and dissatisfied when it does not (Kaplan A. M., Haenlein M., 2009b).

Koles B. and Nagy P. indicated a need of research in area of virtual consumption, especially in terms of understanding virtual consumption trends and customer behaviors. They carried out a research in the end of 2010. The authors collected information's from comments posted on Second Life forums. Results show that consumption in Second Life is strongly connected with entertainment and avatars' appearance. Virtual products, like clothing and accessories, help avatars express their feelings and thoughts about their virtual personality. Possessing of certain products allows users to change the appearance of their avatars when they want. They can stand out from the crowd. Participating in programs held by virtual clubs or virtual organizations also play an important role in creation of virtual identities. Restaurants and food related products has not evolved because residents do not have physical needs such as thirst and hunger. Clubs in Second Life make a profit due to avatars want to take part in social activities. The majority of comments also suggest that shops located near to the clubs are more profitable. In addition, clubs give opportunities to promote virtual goods. Some products increase avatars' visibility and their social status. It enhances effect of word-of-mouth communication. Residents' comments in forums identified a need of high quality products and professional services. There is no doubt that business activities are important part of virtual societies (Koles B., Nagy P., 2012).

Guo Y., Barnes S. investigated the factors that influence residents' purchase behavior intentions in virtual worlds and understanding the antecedents of motivations for pursuing virtual products. The authors based the survey on Chinese market. China has become the third longest online game market in the world. The most popular games in China are game - oriented virtual worlds. There were used a four focus groups to identify key variables that enhance or mitigate virtual transactions in virtual worlds and motivations for buying. The investigation was carried out in 2007 and all 24 participants were recruited from various virtual worlds in China that offer internal virtual item transaction platforms in the previous 6 months.

Amongst 17 factors indicated by focus groups, there are three most important factors that influence purchase behavior, namely character competency, effort expectancy and the quality of the virtual world. To consider character competency, they assumed that a player will be extremely immersed in virtual world if achieved matching skills against challenges from game tasks or other players. Lower character competence strongly encourages players to

buying more advanced virtual items in order to gain high-level achievement of game's tasks. This factor is one of the most important, especially in game - oriented virtual worlds. Effort expectancy refers to the degree of ease of use of virtual world transaction mechanisms. The quality of virtual world plays an important role in attracting users to pursuing advanced virtual items and using virtual world transaction platforms to buy these virtual items. The participants mentioned two aspects regarding the quality of virtual worlds: game content quality and transaction platform quality. Transaction platform quality is crucial in the selection of purchasing channels. Remaining factors identified by the participants which are less important but also meaningful are: perceived playfulness, the requirements of the quest system, performance expectancy, social influence, personal real resources, virtual item resources, habit, trust and perceived profit-making opportunities (Guo Y., Barnes S., 2009).

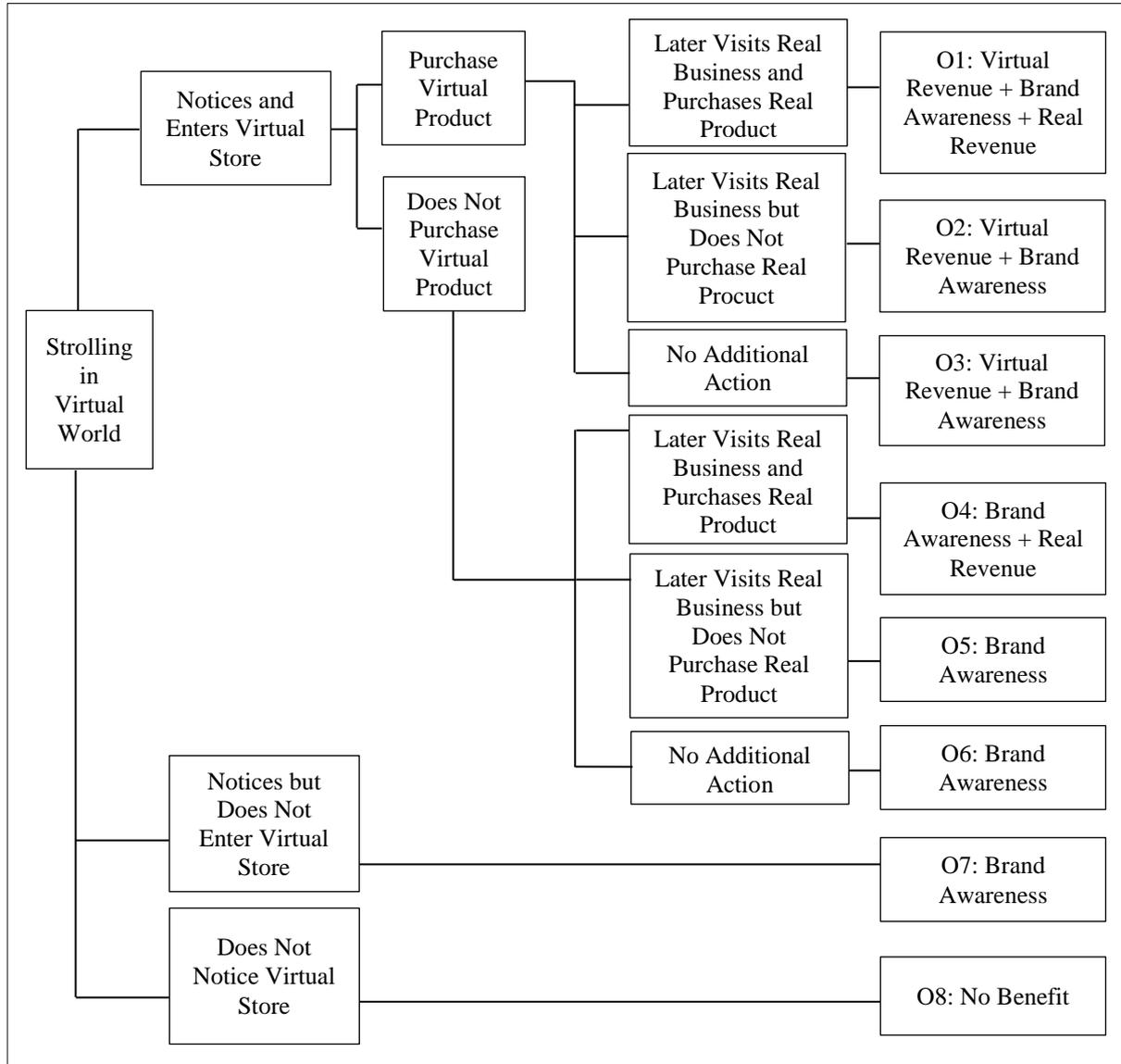
According to survey carried out by Kaplan A. M. and Haenlein M. amongst users of Second Life, residents strongly support the idea of setting up virtual world stores as an extension of traditional e-commerce activities and using them to selling real life products. These activities were already implemented by firms like Circuit City and Amazon and evoked positive reactions among Second Life users. Relatively small group prefer to keep real life and Second Life unrelated. The majority of users in this group expressed concerns about trust and security which negatively impact on their willingness to buy products in virtual stores. Some of the users admitted that they would be willing to buy on Second Life if companies offered them discounts (Kaplan A. M., Haenlein M., 2009a).

Arakji R. Y., Lang K. R. investigated the potential benefits companies' virtual presence in a virtual world on the example of Second Life. In order to measure the potential benefits, they created Avatar Business Value Analysis. The analysis focused on the business value that may be created through the establishment of virtual stores. For analysis' purposes the authors distinguish virtual stores (places to conduct v-commerce), web stores (places to conduct e-commerce), and brick-and-mortar stores (places to conduct physical commerce). A virtual store is a virtual representation of a brick-and-mortar store inside a virtual environment. V-commerce pertain to business transactions and activities inside virtual stores, sale of virtual goods and brings virtual incomes in virtual currency. Real operations can take place online (e-commerce operations related to a web site) or offline (physical operations related to a brick-and-mortar store). In ABV Analysis the authors define and interpret the probabilities of possible that can take place during the interaction of an avatar with a virtual store. When an avatar is strolling inside the virtual world, he may not notice the virtual store, despite the effort that the company make, for psychological or technical reasons. If the avatar does notice the virtual store, he may enter and interact with some of virtual product. When he decides to enter the virtual store, he may buy a virtual product or not. Regardless of decision he makes, visiting the virtual store creates brand awareness. The real consumer that owns the avatar may visit and purchase products in the real world from the company's website or brick-and-mortar stores in the future. Arakji R. Y., Lang, K. R. noticed that companies trying to sell their real products need to attract the users towards their web or brick-and-mortar stores to finalize the transactions.

Arakji R. Y., Lang K. R. concluded that virtual worlds give the opportunity to radically alter the way of conducting business online. Nevertheless, they also indicated some obstacles that need to be mitigated. For example, virtual worlds should offer additional functionalities that integrate v-commerce with the online operations of the real business. Virtual stores could allow finalize transactions inside the virtual world, instead of redirecting the customer to the

seller's web store. In addition, there is a need of clear protection of virtual property and some regulations that organizes virtual world economic activities (Arakji R. Y., Lang K. R., 2008).

The Figure 1 represents the series of decisions faced by a virtual customer when he notices a virtual store. Figure 1 does not include real transactions (e.g. buying with a credit card a product for use in the real world) through virtual stores.



**Figure 1.** Avatar business value analysis.

Numbers of authors focused on factors that impact on purchase intention for virtual goods, for example Hamari J. in 2015. Hamari J. investigated the role of two factors: first was enjoyment and use continuance and second was attitudinal and normative beliefs. On the survey purpose, data was collected amongst Habbo game players who had been active during the last seven days. Habbo is a free-to-play social virtual world, launched by the Sulake

Corporation in 2000 in Finland. All the users had current understanding of the virtual goods and the features currently available in Habbo.

The survey revealed that enjoyment of the game reduces the willingness to buying virtual products and attitude toward virtual products and beliefs about peers' attitudes strongly increase the willingness to purchase virtual products. Additionally, the continued intentions to play are positively related with purchase intentions for virtual products. In terms of negative impact of enjoyment from playing the game, Hamari J. indicated following possible reasons:

- when players enjoy the game enough, there are no reason to by virtual products and when players do not enjoy the game they get incentives by purchasing virtual products,
- virtual products generally meet different needs than core game and the users who enjoy them do not feel they can enhance enjoyment with buying virtual products and vice-versa,
- when games developer tries to create demand for virtual goods (e. g. make them necessary to address some obstacles) users are frustrated and not enjoyed the game,
- those people who report higher enjoyment can have purchased enough virtual products and consequently are less willing to buy more products in the future.

The author also identified strong relationship between beliefs regarding the opinions of others toward virtual products and purchase intentions and attitude toward virtual products. In social games residents rely on social interactions, especially amongst players who have more friends in the game (Hamari J., 2015).

#### **4. CONCLUSIONS**

Last years, increasing popularity of the games based on virtual worlds with developed own marketplace can be observed. According to literature review various types of virtual worlds with other rules, other connections with real world and other goals, might be encountered. When virtual worlds began to attract more and more users, vast numbers of companies decided to use those games on the commercial purposes. In virtual environment enterprises sell digital versions of existing real-life products and services or offer purchases of real products. Inside the game residents buy virtual goods for the same reasons why they buy products in real life. Frequently virtual consumption is related with avatar appearance, building virtual personality and need of membership in some communities. The companies need to take into consideration some costs that are necessary to arise in virtual worlds and period of time of investment recovery.

According to literature review, virtual commerce attracted interesting of entrepreneurs as well as scholars in various disciplines. Vast part of surveys try to explore motivations of residents for pursuing virtual products, more less the real product buying via virtual worlds.

Although numerous researches were made there still is a need of further research in the field of virtual commerce.

Sharma G., Baoku L., Lijuan W. suggested to carry out a survey amongst residents in Second Life to explore consumers' behaviors (endra Sharma G., Baoku L., Lijuan W., 2012).

Kaplan A. M., Haenlein M. noticed that it is important to conduct a quantitative study analyze the reasons for which residents make planned and impulse purchases within Second Life. It is also noteworthy to compare preferences of users in virtual world and preferences of

the same persons in real life, especially in terms of testing new products in Virtual environment. It is necessary to investigate the extent to which differences in consumer behavior between SL and RL might limit the extent to which information's gained from observing Second Life residents can be transferred to real life decisions. Other studies could focus on potential competitive advantages that Second Life stores can bring to real companies. Future study could explore the relations between Second Life stores and users to explain how virtual stores contribute to real life brand awareness and purchase intentions (Kaplan A. M., Haenlein M., 2009a).

Hamari J. indicated that future research should explore whether different player characteristics with various levels of experience or different gaming mentalities are influenced in different way. The author also emphasized the need of further research in order to find factors that moderate the relationship between enjoyment of the game and the purchase intentions for virtual products (Hamari J., 2015).

Beh L. S., Ghobadian A., He, Q., Gallear D., O'Regan N. recommended to create a business model of retail in Second Life in the context of sustainable development (Beh L. S., Ghobadian A., He Q., Gallear D., O'Regan N., 2016).

Virtual worlds offer wide range of opportunities for companies to selling products which can alter business online. It is noteworthy new distribution channel which attract interest of users, marketers and scholars. There is no doubt that will be meaningful part of many businesses in the future.

## **References**

- [1] Arakji, R. Y., & Lang, K. R. (2008). Avatar business value analysis: a method for the evaluation of business value creation in virtual commerce. *Journal of Economic Commerce Research*, 741-765
- [2] Bainbridge, W. S. (2007). The scientific research potential of virtual worlds. *science*, 317(5837), 472-476.
- [3] Beh, L. S., Ghobadian, A., He, Q., Gallear, D., & O'Regan, N. (2016). Second-life retailing: a reverse supply chain perspective. *Supply Chain Management: An International Journal*, 21(2), 259-272
- [4] Castronova, E. (2010). Virtual economies, virtual goods and service delivery in virtual worlds. *Journal of Virtual Worlds Research*, 2(4)
- [5] Guo, Y., & Barnes, S. (2009). Virtual item purchase behavior in virtual worlds: An exploratory investigation. *Electronic Commerce Research*, 9(1-2), 77-96
- [6] Hamari, J. (2015). Why do people buy virtual goods? Attitude toward virtual good purchases versus game enjoyment. *International Journal of Information Management*, 35(3), 299-308.
- [7] Kaplan, A. M., & Haenlein, M. (2009 a). Consumer use and business potential of virtual worlds: the case of Second Life. *The International Journal on Media Management*, 11(3-4), 93-101

- [8] Kaplan, A. M., & Haenlein, M. (2009 b). The fairyland of Second Life: Virtual social worlds and how to use them. *Business horizons*, 52(6), 563-572
- [9] Kock, N. (2008). E-collaboration and e-commerce in virtual worlds: The potential of Second Life and World of Warcraft. *International Journal of e-Collaboration*, 4(3), 1-13
- [10] Koles, B., & Nagy, P. (2012). Virtual customers behind avatars: The relationship between virtual identity and virtual consumption in second life. *Journal of theoretical and applied electronic commerce research*, 7(2), 87-105
- [11] Laskowska-Witek, J., & Mitreęga, M. (2014). Brand Promotion Throught Computer Games on the Example of Second Life. *Studia Ekonomiczne*, 205, 34-48.
- [12] Mennecke, B., Roche, E. M., Bray, D. A., Konsynski, B., Lester, J., Rowe, M., & Townsend, A. M. (2007). Second Life and other virtual worlds: A roadmap for research, 371-388.
- [13] Peng, Y., & Ke, D. (2015). Consumer trust in 3D virtual worlds and its impact on real world purchase intention. *Nankai Business Review International*, 6(4), 381-40
- [14] Ramanathan, J., & Purani, K. (2014). Brand extension evaluation: real world and virtual world. *Journal of Product & Brand Management*, 23(7), 504-515
- [15] Rzemieniak, M. (2010). Marketingowe aspekty Second Life. *Zeszyty Naukowe Uniwersytetu Szczecińskiego. Ekonomiczne Problemy Usług*, (55 Marketing przyszłości. Trendy. Strategie. Instrumenty. Zachowania podmiotów na konkurencyjnym rynku. Konkurencyjność podmiotów na ewoluujących rynkach), 569-578.
- [16] Scarle, S., Arnab, S., Dunwell, I., Petridis, P., Protopsaltis, A., & de Freitas, S. (2012). E-commerce transactions in a virtual environment: virtual transactions. *Electronic Commerce Research*, 12(3), 379-407
- [17] endra Sharma, G., Baoku, L., & Lijuan, W. (2012). Online marketing in second life virtual world. *Asian Journal of Marketing*, 6(1), 10-15
- [18] Tkaczyk, J. (2009). Formy reklamowe w grach komputerowych. *W: Innowacje w marketingu*, 5.
- [19] [www.entropiauniverse.com](http://www.entropiauniverse.com) (02.04.2017)
- [20] [www.mindark.com](http://www.mindark.com) (11.04.2017)
- [21] [www.thesims.com](http://www.thesims.com) (04.04.2017)

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