CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

Department of Economics

Diploma Thesis

E-commerce and Doing Business in Gaming Industry

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CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

DIPLOMA THESIS ASSIGNMENT

Sunethra Nirmali Gouri Boyinová

Economics and Management

Thesis title

E- Commerce and Doing Business in Gaming Industry

Objectives of thesis

The goal of diploma thesis is to compare different e-commerce tools and strategies based on findings from the theoretical and practical parts.

Methodology

The diploma thesis is going to be about e-commerce and doing business in a gaming industry. The thesis will research types and tools of e-commerce in this thesis and in the practical part, it will be compared incomes from e-commerce of game producing companies.

The proposed extent of the thesis

60 – 80 pages

Keywords

business, e-commerce, games, strategies

Recommended information sources

Anita ROSEN.[2002] "The E-Commerce Question and Answer Book: A Survival Guide for Business Managers". 2nd edition. AMACOM. ISBN 0814471544.

Milutinovic, Veljko. Patricelli, F.[2002]. "E-Business and E-Challenges". Ios Pr Inc. ISBN 1586032763.

ZAMAZALOVÁ, M.: Marketing obchodní firmy, 1. vyd., Grada Publishing, a.s., 2008, ISBN 978-80-247-2049-4

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Prague on 31. 03. 2016

Declaration

I declare that I have worked on my thesis called "Ecommerce and Doing Business in Gaming Industry" on my own and I have used only the scientific literature and other information sources that are mentioned in the references at the end of the thesis. As the author of the diploma thesis, I declare that the thesis does not break copyrights of any third person.

In Prague on March 2016

Sunethra Nirmali Gouri Boyinová

Acknowledgement

I would like to thank to Assoc.Prof. Ing. Mansoor Maitah, Ph.D. et Ph.D. and Ing. Miloš Ulman, Ph.D. for their advice and support during my work on this thesis.

Diploma Thesis E-commerce and Doing Business in Gaming Industry

E-commerce and doing business in gaming industry

Ekomerce a obchod v hernim odvětví

Summary

This master thesis deals with e-commerce and doing business in gaming industry. The thesis is divided into two parts. The theoretical part introduces, defines and develops terms concerning the e-commerce and its types, advantages and disadvantages in general. Furthermore, this work provides an introduction to the gaming industry, especially its history, technology and trends. The second, practical part, is based on the overall general analysis of the gaming industry. It also analyses individual channels of e-commerce, retail and marketing approaches. The main practical part focuses on the analysis of the incomes in e-commerce and traditional selling in Activision Blizzard that are compared on the basis of their income structures in selected years ranging from 2010 to 2014. This is a comparison and analysis of the traditional and e-commerce roles of income in a game production company that is one the largest in the world. The second part deals with a future prognosis based on the Activision Blizzard digital, retail and total revenues in selected years from 2009 to 2014. The aim of this research is to explore whether the e-commerce is efficient and if it plays an important part of income in gaming production companies.

Key Words: business, e-commerce, games, strategies, trend analysis

Souhrn

Tato diplomová práce se zabývá ekomercí a podnikáním v herním průmyslu. Práce je rozdělena do dvou částí. Teoretická část seznamuje, definuje a vyvíjí pojmy týkající se ekomerce obecně, jejích druhů, výhod a nevýhod. Mimo to práce představuje herní průmysl obecně, zejména její historii, technologie a trendy. Druhá, praktická část, je založena na obecné analýze herního průmyslu a budoucích trendech. Mimo jiné se také analyzují jednotlivé kanály ekomerce, tradičního kanálu, marketingových přístupů. Hlavní praktický rozbor se zabývá příjmy a porovnáním mezi ekomercí a tradičním prodejem v Activision Blizzard, která je srovnávána na základě příjmu struktury ve vybraných letech 2010 až 2014. Jedná se o srovnání a analýzu tradičních příjmů a digitálních příjmů v produkční herní společnosti, která patří mezi největší na celém světě. Druhá část se opírá o budoucí prognózy a korelační analýzy založené na digitálních, tradičních a celkových výnosech Activision Blizzardu ve vybraných letech od roku 2009 do roku 2014. Cílem výzkumu je prozkoumat, zda-li je ekomerce efektivní a zda-li hraje důležitou součást příjmu herní produkční společnosti. Došlo se k závěru, že ekomerce a digitální distribuce ovlivňuje významně herní odvětví.

Klíčová slova: obchod, e-komerce, hry, strategie, trend analýza

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1. Introduction

The last 40 years were revolutionary in terms of entertainment industry. Among the most significant inputs belonged video games. The beginnings of video games were devoted to a small community of people. With time, this approach has changed, and today is a normal thing to play video games almost in every household. Video games became a normal part of entertainment such as movies or books. Even thought there are still negative opinions and distrusts about the bad influence of video games, video games bring a lot of benefits that can together with innovative technologies enhance the world of education, society and art. Gaming industry is going through lot of changes, not just in terms of development. Marketing, sales and publishing of video games are becoming important parts that stronger the brand of each video game company. Especially, in today's digital era world where everything become faster, approachable and sometimes cheaper. Industry of video games is a young field with innovative technologies and dynamic environment.

Gaming industry is experiencing a large boom. According to the Payvision Blog the global games market is currently estimated at $68 billion. For example, the revenues of the Grand Theft Auto 5 launch were $800 million for the first day. The number of players that play and pay online is increasing explosively every year. E-commerce is the factor that plays a large role in the increasing trend of players and gaming production companies are aware of this fact. Retail channels are in the gaming industry very important but the future of digital distribution may change the principles of the whole business. There are various ways how to attract the player through online environment and it is much easier to be in connection with the customer and work on marketing and sales strategies. Each behavior of a player and feedback from a customer can be processed instantly through the online systems. This online process highly improves the entertainment of video games. Online environment and digital channels are great benefits for publishing and developing companies in terms of a business and it is possible to customize the game for it's players and of course try to meet customers' expectations.

2. Objectives and Methodology

2.1.Objectives

The goal of my diploma thesis is to analyze the principles, trends and strategies of the e-commerce situation in the gaming industry. In order to research the impacts of e-commerce on the growing gaming industry and to compare the traditional and the e-commerce roles in the business. The aim of the study is to find out into what extent e-commerce affecting the gaming industry and doing business. I will focus on one of the largest gaming companies in the world, Activision Blizzard that is known for being one of the most important companies in respect to digital revenues. My work should prove the following two hypotheses: the first - *"E-commerce is going to act an important part in terms of earning profit in gaming industry"* and the second - *"Traditional way of purchasing games is in decline and it is going be threatened by new channels in e-commerce in the future"*. These hypotheses are general. However, the main hypotheses considered in this work are specific: *"Total revenues of Activision Blizzard are influenced by the digital online channel"* and *"The Expansion of the digital channels influences the retail channel in Activision Blizzard"*.

2.2.Methodology

The thesis is divided into two parts. The theoretical part introduces, defines and develops terms of the e-commerce and gaming industry. It consists of a literature and web synthesis, induction and deduction focused on e-commerce and gaming industry. The usage of e-commerce in gaming industry will also be explained. The second, practical part, deals with the analysis of the incomes of e-commerce and traditional selling in Activision Blizzard that will be compared based on the basis of the income structure in selected years ranging from 2010 to 2014. It includes the comparison and analysis of the traditional and e-commerce roles of income in a game production company which is one of the largest in the world. The last part consists of the elementary analysis, correlation analysis that shows the strength of the relations between data and the trend analysis that is forecast for the next 3 years. The usage of e-commerce in gaming industry will be analyzed. The aim of this research is to explore whether the e-commerce is efficient and if it plays an important part of income in gaming production companies.

3. Theoretical part

3.1.Literature Overview

Review of literature is based on the study of foreign and Czech scientific literature, and it also includes the utilization of the number of the internet articles and other sources from the internet due to the fact that e-commerce is rapidly evolving, and these sources provide more current information.

3.1.1. E-commerce

Definition of e-commerce

" E-commerce is a type of business model, or segment of a larger business model, that enables a firm or individual to conduct business over an electronic network, typically the internet. " (Fontinelle, 2003)

Organization for the Economic Co-operation and Development (OECD) defines it as:

"An e-commerce transaction is the sale or purchase of goods or services, conducted over computer networks by methods specifically designed for the purpose of receiving or placing of orders. The goods or services are ordered by those methods, but the payment and the ultimate delivery of the goods or services do not have to be conducted online. An e-commerce transaction can be between enterprises, households, individuals, governments, and other public or private organizations. To be included are orders made over the web, extranet or electronic data interchange. The type is defined by the method of placing the order. To be excluded are orders made by telephone calls, facsimile or manually typed e-mail." (Directorate, 2016)

Electronic commerce can be found in the major market fields, such as B2B, B2C, C2C and C2B. Almost all products and services can be offered through e-commerce, from clothing to services such as tickets to a concert or transaction services. (Fontinelle, 2003)

E-commerce introduces just the purchase process and sale that is supported by electronical devices, especially the internet. These internet markets are actually market spaces rather than physical markets. Companies use them for offering products and services. Customers afterwards use them for conducting an information research during which they discover what they exactly want to buy. The purchase payment is realized through the electronic payment contact or by a loan. E-commerce also includes e-marketing and e-purchasing. E-marketing (the internet marketing) presents an effort by the company to inform about their products, services, its promotion and sale through the internet. E-purchasing serves for purchasing goods, services and information from online distributors to companies. (Kotler et al., 2008

There are different perspectives of e-commerce according to Kalakota and Winston, 1997:

1. *A communications perspective* that describes a delivery of information, products and services or payment by electronic means
2. *A business process perspective* describing the application of technology towards the automatization of business transactions and workflows
3. *A service perspective* that enables cost cutting at the same time as increasing the speed and quality of service delivery
4. *An online perspective* describes the buying and selling of products and information online (Chaffey, 2009)

3.1.2. E-business

Besides the e-commerce definition it is important to mention the e-business term. E-business (electronic business), or electronic business is broader than e-commerce. Previously, e-business and e-commerce were seen as synonyms. Today, electronic business means the use of information and communication technologies (ICT) as a tool for executing business activities. Unlike e-commerce it also involves internal processes, such as customer relationship management (CRM), order management, storage resource management, product development and more. It is essential that these activities are at least partly controlled or supported by ICT. (Suchanek, 2012)

E-shop

An environment which enables to run the e-commerce is called e-shop. According to the definition it means an electronic shop or online store. Sometimes an online store is a special web application (web portal) serving as a communication interface of electronic trading. It allows the presentation of goods and execution of orders in a virtual environment. E-shops are seen as a subset of e-commerce. They are similar to physical stores and have their own

URL address that indicates the location on the network where they can make selling and buying business. (Suchanek, 2012)

3.1.3. E-commerce models

E-business entities can be ordinary consumers (customers of e-shops), suppliers (firms, corporations and retailers offering goods and services through e-shops), state institutions and public administration and financial institutions. In their mutual relations we distinguish the following types:

B2C (Business to Consumer) - Trading between business and the end customer

B2B (Business to Business) - Trading between businesses, such as between the company and its supplier or customer. We can distinguish three models of B2B: Seller centric - wholesale supplies to individual retailers or dealers Buyer centric - small suppliers deliver large wholesale e-marketplace - a website market where many vendors are selling through intermediaries to a range of customers

B2G (Business to Government) - Relations between business bodies and state and local governments

B2E (Business to Employee) - the relationship between businesses and their employees

B2R (Business to Reseller) - the relationship between the company and sales representative

C2G (Costumer's Government) - the relationship between the customer and state authorities

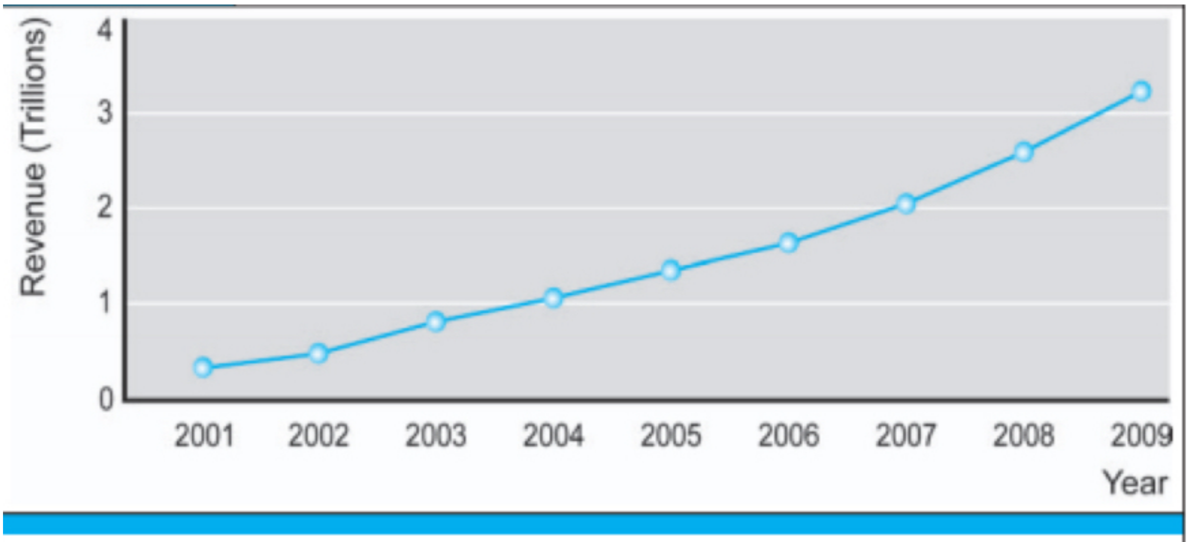
C2C (Costumer's costumer) - the relationship between the customers themselves, such as the purchase and sale of used goods

Mobile commerce (m-commerce) - E-commerce is carried out in a wireless environment, such as using cell phones to access the Internet (Chaffey, 2009)

3.2. History of E-commerce

One of the major uses of the Web is shopping. The internet shopping is effective, accessible and fast. It is possible to use at anytime and anywhere. Anyone can build their websites to display their services and goods. History of e-commerce begins with the invention of the notion of "sell and buy" and with the exploration and creation of electricity, cables, computers and the Internet. The e-commerce became reality in the year 1991 when the internet became available for commercial purposes. At the beginning the e-commerce meant the process of execution of commercial transactions electronically based on technologies such as Electronic Data Interchange (EDI) and Electronic Funds Transfer (EFT). This combination of the leading technologies which appeared in the late 1970s, managed to exchange business information, perform electronic transactions and allowed organizations and companies to send commercial documentation electronically. The internet started gaining popularity in the year 1994 but to develop security protocols such as HTTP or DSL that allowed fast access and continual connection to the Internet took approximately four years. (Chaffey, 2009)

Scheme No.1: The growth of B2B e-commerce



Source: E-business and e-commerce management (2009)

By the year 2000 a large number of businesses in Western Europe and the United States presented their services and products on the World Wide Web. The meaning of the world e-commerce has changed. From this time E-commerce represented the process of purchasing available goods and services over the Internet using secure connections and electronic payment services. The year 2000 brought a collapse of the dot-com when thousands of internet businesses disappeared despite this fact, a great number of the traditional world's brick-and-mortar businesses were encouraged with the promise of e-commerce and the possibility of presenting their offers to a global customer base electronically. The first years of e-commerce were successful despite some events. From the business perspective, though, the early years of e-commerce were a miscellaneous success, and offered many surprises. (Laudon and Traver, 2016)

By 2005 only about 10% of dot.coms established since 1995 had survived as independent companies. But, for the most part, the e-commerce had been ameliorated from few thousand to billions of e-commerce transactions per year, generating \$140–\$170 billion in B2C revenues and around \$1.5 trillion in B2B revenues (formal channel) in 2005, with around 210 million online buyers worldwide. Two very well-known examples of e- commerce companies are Amazon and eBay. Both of these companies encourage consumers to purchase a variety of services and goods online from other consumers and businesses, plus eBay also hosts online auctions. Customers on these sites typically have a variety of payment options, as well as choices for how their products and services are delivered. History of e-commerce is quite recent and it is a virtual world that is evolving to the customer's advantage. It is a world that is built by all of us. (Pearsonhighered.com, 2016)

3.3.Advantages of e-commerce

E-commerce can make differences in increasing sales and decreasing costs. Web advertising that is well prepared can achieve a significant engagement with potential consumers in every country in the world even for a small firm. There are many possibilities for achieving results with e-commerce. One of the ways is to reach the narrow market segments that are geographically dispersed. The web allows a possibility to create virtual communities that are ideal targets on the markets for certain types of products and services.

3.3.1. E-Commerce Advantages for Customers:

- **Options**. The Consumer can easily compare and evaluate products. It is possible to view the best pricing and have more options to choose from.
- **Convenience**. Every product is easily accessible through the internet. For example, customers can type into the search engine the name of a product they are looking for and every option will be presented in a well-organized list in just a few seconds.
- **Easy to compare**. Side by side comparisons are available immediately. The specifics and reviews of products are available to view.
- **Time saving**. Products are easily located and there is a possibility to get the order delivered to the customer's door even in one day.
- **Coupons and deals**. It is possible to find the best prices of products through the internet.
- **Easy to find reviews**. Reviews of customers are very important for evaluating and comparing products. Every individual has a possibility to his/ hers positive or negative feedback on the internet. (RAJ COMPUTERS, 2012)

3.3.2. E-Commerce Advantages for Businesses:

- **365 days, 24/7**. Online businesses are opened for customers 24/7 each day of the year. Profits are rising because doors of the store are not closed.
- **Expanded business reach**. The right marketing may bring not just local consumers but also customers from all around the world. Everyone can find the business site, information and products without leaving home. When using the online translator there is not even a language barrier.
- **Increasing customer base**. Business does not need to worry about acquiring the best property in town, because everyone can access it online.
- **Instant transactions**. There is no need to wait for the cheque to clear with e-commerce. Transactions are solved immediately or at the maximum of two to three days to solve a payment through the banking system.

- **Rise in sales.** Business will have a higher profit margin with online sales. It is possible to redistribute money to make a customer's shopping experience more efficient and faster. The second aspect is the broadened international customer approach that also forms a part of the profit margin. (Enkivillage.com, 2016)

3.4.Disadvantages of e-commerce

Some businesses are not very suitable for e-commerce. They include companies that are involved in selling items which are transient, high-cost or which need an inspection before purchasing. But, in general, most disadvantages of e-commerce today strain from the new and rapidly developing pace of technologies. However, these problems will disappear as e-commerce advances and becomes more accessible and accepted by the general population

3.4.1. E-Commerce Disadvantages for Customers

- **Hidden costs**. There might be hidden fees in the purchase that will not show up on your purchasing bill but they will show up on the form of payment. Extra handling fees occur mainly with international purchases.
- **Privacy and security**. It is important to check the certificates of security on the site where we purchase before going ahead with the online transaction. With the developing technologies the hacking possibilities of stealing personal information also rise. For this reason it is important to carry out do a good research where to purchase goods or services.
- **Lack of personal interaction.** Generally, there is no one who you can speak face to face as you do with a vendor. Also the rules and regulations are written very extensively and it may be inconvenient to read them all. On the other hand, that might change in the future with evolving technologies, for example the voice call or AI systems.
- **Delay in receiving goods**. There is a chance that the purchased product may get lost, delayed or delivered to a wrong address
- **Quality**. Customer cannot touch a product until it is delivered. It is therefore very important to view the return policy before the purchase.

- **The importance of having access to the internet**. The access to the internet is not free and with the usage of a free wi-fi there may be a chance of information theft over an unsecure site. If there is not a possibility to afford the internet connection, it may be best to shop locally.

3.4.2. E-Commerce Disadvantages for Businesses

- **Extra expense and expertise for e-commerce infrastructure.** For the owner it is important to know that transactions are handled well and products are presented in the most trustful way. To achieve this, it may be important to hire a professional to take care of it.
- **Constant upkeep**. E-commerce business should be constantly updated and keep pace with new technologies. It is also important to keep data bases and applications running.
- **Credit card issues**. When credit cards are used there is a possibility that there will be a dispute about billing with a customer. This can lead to a loss of a profit when goods have already been delivered but payment is refunded back to the consumer.
- **Security issues**. It make great efforts to keep e-commerce businesses and the customers' safe because of a hacking threat.
- **Sufficient internet service**. Sometimes there are problems with an internet connection. It is important to be sure that the area can handle the telecommunication bandwidth to run the business effectively.
- **Needs for expanded reverse logistics.** A good e-commerce business has to invest in a proper handling of all aspects of buying and selling, especially logistics. (RAJ COMPUTERS, 2012)

3.5.Gaming Industry

The gaming industry, which is sometimes called as interactive entertainment industry, is large and growing fast. Global revenues of the gaming sector were estimated to be about $74 billion in the year 2011 and this year they are expected to grow to $112 billion. It is important to specify the word ‘game’ - according to Jesper Juul a game is specified by its six features (Flew, Terry a Humphreys, 2005):

Table No. 1: Game features

rules	games are rule based
variable, quantifiable outcomes	games have variable, quantifiable outcomes
valorization of outcomes	the different potential outcomes of the game are assigned different values, some positive and some negative
player effort	games are challenging for players
player-attached outcome	the player will be happy in the case of positive outcome and in the case of negative outcome will be sad
negotiable consequences	the same game can be played with or without real-life consequences

Source: Games: Technology, Industry, Culture (2005)

The next important issue is to consider different platforms on which the games are offered. These platforms include *arcade games* (coin-operated games, that are installed in public places), *console games* (Microsoft Xbox, Sony PlayStation - the console is generally connected to another device such as television), *PC-based games* (played on a personal computer), *handheld games* (played on a special handheld mobile device), *mobile games* (played on general mobile devices) and *games within social media platforms* (games offered mainly through the social media sites). In my analysis I focus on the field of PC-based games that play a large role in my diploma thesis. In passing I have also mentioned the mobile games because they have become a very promising field of the gaming industry. (XBOX, 2013)

3.6.History of the gaming industry

Gaming industry belongs to one of the most prospect industries nowadays. This sector includes development, marketing and sales. Formally is a video game industry known as interactive game industry, gaming has become an important part of the entertainment for players from all backgrounds and ages. The games industry as it is today has 2 important categories that are computer games market and video games market. Both of these market evolved in quite similar ways and the same amount of the time. In the recent years there had been added another significant category that is a mobile games market which seems to be a very good business pool for distributors and developers. There are more platforms that has been developed or is working on enhancements. But the most important are really video games and computer games. According to the historical facts, William Higinbotham is a father of video games with his first recorded video game. During the past 43 years a great many game consoles and video games have been created and developed. It is possible to categorize important videogames according to a given time period. (Streetdirectory.com, 2016)

Table No. 2: Important Video games

	1st	**2nd**	**3rd**
Microsoft Xbox/Xbox 360	Call of Duty	Halo	Minecraft
Nintendo Wii	Wii Sports	Mario Kart Wii	Wii Fit
Nintendo Entertainment System	Super Mario Bros.	Legend of Zelda	Street Fighter
Sony Playstation/PS2/PS3	Gran Turismo	Grand Theft Auto	Metal Gear
PC-based games	The Sims	Diablo	Half-Life
Mobile games downloads	Tetris	PacMan	Angry Birds

Source: Games: Technology, Industry, Culture. (2005)

First generation (1972-1977)
First computer games were created by MIT's nuclear program researchers and military-industrial-academic complex. The famous ones that were developed include Spacewar and Tennis for Two. Pong (1972) released by Atari. The first home game console was invented by Ralph H. Baer and it was called Magnavox Odyssey 1972).

Second generation (1976-1984)

In the year 1977 the Atari 2600 was released. It was the first console with changeable media. One of important video games was Space Invaders, which was inspired by the Spacewar and had been released by Midway (1978). Later came arcade-based games such as Pac-Man (1983) or Monaco GP, that were characterized by coin-operated machines in public places. This time period was called the Golden Age of Arcade games. The year 1982 brought about 3 billion dollars with the worldwide home sales of video games and arcade games earned 8 billion dollars in the revenue. 1980's were known for low level quality titles.

Third generation (1983-1990)

In 1985 the Nintendo Entertainment System (the most successful gaming console at that time) gained with the phenomenal Super Mario Bros. game, whose sales by the year 1990 increased to 500 million dollars. Super Mario Bros. provided the base for a television cartoon show as well as other spin-offs such comics books or t-shirts. Other important video games included The Legend of Zelda (1986), Dragon Quest (1986) or Final Fantasy (1987). (Gameranx, 2015)

Fourth generation (1987-1993)

On the basis of experience from the previous years, gaming companies realized that it is important to focus on the quality and not on the volume of the developed games. Nintendo was one the first gaming companies that focused on the marketing culture and supported the rise of a gaming subculture. Sega entered the games industry with the 16-bit Genesis console that provided better graphics (larger animated characters, faster play and better backgrounds) in 1990's. Sega's major success and the flagship game was Sonic the Hedgehod (1991). Furthermore, Sega also came with important games that encompassed riskier content such as Street Fighter (1987) and Mortal Combat (1991). These fight games were labelled by the public opinion as brutal and not appropriate. While Sega made Europe a significant market, Nintendo developed Gameboy in 1989 (portable, handheld console known for Tetris). (Flew, Terry a Humphreys, 2005)

Fifth generation (1994-1999)

The console era started in 1994, when Sony launched PlayStation and there was a shift from cartridges to CD-ROM's. This time period also brought computer-based gaming with Wolfenstein, Doom and Quake games. These games offered the possibilities presented by the internet to generate the player-development content. Some of the most relevant games were Need for Speed (1994), Resident Evil (1996), Pokémon (1996), Tomb Rider (1996), and Grand Theft Auto (1997).

Sixth generation (1999-2005)

The year 2000 was characterized by a large number of game producers, small group of game publishers or distributors and a very small group of games hardware producers. Sony presented the games hardware industry with a PlayStation 2 in the year 2000 and Microsoft produced Xbox in the year 2001. The major players in the games distribution or games publishing belong Atari, Capcom, Eidos, Electronic Arts, Lucas Arts, Namco, Take Two Interactive, Microsoft, Nintendo or Sega. Nokia N-Gage (2003) was selling an interesting handheld. It was a mobile phone combined with a console (developed by Nokia). 2000's were characterized by the increase of online MMOG games. In 1999 EverQuest was one of the first RPG by Verant Interactive (division of Sony Entertainment Online). This game introduced a virtual world, where players adopted avatars, online personas, to do activities such as exploring, trading, fighting or producing items. The growth was stimulated further by the games such as Star Wars: Galaxies, StarCraft or The Sims Online. The largest impact in the MMOG's was made by World of Warcraft created by Blizzard and launched in the year 2004. By January 2007 World of Warcraft claimed 8 million subscribers worldwide. Other important video games were Halo (2001), Guitar Hero (2005) or Forza Motorsport (2005). (Itterheim, 2016)

Seventh generation (2005-2010)

The gaming industry started focusing on the online environment, with both PlayStation 3 and Xbox Live, which launched the online connectivity and network gameplay. Nintendo's Wii introduced game controllers that included integration of the players' movements with the on-screen action or motion sensors. Wii Sports (2006), Assassin's Creed (2007) or Uncharted (2007) were amongst the most important games.

Eight generation (2011-now)

The recent years brought the availability of playing games on mobiles. With the possibility of downloading from app stores or accessing media sites such as FB, mobile gaming moves the typical gaming culture further to casual gaming (games that are easy to play and short-term related). The future technologies of Virtual Reality also enables a great many potential styles of gaming, such as VR Oculus Rift or Sony PlayStation VR. (Overmars, 2012)

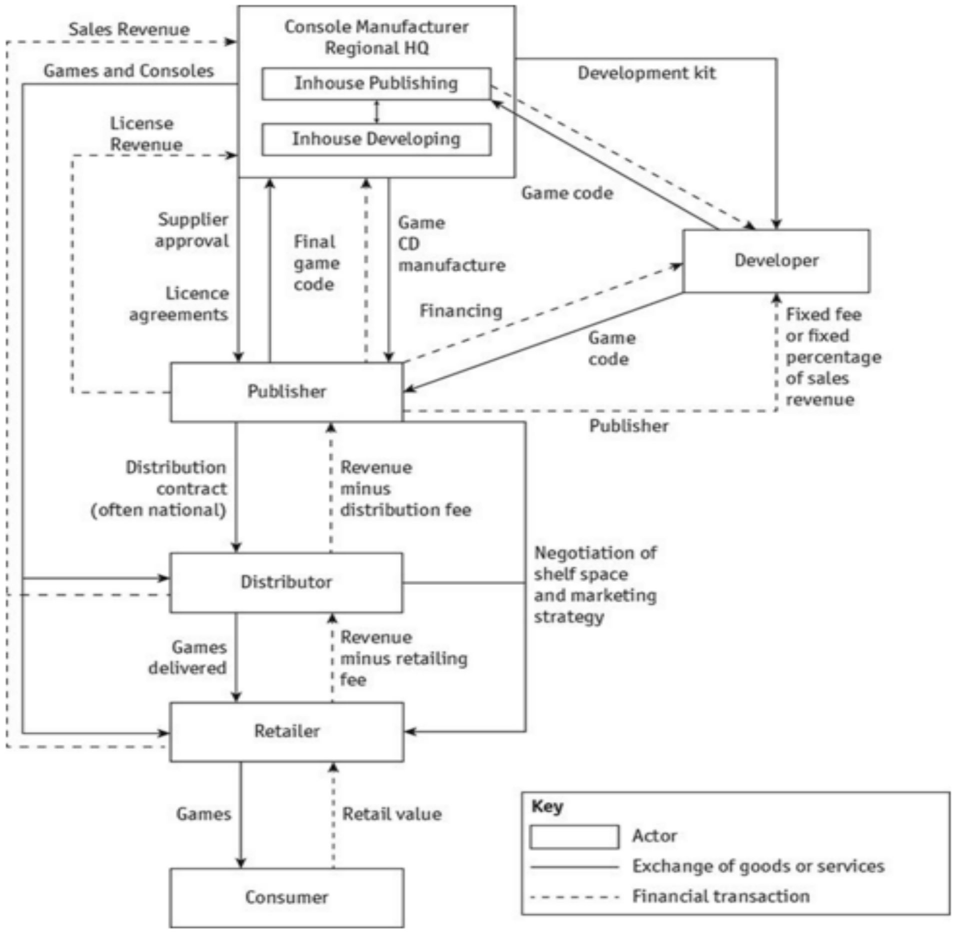
Table No. 3: The most frequently played video games

1. Grand Theft Auto V
2. The Witcher 3: Wild Hunt
3. Undertale
4. Metal Gear Solid V: The Phantom Pain
5. Pillars of Eternity
6. Tales From The Borderlands: Episode 5 - The Vault of the Traveler
7. Downwell
8. The Witcher 3: Wild Hunt - Hearts of Stone
9. Kerbal Space Program
10. Ori and the Blind Forest

Source: metacritic.com (2016)

3.7.Gaming Industry and its value chain

Scheme No. 2: Gaming Industry Value Chain



Source: Games: Technology, Industry, Culture (2005)

The Gaming Industry is an economic sector that mainly focus on the game development and sales, It is important to know that this is the core part but, additionally, there are many other services and products that are connected with gaming. In the traditional gaming industry, there are five main players in the value chain:

- **game developers** = people who engage in the content creation activities including designing, prototyping, pre-producing and testing games.
- **game publishers** = their responsibilities include developing titles, development costs financing, acquiring intellectual property rights for new games, licensing rights and marketing to distributors, retailers and end-users
- **game distributors and retailers** = they supply/sell the products, goods or services
- **game consumers** = they purchases goods/services for personal use

In business economics the industry's structure is often known in terms of its value chain.

Scheme No. 3: Chain Value of a gaming industry

Source: Games: Technology, Industry, Culture (2005)

3.7.1. Capital and publishing

This section includes mainly gaming publishing houses. The largest are international companies with a long history in this industry. Publishers operate either as classical joint-stock companies with publicly traded securities on stock markets, or as divisions of larger corporations (this type of company is not entirely focusing on video games, for example developers of gaming consoles) which are more interested in the maximization of revenue. Technical innovations such as new platforms with lower costs of development and digital distribution are the cause of the position of the large corporations having weakened in recent years. Some of the most important publishers are listed below:

- Activision Blizzard, Inc.

- Ubisoft Entertainment S.A.
- Electronic Arts, Inc.
- Take-Two Interactive Software, Inc.
- Nintendo Co., Ltd.
- Microsoft Studios

One of the major roles of publishers is funding of the game development. The funding can proceed in two different ways. The first one is an internal development when the publisher finances the activity of the subject with whom he is mainly connected personally and in ownership. The publishers have the development under their control and get a higher share of the sale prices. The share of the price can range from 10-20% according to the success of the game. Other benefits for the publishers include getting an opportunity for sharing the know-how, technologies, and human resources within the network of co-owned developing studios. The second way of funding is through external development. In this case the publisher acts as an investor of the project for an independent developing studio. This cooperation generally works on a continuous basis and the process consists of milestones. And finally, a very important aspect of game publishing is marketing and PR. It includes everything from buying of advertising to creating events and contests. (Epps, 2014)

3.7.2. Product and talent

This section is clearly shaped by developers. The development of Gaming is a very specific area of software engineering because it is quite complex. Apart from the necessary knowledge of coding, it is important to have a broader range of knowledge of various fields such as psychology or design. The important professions in the studio include the software programmer, game designer, level designer, game producer or game tester. Additionally, there is also a need for creative professions focused on music, video or graphics. It is very important that the whole internal process and project management work well together. Nowadays, independent video game development has become quite popular. This is a process of creating games in small teams and usually without significant financial support from a publisher or other outside source. The factor that has enhanced the growth of this development type is the availability of the development tools and broader possibilities of digital access. Indie developers can get to the end-user easily and without the support of a publisher, which means that it is possible to develop games with high creativity, a small budget and without supervision. Some of the most famous indie games are, for example, Braid, Flow, World of Goo or Minecraft. In order to fund a game the studio can try to start, for example, crowd-funding campaign on Kickstarter (Kingdom Come: Deliverance). It is much more profitable to sell games digitally. Because a developer can earn around 17% of the game's retail price but if sold digitally the share of the price rises to around 85% that is a very significant difference. The most interesting indie development companies include, for example, 2D Boy, 3G Studios, and MadFinger Games.

3.7.3. Production and tools

There are large possibilities in terms of what can be used for a game development including games engines for consoles or Mac and PC environments as well as the middleware programs and project management software. The production and tools layer consider and generate the content production tools such as Unity3D, game development middleware such as Nvidia GameWorks, customizable game engines such as CryEngine and production management tools such as Trello or Gira.

3.7.4. Distribution

The whole meaning of a distribution has changed when the digital era began. But at this point a comment must be made about the important decades and sales that have influenced the gaming industry. 1970's brought a 5.25” floppy disk format that became widespread in the early 80's. 1980's were significant mainly for the new version of floppy disks of the 3.5” size which lasted till 1990's. This era is known as the age of the magnetic storage media. The age of optical storage media brought in the laserdisc in 1978, but that unfortunately failed as a format and became utilized for audio playback more than for the gaming. In the 1990's the market changed and the CD-ROM format started to gain success. CR-ROM had many advantages in contrast to floppy discs (larger capacity storage). The first CD-ROM based console came in the year 1994 and it was Sony PlayStation. This step supported the advancing technology to create a new optical disc formats such as DVD or Blu-Ray which could store increasingly more data. The problem was that CD-ROM drives could not start DVD's. It took some time and a combined effort of the PlayStation 2 and Xbox consoles to produce DVD media and drives that were cheap enough and made game developers actually create a DVD-sized content. Blu-ray as a storage medium is not being anticipated in the gaming industry and at present the DVD is sufficient. The next era that came is called a digital distribution age. It is a process of delivering video game content as digital information without the need for exchange or purchase of new physical media. This process had already existed since the 80's but it was used only with network advancements in bandwidth capabilities. The early 2000's became significant in online distribution. The platforms that enable the game selling had created various game companies. Platforms such as Steam, GOG, Origin or Xbox Live Marketplace provide services that are centralized to purchase and download digital content. There are some types of digital distribution selling that will be described further in one of the next chapters. Distribution works as an interlink between developers and game players. In this process a publisher in the role of a distributor is also connected. The publishing house as a distributor manages the physical production of a video game, legal services, PR, marketing and possible localization of a game.

3.7.5. Hardware and Software

The hardware and software layer is more about the platforms. This layer consists of technologies and tools that are used for service and playing games. *"Hardware is any physical device used in or with your machine, whereas software is collection of code installed onto your computer's hard drive."* (Computerhope.com, 2016) The first PC hardware was invented in the year 1962 and it was called PDP1 (Program Data Processor 1). PDP1 was the first platform on which the game Space War was played. 1980's lowered the price of hardware and brought the first personal computer, The Sinclair ZX80, which sold for 199 dollars. Another important hardware of this era was Intel ISBX 275 that was the first graphic card. A milestone came with the Commodore 64, which actually had game cartridges. With the new clever hardware Amiga the hardware co-processed the audio, video and was not dependent on the central system. In the late 1980's came the console era with Nintendo and later with Sega. People with consoles were playing in 2D in 1990's while, by contrast, the PC gamers had opportunities to play already in 3D (Wolfenstein 3D). The 3Dfx graphic card had affected the gaming industry for most of this period. Then came Quake which was a revolutionary game that changed the game industry. It was a very detailed game with the fully real-time environment. All of the competitors were polygonal 3D models instead of the pre-rendered sprites.

The perspective in a gaming industry changed. NVidia bought out 3dfx. The 3D cards flooded the market and more gamers wanted to play the high performance 3D titles. In 1999 NVidia released the very first GForce card. There was a healthy competition between the producers of 3D cards in the late 1990's. When the world game environment became larger, as in the case of Elder Scrolls Oblivion, there was a need to develop more efficient graphic cards. Microsoft came with DirectX 10, which was a collection of APIs (application programming interfaces) to handle tasks related to multimedia, such as game programming and video. Nvidia GeForce 8800GTX gave people the ability to do so many new things that it has changed the way we look at the game world. Two of the most popular graphic cards today are NVidia and AMD. Finally, let's have a look at the cinematic graphic gaming. The Gaming industry is a challenging environment where hardware is increasingly improving. It is important to mention that the majority of video games is focused on the PC with the Microsoft Windows operation system. This is due to the dominant place of Windows on the world market. Video games are one of the hardest applications that are run on the computer. And the gaming environment is becoming more complex, difficult, wide and audio visually closer to the reality.

3.7.6. End-user

Firstly, it is important to specify who is the end-user. The end-user in the gaming industry is a "gamer" or game player. The gamer is a person who plays interactive games, such as video games. Gaming is classed as a leisure activity. Behavior and preferences of the end users will continue to see the gaming industry changing and evolving. Due to the digital distribution, online and mobile games can be purchased or downloaded instantly plus the price of games is decreasing. Gaming has not been held very well in the society. Video games were designed for young persons and people who are not very social. That was and still sometimes is the stereotype prejudice. However, the trend is changing and video games are seen more like a tool that help us interact with our environment in real-time and effortlessly integrate technology into our lives. This trend happened mainly with the development of mobile game apps and mobile apps that use the gamification in order to achieve some goals, for example Nike Run mobile running app. Among advantages that video games bring belong for example learning of following the instructions, problem solving and logic, planning, resource management, logistics or multitasking.

There is also the second side. The mostly high lightened disadvantages of playing video game are being blamed on violence. “The American Psychological Association (APA) also concluded that there is a *“consistent correlation between violent game use and aggression, but finds insufficient evidence to link violent video play to criminal violence.”* (Raisesmartkid.com, 2016) ESRB (Entertainment System Rating Board) invented a rating system that provides information about the video games content in order to inform consumers, mainly parents to make an informed choices. ESRB ratings are comprised from 3 parts. First is Rating categories, that suggest age appropriateness. Second is Content Descriptors that describes the content, it's interest or concerns. And the third is Interactive Element that inform about the interactive aspect of a product (user's ability to interact, sharing user's location with others, third parties involvement etc.). (Edwards, 2006)

- **Interactive element**

Shares Info- user's personal information (contact information) are shared with a third parties

Shares Location- it is a feature that shares user's location to other users of the application

Users Interact- indicates and enables the display activity to uncensored/unfiltered user generated content (media sharing or user-to-user communication)

Digital Purchases- offers to purchase digital goods from within the app

Unrestricted internet- product provides an internet access

" *Online Interactions not rated by the ESRB* "- warns users that are playing online about the possible exposure to the user-generated content (for example chat, skins, maps, audio, video) that is not rated by the ESRB

" *Music downloads not rated by the ESRB* "- Indicates that songs that have been downloaded as add-ons for the music based games have not been rated by the ESRB. (ESRB, 2016)

Scheme No. 4 – Rating Categories

RATING CATEGORIES

EARLY CHILDHOOD
Content is intended for young children.

EVERYONE
Content is generally suitable for all ages. May contain minimal cartoon, fantasy or mild violence and/or infrequent use of mild language.

EVERYONE 10+
Content is generally suitable for ages 10 and up. May contain more cartoon, fantasy or mild violence, mild language and/or minimal suggestive themes.

TEEN
Content is generally suitable for ages 13 and up. May contain violence, suggestive themes, crude humor, minimal blood, simulated gambling and/or infrequent use of strong language.

MATURE
Content is generally suitable for ages 17 and up. May contain intense violence, blood and gore, sexual content and/or strong language.

ADULTS ONLY
Content suitable only for adults ages 18 and up. May include prolonged scenes of intense violence, graphic sexual content and/or gambling with real currency.

RATING PENDING
Not yet assigned a final ESRB rating. Appears only in advertising, marketing and promotional materials related to a "boxed" video game that is expected to carry an ESRB rating, and should be replaced by a game's rating once it has been assigned.

NOTE: Rating Category assignments can also be based upon a game or app's minimum age requirement.

Source: ESRB (2016)

- **Content Description**

Among content description belong for example:

- alcohol reference, animated blood, cartoon violence, crude humor, drug reference, fantasy violence, intense violence, language, mature humor, partial nudity, real gambling, sexual content, strong language, tobacco reference, use of alcohol, violence (ESRB, 2016),

According to the NewZOO and GlobalCollect, there is more than 1.78 billion people that are playing video games worldwide. [1] One of the largest and most developed countries in terms of video game playing is China and the second is the USA. Following data are collected by ESA (entertainment software association) and focused on the northern-American region. The average game player is 35 years old. Among the top three video game type that are played belong Social Games with 31%, then Action games with 30% and puzzle/board/card games and game shows with 30%. Among the top devices that frequent gamers use to play games belong PC (62%), game console (51%), smartphone (35%), wireless devices (31%) and handheld systems (21%). Very interesting fact is that 44% of video game players are women. There are many categories of video game players. The most typical categorization is according to two main groups of the main gaming streams. The categories are divided on hardcore players and casual players. Hardcore players are people for which is gaming one of the main hobby. They are experienced, know the basic principles in each of a genre and the entering to the game and understanding of the play are easy for them. According to Ernest Adams and Scott Kim the hardcore gamer has these features (Adams and Ip, 2016),:

- Technologically savvy
- Have the latest high-end computers/consoles
- willingness to pay
- Prefer violent/action games

[1] http://www.statista.com/statistics/293304/number-video-gamers/

- prefer games that have depth and complexity
- Play games over many long sessions
- Hunger for gaming-related information
- Discuss games with friends/bulletin boards
- Play for the exhilaration of defeating (or completing) the game
- Much more tolerant of frustration
- Engaged in competition with himself, the game and other players

Hardcore gamers in general are active in the gaming community but they do not just passively consume games but also create the subculture of gaming that intensively influence and co-create the whole gaming industry. The second type is casual gaming. These people mainly play games when they have a free time spared and they generally play for shorter time. In this category belong players that do not want or cannot give too much time to play or games are too difficult for them. Casual video games are often web-based and found either on mobile phones or personal computers. These games usually do not have high learning curve. (Computerhope.com, 2016)

4. Practical Part

Practical part consists of the industry analysis that comes with a chapter using of e-commerce in gaming industry. The first part analyses the gaming industry in general and its trends mainly. The second part analyses the economical profiles of gaming segments and the business models, specifically retail business model and various types of digital business models. The next part includes the comparison and analysis of income from e-commerce and retail channels. Firstly the largest video game company distribution is analyzed and next comes the comparison of individual revenue channels in the case of Activision Blizzard company, that belongs to the one of the largest and most influencing companies on the market. The last part consists the elementary analysis, correlation analysis that shows the strength of relations between data and the trend analysis that forecast for the 3 years.

4.1.Analysis - Usage of e-commerce in a gaming industry

This chapter mainly analyses various types of revenues in the gaming industry. Besides that it is important to mention revenues in the global measurements, the most used hardware for playing games, the scatter of the gaming industry market or comparison of a retail distribution and digital one. There are many streams of e-commerce in gaming industry. I want to mention and analyze the most important ones. This part explains how each of the stream works and then will be compared with other possibilities. Important part consists of analysis, comparison and deduction of the result.

4.1.1. Trends in a gaming industry

The last year has been significant for the large rise of independent developers and their games. The second thing is that the development of games became more affordable due to advanced technologies, crowdfunding, marketing optimization etc. Interesting point is that games with more than 1 000 000 units sold on the Steam Platform are games that had been offered as early access titles. The market that has widely opened is the one with mobile apps that had 23% year-on-year growth rate. Among the important trends for the last year belonged mostly to invest in virtual and augmented reality technologies and to "clientelise" the development and production of a game by streaming services, crowdfunding or UGC (user generated content). What are the trends that is possible to expect at least in a near future?

Virtual Reality

Virtual Reality is "i*mmersive multimedia or computer-simulated life, replicates an environment that simulates physical presence in places in the real world or imagined worlds.*" (Lovemarks.com, 2016) The year 2015 has been significant for investments in the virtual reality and the year 2016 is known as a year that will be an epoch-making in the terms of VR. Facebook's Oculus Rift headset is already in the pre-order stage. PlayStation and Sony is waiting for it's own headsets. Virtual Reality technologies are expected to move forward especially because of the gaming. That's the field that has the largest expectations. According to the SuperData, consumers should spend $5.1bn on VR hardware and software in the year 2016. (Dredge, 2016)

Augmented Reality

Augmented Reality is a "*live, direct or indirect, view of a physical, real-world environment whose elements are augmented by computer-generated sensory input such as sound, video, graphics or GPS data.*" (Mashable, 2016) Augmented reality is nowadays mostly used through the smartphone technology. There are many possibilities how is this technology used, from the e-commerce, communications to education and gaming of course. Magic Leap is one of the most famous start-up funded by Google that is working with the AR. According to the survey of gamers done by the Institute of Electrical and Electronics Engineers 51% of respondents (globally) on interactive Facebook timeline believe that AR/VR is the gaming future. (Gaudiosi, 2015)

Secondary screen gaming devices

Secondary screen gaming devices uses a computer device such as mobile device (tablet or smartphone usually) to provide better viewing experience for content on another device, for example television. Among the most important secondary screen gaming devices belong for example Wii U Gamepad. The software that support the technology is generally called as a companion app. Majority of companion apps let players be social with their friends during the gaming, so players can see what are their friends playing, can chat with them or compare their achievements. The great advantage for player is that the secondary screen gaming provides customization abilities of characters and items. This feature is mainly based in the marketplace. (Tan and Tan, 2015)

Crowdfunding

Crowdfunding is a way of game monetization. "*It is the practice of funding a project or venture by raising monetary contributions from a large number of people* ". (Oxforddictionaries.com, 2016) It is usually done via internet platforms. It was an alternative way how to earn money to produce a game few years ago but nowadays it is becoming one of the main streams especially for indie developers. Among the one of the most important crowdfunding platforms belong Kickstarter. According to Kickstarter Statistics are games the most dollars pledged projects with its 451.75 million dollars and most successfully pledged funded projects with 399.82 million dollars. The one of the recent games that had been successfully crowdfunded with 3,829,024 million dollars and the campaign target was 3,300,000 million dollars. On this example we can see that the crowdfunding possibilities are a very strong tool to raise awareness of the game and in the same time to collect the funding.

Transparent game development and design

There is a new trend rising and it is based on a transparency of a gaming studio. It means that the development and designers work is being streamed. In fact, the real demand to see what is happening during the production came from the player community. The advantage of it is, that the audience might become amazing advocates for the game in general because they have seen the whole process and this type of a marketing/PR feature can connect its community with the game more. On the other side, this type of approach might be more beneficial for community of players than as a business model. (Wargaming.com, 2016)

Open-source gaming

Open-source game is video game that has a source code available freely for everyone. One of the very interesting devices that enables to develop and play with low costs on the same technology is Ouya. It enables even to beginner developers create games. The console is a developer's kit and it is build on Android. The project has been launched by Kickstarter and nowadays it has around 1183 games developed. The open-source gaming is a way how to personalize gaming according to the audience.

The spectator experience

People nowadays do not just play games but also watch games. This trend to watch others playing accompanies the gaming culture the whole time. But the milestone came with the streaming possibilities. It is the era of Youtubers and with it along there is a canal Twitch.tv (acquired by Amazon) that set up the new gaming experience. Twitch.tv enables users to watch, play, record and play cast video games. The stereotype that there is a lonely gamer playing against the computer is no longer the truth. Gaming is becoming more social also because of its digital development. (Stuart and Webber, 2015),

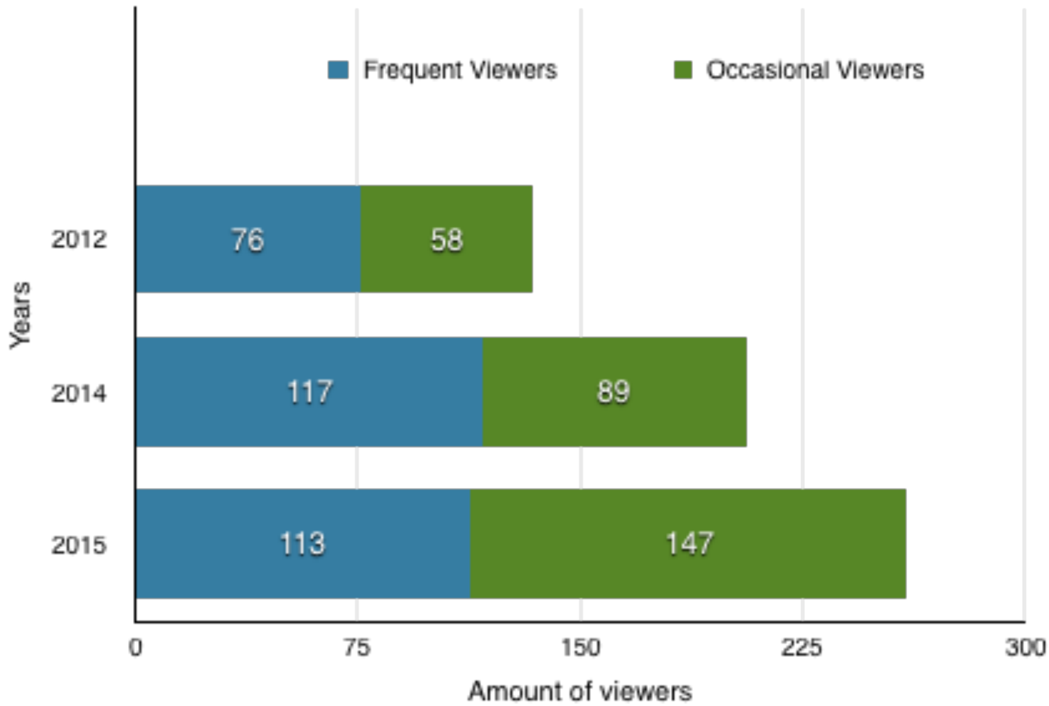
Cloud gaming

is a form of online game distribution. Among the most common methods belong video and file streaming. Cloud gaming is based on the principle that video games are going to be easily accessible as movies or music. It allows direct and on-demand stream of a video games into consoles, computers or mobile devices. Cloud gaming works through the use of a thin client (terminal without a hard-drive, data are stored in the data center). It also enables the high-quality games and its updates. The main advantage is that are cheaper and easily accessible. Gaikai is the largest cloud gaming service that has been purchased by Sony and it is integrated into the PlayStation 4. The very interesting fact is, that Gaikai won the Guinness World Record for it's fastness. (Intel, 2015)

E-sports

Twitch.tv belong to one of the most popular streaming service and it is nowadays free for it's users. This will probably change and will start working on a subscription mode as Netflix for example works. According to Michal Blicharz, Managing Director Pro Gaming at Turtle Entertainment *"eSports are not going anywhere, they are only getting more popular"*. And according to George Woo, the event marketing manager who heads up the Intel Extreme Masters World Championship in the year 2017, it is expected that there will be 150 million viewers. According to the estimations below in the table, the number of occasional viewers will almost triple. The number of frequent viewers seem that will steadily increase.

Graph No. 1: Global Esports Market Audience (amount in million dollars)



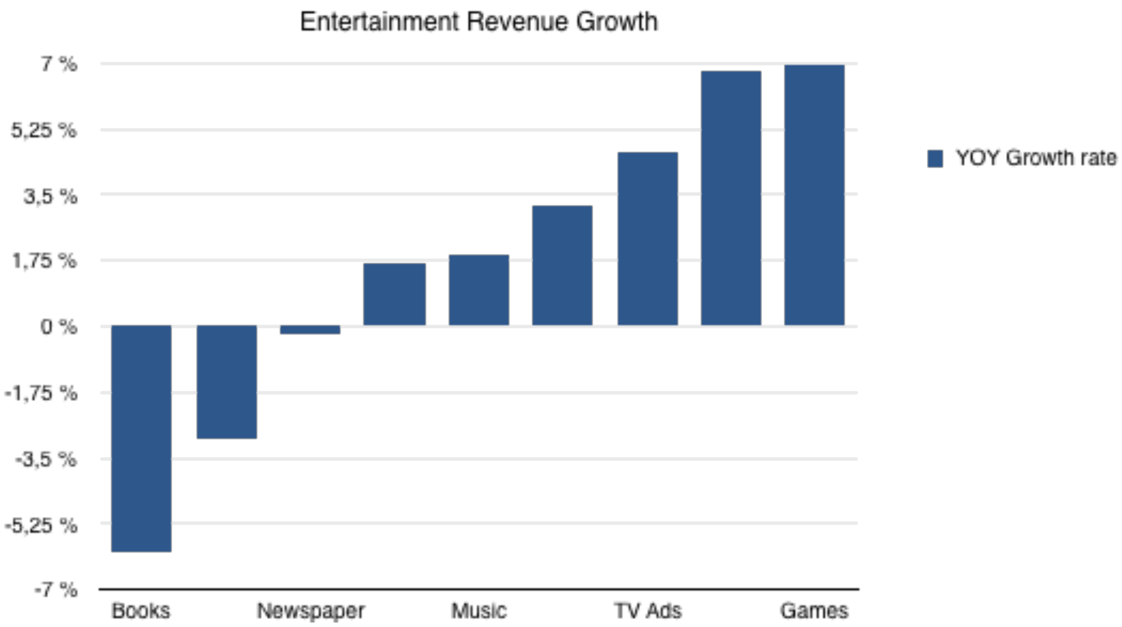
Source: own illustration according to Newzoo's Global Esports Audience and Revenue model (2016)

Across the 16 countries that have been analyzed, the esports audience have increased by 6% since the year 2014. The interesting fact is that there is small decrease in the case of Occasional Viewers and and in the contrary the Enthusiasts group is growing by 31%. This shows that there is an overall increase of the intensity of esports engagement. The estimations for 2015 shows that there are 260 million esports viewers globally. (Newzoo, 2015)

4.1.2. Economical profiles of gaming segments

As was mentioned before, the gaming industry is blooming not just in the terms of revenues but also in the player increase. The global revenue of a gaming industry is $101.62bn for the year 2015 and it is expected that the number will increase in a future. With new technologies in computer, mobile or console segment there are created also new opportunities how to attract customers. According to the report by Entertainment Software Association (ESA) "Video Games in the 21st Century: The 2014 Report" The video game industry outraged the economy of the U.S.A by more than four times in the year 2012. Video games are a very strong engine for an economic growth of the USA. (Theesa.com, 2016)

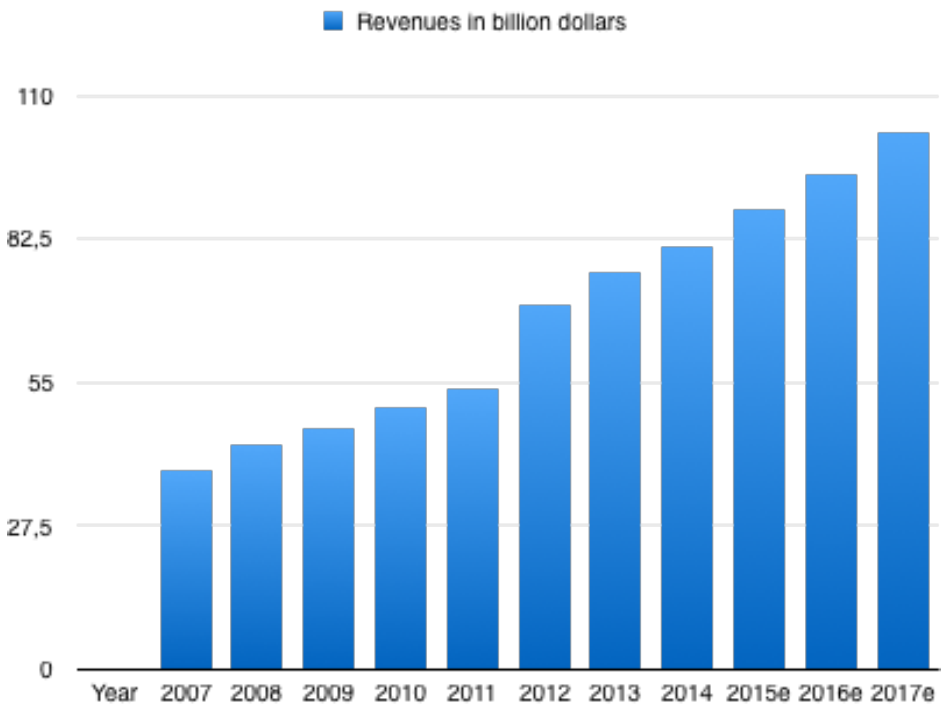
Graph No. 2: Entertainment Revenue Growth (amount in %)



Source: own illustration according to ESA (2016)

According to the graph above and it's YoY (Year over Year) growth rate , it is relevant to say that the trend of video games is strong and is going to increase according to the numbers and fact, that the growth rate of games is 7% in the entertainment revenue growth. (Taylor, 2014)

Graph No. 3 – Revenues from video games (amount in million dollars)



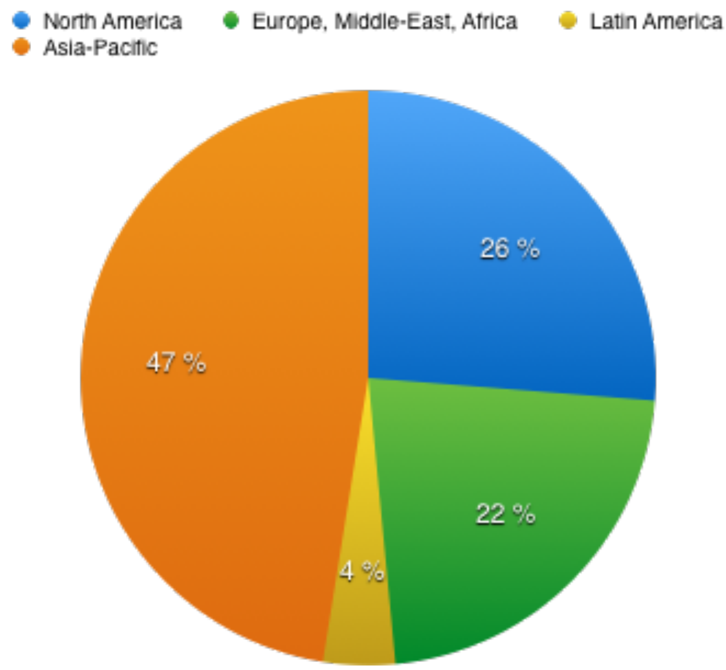
Source: own illustration according to Thefutureofpublishing and NewZoo (2011)This chart shows us the revenues (rounded) for the total games market and confirms that the trend is increasing. Revenues are quite constantly increasing and the year 2015 showed that there was the largest plus of 7 billion from the year before. Future prognosis are very optimistic and they expect that the increase will not go under 7 billion in years 2016 and 2017. According to the analysis by NewZOO the year 2012 showed that the major percentual gaming revenue market own consoles with 36.7%. Consoles started slowly decreasing after the year 2012 even in the year 2016 estimation but it is still the leader of hardware on the market. On the other hand, PC/Mac revenues started increasing. MMO's that have the first rank on the software market with it's 19.8% in the year 2012 and the estimation for the year 2016 is 22.7% is quite a positive news. The huge impact has the smartphone and tablet categories, that are steadily increasing and for the year 2016 the estimation is 27.8%. This is a large step from the year 2012 when it was 13.8%. (Statista.com, 2016)

Scheme No. 5 – Global Games Market (amount in billion dollars)

Source: NewZoo (2016)

The global games market in terms of regions is very various. Predictions for this year shows that USA and China will fight over the first place in the number of the game sales. They both have 22bn dollars expected. Asia Pacific region is with it's 47% on the world market is the total leader with it's purchase power. The second rank has North America with 26% and the third place is Europe's, Middle Eastern's and Africa's. (Newzoo, 2014)

Graph No. 4 – Global Games Market (amount in %)



Source: own illustration according to the NewZoo.com (2016)

Price Waterhouse Coopers divides the video games market and the revenue that is social/casual into four categories.

Higher social/casual penetration and higher total video games revenue growth

In this category belongs China, Malaysia, Indonesia, Nigeria and Japan. This market is specific in less mature video games markets (not in the case of Japan) that are growing rapidly as the audience.

Lower social/casual penetration and lower total video games revenue growth

This category is mainly significant for mature markets in the wealthier parts of the world and especially in the countries where are traditional video games established but the growth of revenue is slower. France, Australia, Belgium, Germany or the USA are the typical representants.

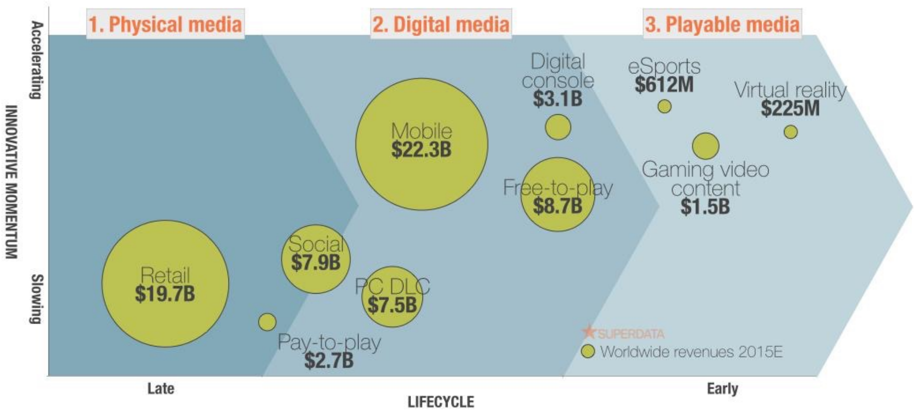
Higher social/casual penetration and lower total video games revenue growth

This category contains also mainly mature markets. The growth is there quite rapid (Singapore) but for example in the Mexico or Spain there are economical limits (economic crisis).

Lower social/casual penetration and higher total video games revenue growth

This category is specific, because there is a strong performance in the traditional sector and due to it there is the growth. In these countries, the more available are console games the higher revue there is. Brazil is the typical example, Egypt or South Korea (dominated by PC game revenue) also belong in here. (PwC, 2016)

Scheme No. 6 – Playable Media Lifecycle (amount in billion dollars)

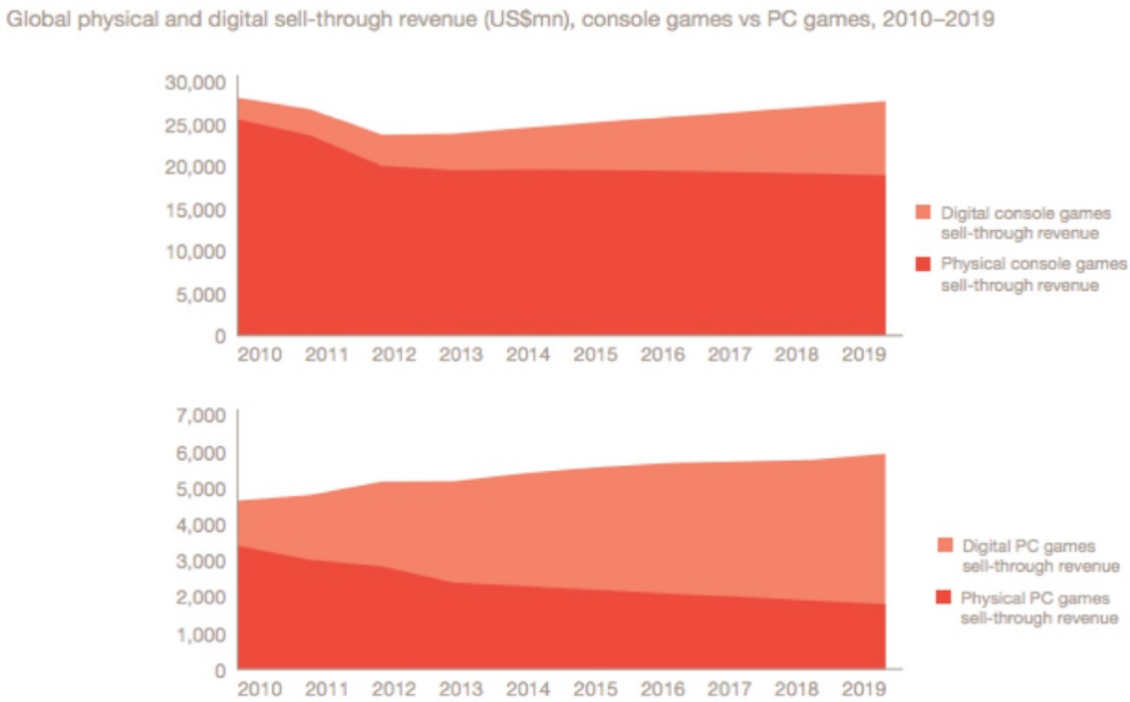


Source: Superdata (2016)

The gaming market became a mainstream nowadays. And with it comes a lot of opportunities in terms of marketing, such as merchandising. Gaming is not any more just about the core gaming but also about the cosplay, competitive gaming, clothing etc. The interactive media appropriated the new term that is called playable media, it means how the new media form the invite and the structure of the play. According to the estimations for the year 2015 from SuperData Research the mobile scene has to earn the most with 22.3 Billion Dollars and it is accelerating quite rapidly, right after there is the retail that is still relevant with its 19.7 Billion Dollars but slowing the most. The playable media is quite new, but it will definitely be a strong factor in the future. The most The chart shows the lifecycle of gaming media in general The early adopters are playable media and the late adopters are physical media. (Superdataresearch.com, 2016)

The PwC analysis predictions just confirms the fact that retail and the physical console market retain its resilience. But it is important to mention that this does not include the physical PC games market, which is in the strong decline in a contrary to the digital PC games market. (PwC, 2016)

Scheme No. 7: Physical and Digital Console Market (amount in million dollars)

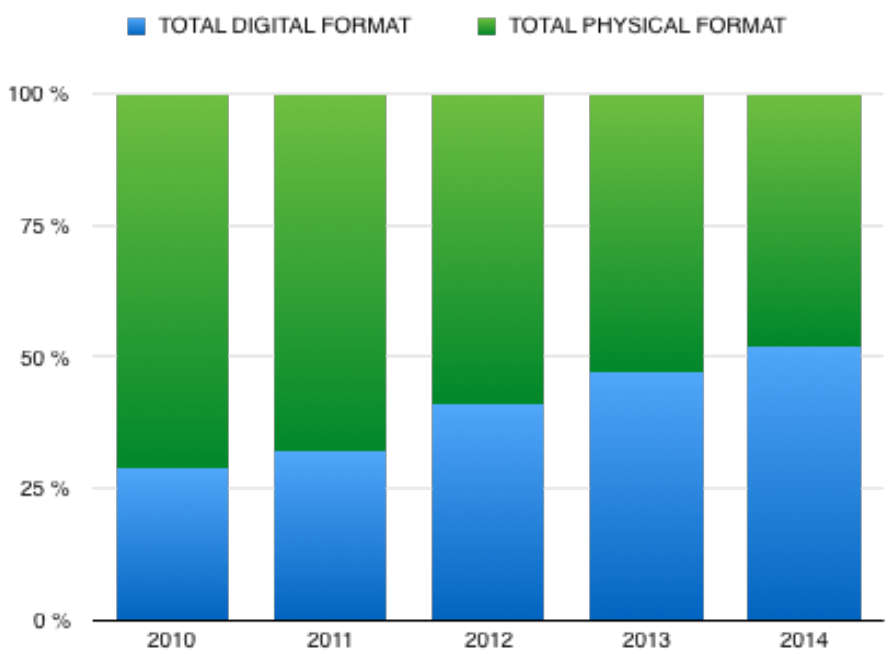


Source: PwC (2016)

4.2.Retail Business Model

Retail Business model is still the most used sales channel and though it is also historically the oldest way of a distribution video games. This model is based on software distributed by physical carriers, DVD’s and BD’s mainly. One of the most important reasons why the retail channel is so popular is that video games (mainly hardcore video games) are voluminous (8GB-25GB generally) and it is faster to distribute it by this way. Retail is mainly practiced in specialized shops with professional shop assistants which can help in a case of need. The next factor that can also play a significant role in the reason why to buy the video game physically is that the buyer gets the purchase materially and prefers it because it make him or she to feel better (it is a psychological factor). For some people the video game that is sold physically is a valuable item or it can be even a part of the collection of the buyer. Retail Business model is more expensive for distributors and publishers because there are more segments between the distribution and the end-customer and the revenue is also smaller because of various fees during the whole chain. (Cashman, 2013)

Graph No. 5 – Digital and Physical Sales Information (amount in %)



Source: own illustration according to the NPD, Group/Games Market Dynamics, U.S (2016)

4.3.Digital Business models

There are many ways of e-commerce in a gaming industry. The most significant e-commerce tools are spread mainly in the MMOG's.

4.3.1. Subscription-based video games

This type of an e-commerce stream is typical mainly for MMOPRG's and AAA games. The subscription-based video game is a game where a player must pay a subscription price to have access. There are 2 tactics that can be used. The first tactic is based on the elementary vide game that is sold and than it is needed to pay each month at official servers. It is sometimes called multiplayer subscription. The advantage of this type of a subscription is that it eliminates a lot the possibility of a piracy. The disadvantage is that the game has to bee really quality because it will not otherwise solve the revenue side of a game. The second possibility is to arrange the subscription for the specific game platform and let users to play what they want from the selected offer plus sometimes there are also another services included. This type of a stream is also often accompanied by another 2 types of e-commerce tools. The first one is called in-game purchase and the second is downloadable content (DLC). (Takahashi, 2014)

In-game purchase

It is a possibility of purchasing items in real-world money or in the game currency that have been earned or bought. This is not just a tool subscription but also the way by which free-to-play games gain revenues. These revenues mainly provide incentives for developers to work on updates often or frequently, it also means to expand options of the play as well as the products that are available. Some game players can see the disadvantage of this form of e-commerce, because in fact, it officially easier the game, when a player buy level-up or a good weapon. On the other hand, virtual goods have been sold also before but not officially, on the black market through auction sites. So this is the way how to eliminate this behavior and gain some revenue as a model in a subscription tool or as the main revenue in free-to-play games. (Techopedia.com, 2016)

Downloadable content (DLC)

Downloadable content is video game extra content that is downloadable on the internet. It might be distributed by the third party content producer or by the official producer of the game. This content usually add enhancements or completes the video game's features. Among the fact that DLC is mainly used for gaining revenues, it also works as a good retention of users. It is easier to give even richer experience of the game to players. The first game that used the DLC model was Total Annihilation. The game offered additional free new scenarios maps or units. Among the 3 typical classes of DLC belong Customization of items, Season Pass and Extra Media Storage. The customization of items offers for example an enhancement or personalization packs (outfits, aesthetic changes), objects (weapons, coins), levels (extra map, locations), new scenarios, new characters or new game modes. The second class is a season pass, that offers the access to specific bundles of DLC, that is usually framed by the limited period of time. The third type is an extra media storage. This increases the social aspect of the game aspect and allows the player to save and store more shareable content, usually through cloud and saves game replays, game highlights, screen captures or videos. There exist main three types of games that use DLC. The first type is an episodic game that follows the storyline and is structured. Then there is an expendable game which is a game that is extended by new levels for example. The third game type is called the premium game. This type of a game is usually associated with in-app purchases that allows to new or exclusive game content. (Xicota, 2013)

4.3.2. Free to play

Free to play games belong into the one of the newest concepts of monetizing the gaming content. It is mainly implemented in the case of casual games and mainly in the MMO field in the case that there are not subscribers. The whole concept is built on the principle when the player is in the video game that the base for free. The though of the model is that players are motivated to pay smaller fees. There are many types of monetization models. These items are available during the play but are on just in this case. With this purchase there is an availability to get more content that would be normally available after some time. There are also cases that enable to do the selling between customers and then the administrator gets a provision from these transactions.

Freemium

Freemium model is often seen as a classical free-to-play model with micro transactions. This type of a model is more aggressive approach when the player is under a pressure. Players are more pushed to spend money, this is based on the fact that the design of the game stimulates players to purchase virtual goods or extensions of the game. This mainly happens during the game pause or when the locations, items and characters are not accessible. So the player is artificially pushed to spend money for the premium content to use the possibilities of a game maximally.

Pay once and play

It is almost an alternative to freemium. This type of an ecommerce tool is mainly used in the mobile gaming app through iTunes or Google Play. (Yi, 2016),

4.3.3. Advertisement

Advertising belongs to one of the most usable models in the terms of offering the media content for free in video games. It is quite a long practice in a gaming industry and methods have been integrated to advertise products. There are three main methods by which it is possible to do the advertising in a gaming.

- ***product placement***

Product placement or more specifically in this situation in-game advertising (IGA) is an advertising in video games. Players of video games are an ideal demographic target for advertising. They are not just more engaged with the content but also susceptible. Among the most of used in-game ads and best practices belong selective ads that viewer is allowed to choose from the selection of ads. The next are incentivized ads that are in a format of a video and users watch it in exchange for in-game value. Third is Pre-game, Mid-game or Post-game practice where the ads are incorporated in the game and nor around the border as usual. The last but not least is Ad Gating that is a commonly used practice where a player watch the ad before he/she continues in a game. (Bowen, 2016)

- ***through the line advertising (TTL)***

TTL advertising is quite a rare form of the e-commerce model. It involves the use of URL hyperlinks in the game to suborn players to visit a webpage with the advertisement. This type of a form can be compared to the viral marketing. The URL is a part of the game background and the certain game plot details can be learned by following the link in the name. It is not needed to follow it but it makes the fuller content of the story.

- ***the game is an advertisement***

Advergames or sometimes called ATL games include a promotional software. This type of e-commerce is usually implemented on websites of the company and it provides interactive gaming. The purpose of it is to draw the potential customers to the game and raise the awareness. These games are usually designed for Adobe Flash or some similar multimedia software. (Library, 2016)

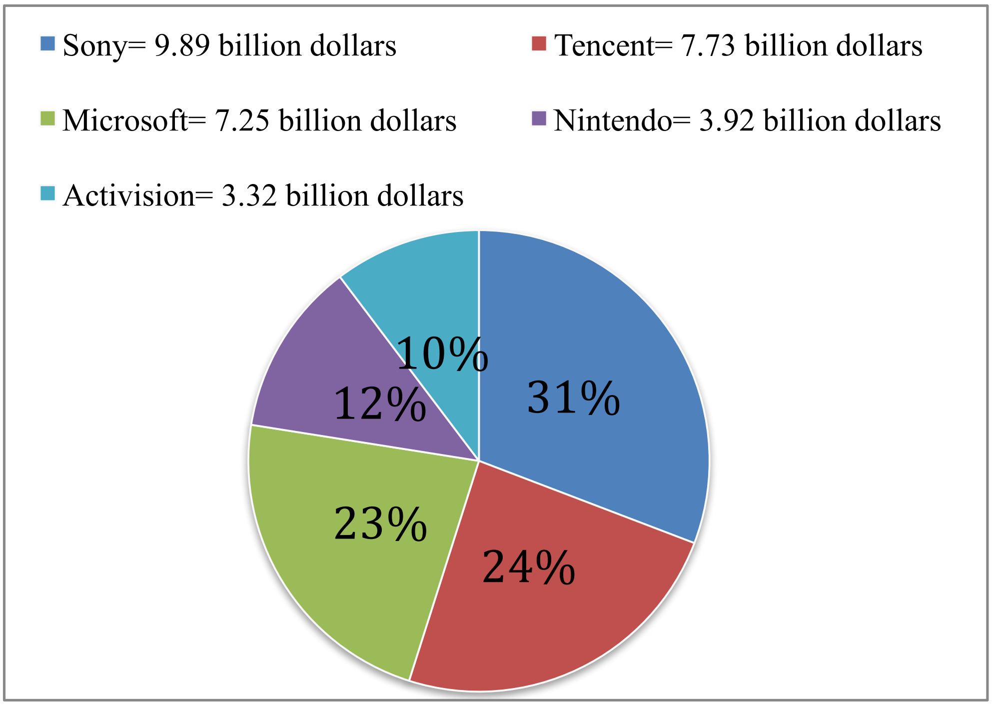
4.4.Comparison of the income from e-commerce and retail channel

This part of a diploma thesis is orientated on the practical view of a point. I analyze the structure of incomes of two of the largest companies in the gaming industry, that is Activision Blizzard. Besides the analyze of the historical and current situations, there is also included correlation analysis and a forecast for next 3 years.

4.4.1. Video game company distribution

The pie chart above shows the percentual distribution among the five most gainful video game companies for the year 2015 (the total revenue of the market is 88.4 billion dollars, but that is not what is considered in this case). Sony Computer Entertainment with its 9.89 billion dollars and 30.8% among the largest distributors is on the first rank. Second is Tencent with 7.73 billion dollars and 24.1% among the top five distributors.

Graph No. 6: Video game company distribution (amount in %)



Source: own illustration according to Statista (2016)

Microsoft is third with 7.25 billion dollars and according to the pie chart it's share is 22.6%. Nintendo Company is fourth in revenues of 3.92 billion dollars and 12.2%. And the last but not least is Activision Blizzard with 3.32 billion dollars and 10.3% among the top five video game companies. The selection of company that I have decided to analyze comes from the fact, that it belong into the top 5 largest companies worldwide and from the all five it is the most " pure video game company for PC " in general. Other companies are mainly conglomerates that mostly cover the market not just with video games but also hardware and other IT goods. The company is called Activision Blizzard and although it positioned the fifth place in the ranking, it is a very significant company in terms of digital revenues.

4.5.Activision Blizzard

Company Information

Activision Blizzard, Inc. belong into the world's most successful independent interactive entertainment companies. Activision Blizzard develops and publishes games such as Skylanders, World of Warcraft, Call of Duty, Starcraft, Diablo or Hearthstone. Activision Blizzard reached over 500 million users across almost every country and it has the largest game network in the world. It is headquartered in Santa Monica, California and it has its operations through the whole world. Activision Blizzard's games are played in 196 countries. It has five operating units. The first one is Blizzard Entertainment that works as a developer, distribution and publishing company. Among it's most iconic games belong World of Warcraft, Startcraft, Heroes of the Storm or Diablo. The company do not develop just for PC's but also for mobile and tablet platforms or consoles. The next operating unit is King Digital Entertainment, that creates the leading interactive entertainment for the mobile platforms. It developed more than 200 mobile games that among the most famous belong Candy Crush, Pet Rescue or Farm Heroes. Media Network is an operating unit that builds on competitive gaming leadership and works by creating new strategies and ways to deliver in-class fan experiences across games, geographies and platforms. The last operating unit is an Activision Blizzard Studios that makes movie and television content based on the library of the intellectual property of Activision Blizzard. (Activision Blizzard, 2015)

4.5.1. Trend of Online Content and Digital Downloads in Activision Blizzard

Activision Blizzard's products are provided by the retail and digital channels. Many of games are sold as DVD's (packaged software products) or are available digitally. Blizzard offers direct digital downloads, downloadable content and also add-ons. The online delivered content is in general offered as one-time free pass. The subscription based services are delivered as Battle.net, which is online gaming service. Digital services are increasing in revenue year by year and Blizzard wants to focus on it. Battle.net is a platform that is used for online gaming, digital rights management and digital distribution. It has been launched in the year 1996 when the Diablo has been released. But the important change came in the year 2009. The platform revamped and offer more possibilities.

4.6.Structure and Analysis of Activision Blizzard Income

This section has to provide a structure and analysis of the digital and retail channels of Activision Blizzard in the years 2010, 2011, 2012, 2013 and 2014. It has to show the impact of digital-online channels. There were three sections by which the revenues are divided. I have included to use in this work just GAAP Net Revenues (more accurately show the performance of a company) by distribution channel.

4.6.1. Structure and Analysis of Activision Blizzard Income in the year 2010

Table No. 4: 2009 revenues (amount in million dollars)

GAAP Net Revenues by Distribution Channel	Amount	% of Total
Retail Channel	2.622	61
Digital Online Channel	1.234	29
Total consolidated GAAP net revenues	4.279	

Source: own illustration, Annual Report Activision Blizzard (2010)

Table No. 5: 2010 revenues (amount in million dollars)

GAAP Net Revenues by Distribution Channel	Amount	% of Total
Retail Channel	2.629	59
Digital Online Channel	1.440	32
Total consolidated GAAP net revenues	4.447	

Source: own illustration, Annual Report Activision Blizzard (2011)

According to the tables above, the retail channel did not change a lot from the year 2009 till the year 2010. But the digital channel increased in the comparison with the retail channel where the increase change less visible. The revenues in a digital channel include downloadable content and games, MMO subscriptions, value-added services and also social and mobile games.

4.6.2. Structure and Analysis of Activision Blizzard Income in the year 2011

Table No. 6: 2011 revenues (amount in million dollars)

GAAP Net Revenues by Distribution Channel	Amount	% of Total
Retail Channel	2.697	57
Digital Online Channel	1.640	34
Total consolidated GAAP net revenues	4.755	

Source: own illustration, Annual Report Activision Blizzard (2012)

Internet provided large opportunities for publishers and service providers. Activision had in the year 2011 around 50 million monthly average users across all franchises. Over 3 years Activision Blizzard moved from the traditional video game publisher to a leading digital entertainment one. Revenues from the year 2011 reached 1.6 million dollars in digital channels (it was 34% of the company's total net revenue). Year 2011 has showed that digital revenues have became an increasingly important part of Activision Blizzard's business and because if it the development and focus on new products of digital channels increased. Activision Blizzard defined digital channels in the year 2011 on revenues from subscriptions and memberships, digitally distributed products, licensing royalties, downloadable content, value-added services and wireless devices. By the end of December 31, 2011 the sales through the digital channel increased by 200 million dollars in a comparison to the year 2010. The increase in net revenues from digital channels was caused mainly because of the expansion of digital downloadable content packs, higher number of full game downloads. The largest influence on revenues from digital channels had Call of Duty: Black Ops video game and its strong performance. As we can see in the table above retail channels gained a slight increase, it was 2.697 million dollars. That in comparison with the previous year is a small change. Digital online channels gained on the other hand 1.640 dollars. This number is in comparison with the year 2010 higher.

4.6.3. Structure and Analysis of Activision Blizzard Income in the year 2012

Table No. 7: 2012 revenues (amount in million dollars)

GAAP Net Revenues by Distribution Channel	Amount	% of Total
Retail Channel	3.013	62
Digital Online Channel	1.537	32
Total consolidated GAAP net revenues	4.856	

Source: own illustration, Annual Report Activision Blizzard (2013)

Activision Blizzard continued to invest into the platform Battle.net. The year 2012 brought more than 42.9 million users of Battle.net. It also became number one as the third party interactive entertainment among western digital publishers. GAAP net revenues exceeded 1.5 million dollars in digital channels (32% of the total Activision Blizzard's net revenues). The year 2012 brought interesting data. Because by the end od December 31, 2012 digital online channel revenues decreased in comparison with the year 2011. This decrease might have been caused by a bad timing of the releases of video games. Interesting is, that the retail channels revenue increased on the other hand and it was caused by the release of video game Skylanders

4.6.4. Structure and Analysis of Activision Blizzard Income in the year 2013

Table No. 8: 2013 revenues (amount in million dollars)

GAAP Net Revenues by Distribution Channel	Amount	% of Total
Retail Channel	2.701	59
Digital Online Channel	1.559	34
Total consolidated GAAP net revenues	4.583	

Source: own illustration, Annual Report Activision Blizzard (2014)

The table above shows that the revenues from the digital online channels in the year 2013 increase to 1.559 million dollars (revenues from the digital channels represent 34% of all consolidated net revenues). The increase had been caused mainly by Call of Duty: Black Ops II and its downloadable content (such as micro-downloadable content or downloadable content packs that enable to personalize the game experience). In contrary the retail channel revenues decreased on 2.701 million dollars.

4.6.5. Structure and Analysis of Activision Blizzard Income in the year 2014

Table No. 9: 2014 revenues (amount in million dollars)

GAAP Net Revenues by Distribution Channel	Amount	% of Total
Retail Channel	2.104	48
Digital Online Channel	1.897	43
Total consolidated GAAP net revenues	4.408	

Source: own illustration, Annual Report Activision Blizzard (2015)

By the end of the year 2014 the increase of digital online revenues changed by 338 thousand dollars in plus (the revenue from digital online channels represented 43% of total net revenues). The retail channel has been still decreasing and sales were 2.104 million dollars in the year 2014. The important influences that increased the sales in a digital gaming were increased consumer purchases of the video games and increased mobile gaming revenues (Hearthstone: Heroes of Warcraft). (Activision Blizzard, 2015)

4.7.The Correlation and Trend Analysis

This part of a work approves or disapprove my hypotheses:

"Total revenues of Activision Blizzard are influenced by digital online channel''

"Expansion of digital channels influence the retail channel in Activision Blizzard''

These hypotheses are more specific than my goal hypotheses are because I cannot cover the whole gaming market. On the other hand Activision Blizzard is one of the video game companies that has a large influence on trends. So according to my results I can at least predict some trends that might be useful. As my methodology tools I have used Gretl, Microsoft Excel and Microsoft Word.

Table No. 10: Revenues, observed data (amount in million dollars)

year	digital online channel	retail channel	total revenues
2009	1.234	2.622	4.279
2010	1.440	2.629	4.447
2011	1.640	2.697	4.755
2012	1.537	3.013	4.856
2013	1.559	2.701	4.583
2014	1.897	2.104	4.408

Source: own illustration, Annual Report Activision Blizzard (2015)

The table above shows annual revenues of digital online channel retail channel and total net revenues of Activision Blizzard. There are 6 observations because the trend of digital online channel is quite new and the year 2009 officially began this digital era in the Activision Blizzard with.

4.8.Analysis

Table No. 11: Statistical Data (amount in million dollars)

	Digital-Online Channel	Retail Channel	Total
Mean	1.551	2.627	4.554
Median	1.548	2.663	4.515
Minimum	1.234	2.104	4.279
Maximum	1.897	3.013	4.856
Variance	0.048	0.086	0.048
Standard Deviation	0.219	0.294	0.219

Source: own illustration, Gretl

The table above shows basic statistical results, that had been summarized from observation data. Digital-Online Channel will be described first. The mean is 1.551 million dollars, it shows the average of the revenue flow between the year 2009 and 2014. The median is 1.548 million dollars and it shows the most frequent revenue number that is 1.548. The minimum of revenues for Digital-Online Channel is 1.234 million dollars that is the lowest revenue between the selected years and the maximum is 1.897 million dollars which is the highest revenue in selected years. Variance is a spread measurement that shows the distance between data. In the case of this channel it is 0.048 million dollars. The standard deviation shows how much the data are distant from the mean value and it is 0.219 million dollars in this case. Retail channel has higher mean and median that Digital-Online channel. Mean is 2.627 million dollars and median is 2.663 million dollars. The minimal revenue for this channel through selected years is 2.104 million dollars. The maximal revenue through the years 2009-2010 is 3.013 million dollars. The distance between each data is 0.086 and the data in general are distant from the mean value by 0.294 million dollars. The total revenue mean is 4.554 million dollars and median almost similar. The lowest revenue in the selected years is 4.279 million dollars and the highest are 4.856 million dollars. The spread variance from each data is 0.048 million dollars and the standard deviation is 0.219.

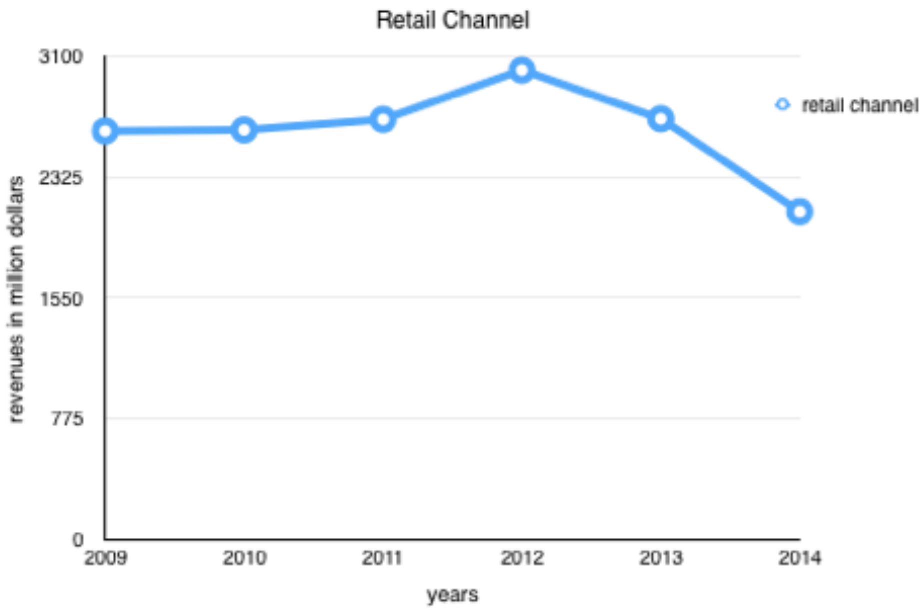
4.8.1. Elementary Analysis

Graph No. 7: Digital Online Channel

Source: own illustration, Excel

Digital Online Channel has an increasing trend according to the chart above. The year 2009 started quite sharp increase. Then the year 2012 started stagnating and decreasing. That has been caused by a bad propagation and timing of the video games. The video game industry is very sensitive to the bad timing of the release of a games. In the end, the year 2013 brought again quite strong increase and the tendency stayed till the year 2014.

Graph No. 8: Retail Channel



Source: Own illustration, Excel

Retail channel of Activision Blizzard seems to be in decline. The year 2009 brought more digital possibilities to players but the retail seemed to be still in a slight progress till the year 2011. The year 2012 was a significant year of Activision Blizzard investments into the online platform Battle.net that certainly supported the decrease of the retail channel revenues. This trend continued till the year 2014.

Graph No. 9: Total Channel

Source: own illustration, Excel

Total revenues show that there is a large tendency of extreme leaps. The year 2009 had strong increasing trend till the year 2012, that reached a peak and from the year 2013 there was a large tendency of a decrease. It could be caused by various factors, such as bad timing, bad quality of video games, higher number of competitive video game titles and distributors.

4.8.2. Correlation Analysis

The correlation analysis formulates the coefficient that is used to find how the relationship between data is strong. The result is formulated by a value between -1 and 1, when 1 indicates a strong positive relation, -1 strong negative relation and zero indicates no relation at all.

To calculate it, I used a Gretl and Pearson's correlation coefficient. The formula of it is:

Scheme No. 8: Correlation Analysis formula

$$r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{[n\Sigma x^2 - (\Sigma x)^2][n\Sigma y^2 - (\Sigma y)^2]}}$$

Source: statisticshowto.com

Table No. 12: Correlation coefficients (using the observations 2009-2014, 5% critical value (two-tailed)= 0.8114 for n=6)

Digital_Channel	Retail_Channel	Total	
1.0000	-0.5520	0.2593	**Digital_Channel**
	1.0000	0.6513	**Retail_Channel**
		1.0000	**Total**

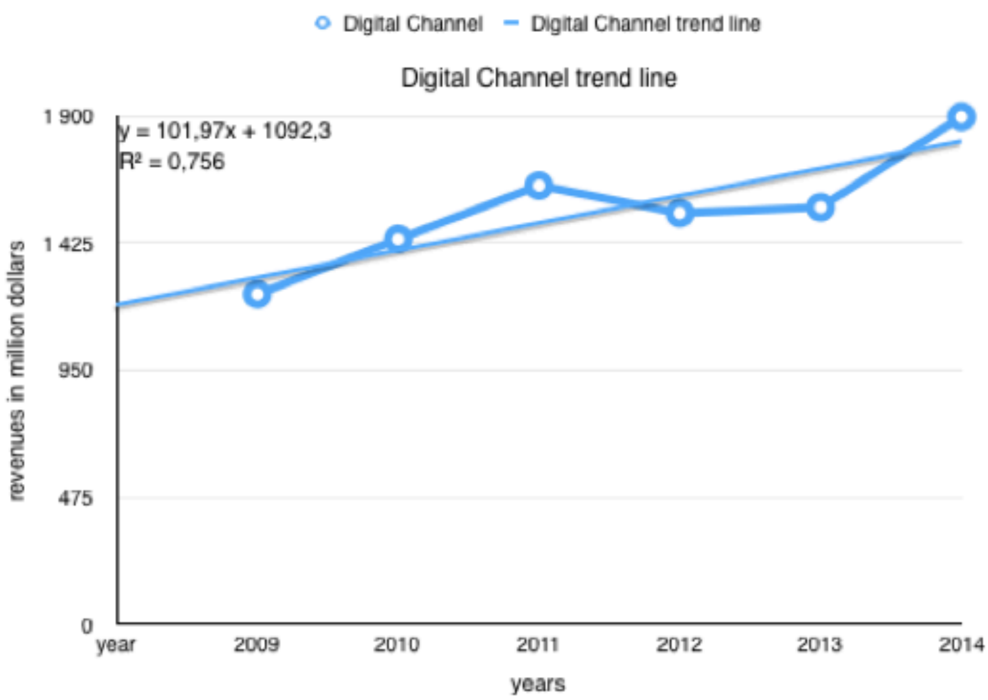
Source: own illustration, Gretl

Firstly, it is important to evaluate whether there are any relations between defined variables. For this purpose, the correlation analysis is used. The correlation calculation indicates mutual tightness of individual indicators, and especially its dependence on each other. variable that shows the dependence of the volume of mortgage loans). Correlation analysis help to determine, whether there is direct or indirect relation, depending on the volume of a revenue. According to the table above, it is obvious that the retail channel is in negative correlation -0.5520 in a relation with a digital channel, it means that the higher are revenues in the retail channel the lower are revenues in a digital channel and reverse. From this point of view, it is possible to confirm the hypotheses that *"Expansion of digital channels influence the retail channel in Activision Blizzard'.'* Total revenues are highly influenced by a positive correlation 0.6513 with a retail channel. It means the higher are sales in retail channel the higher are total revenues. Digital channel on the other hand is neutrally correlated with the total revenue. This is an interesting exploration.

4.8.3. Trend Analysis

Trend Analysis, that had been implemented is a mathematical technique that uses results from previous years to predict the future outcome. According to it's tendencies it is possible to forecast the trend of individual revenue channels in Activision Blizzard. But in general Activision Blizzard strongly influences the whole gaming industry and it may show us how the trend of digital online channels is relevant for the market.

Graph No. 10: Trend Analysis - Digital Online Channel

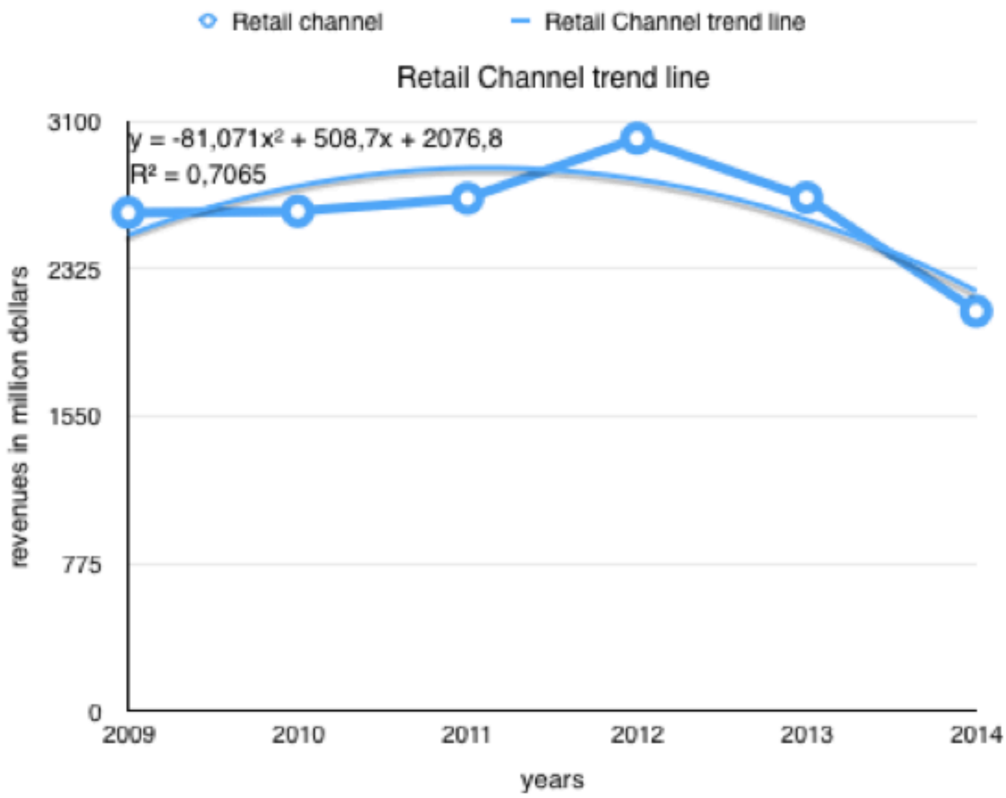


Source: own illustration, Excel

According to the trend function of Digital Channel revenues, the line is increasing. This trend confirms the wright decision of Activision Blizzard to invest, develop and maintain the online distribution. The forecast for the year 2015 is that revenues will be 1.806 million dollars, this is a small decrease tendency but in the following years 2016 and 2017 there is a continual increase trend. The online platform Battle.net is a very important part of the Activision Blizzard strategy, that support the whole concept of online distribution.

Activision plays an important role in setting up the trend in the gaming industry, especially online one because of it's MMORPG genres. From this trend line, it is possible to confirm that the digital revenues are going to play a significant role in a gaming industry. R^2 which is a coefficient of determination shows how well data fit a statistical model. According to the result that is 0.756, it seems that the model is relevant and that data fit well. The model is possible to confirm by the equation y= 101.97x+1092.3.

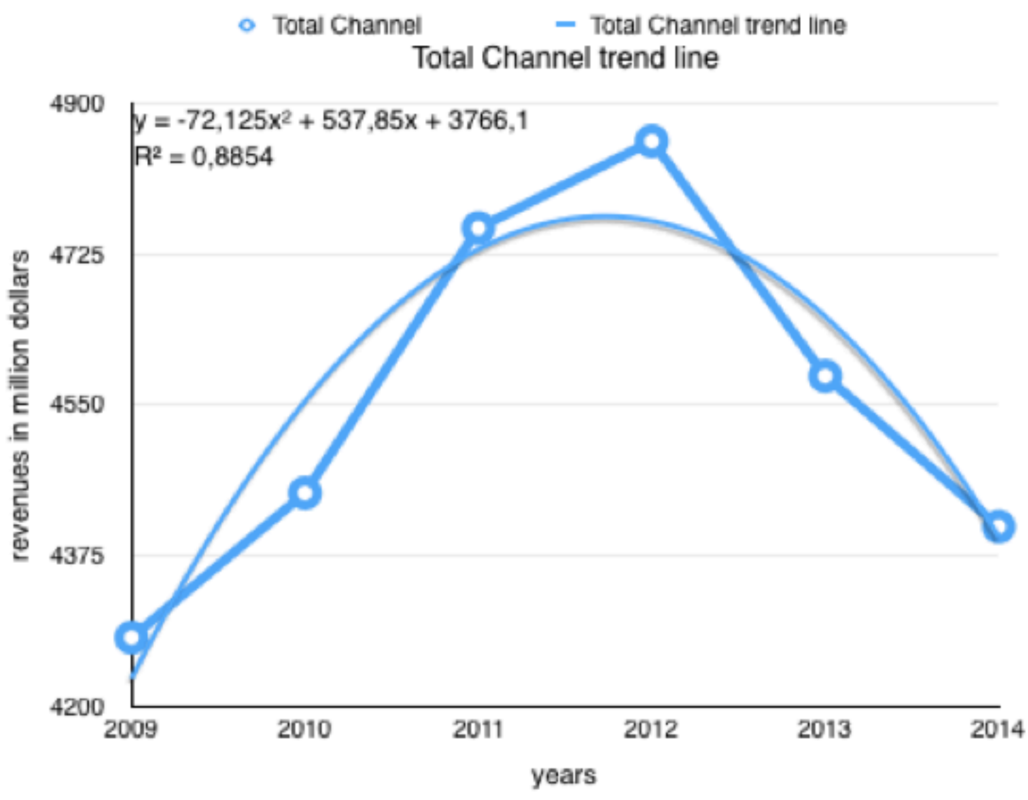
Graph No. 11: Trend Analysis - Retail Channel



Source: own illustration, Excel

Retail channel revenue shows a decreasing trend line in general. The year 2012 has got the highest peak with 3.013 million dollars. Since that year the revenues are continually falling down. The year 2014 seems to got the lowest revenues from the retail channel. According to this forecast, it is possible to determine that retail channel are in a decline at Activision Blizzard. The trend may be implemented on the overall gaming industry market, as was written before Activision Blizzard has a large impact in the gaming industry and its market. It is possible to confirm the hypotheses that " Traditional way of purchasing games is in decline and it is going be threatened by new channels in e-commerce in the future" according to the trend line. R^2 which is a coefficient of determination shows how well data fit a statistical model. According to the result that is 0,7065, it seems that the data are a good fit. The trend line had been chosen polynomial, because data fluctuates and have a larger amount of leaps. That can be caused by the high video game competition, bad timing of video game release or bad quality of the product and of course by a smaller number of observations. The model is possible to confirm by the equation y= -81.071x^2+508.7x+2076.8.

Graph No. 12: Trend Analysis - Total Channel



Source: own illustration, Excel

Total revenues seem to be steadily increasing according to the trend line. The coefficient of determination is 0.8854 that shows a stable model. There had been selected the polynomial trend line because of a lot of leaps and business factors from the threats or weaknesses in the external and internal environment that might caused fluctuations. It is possible to see a lot of extreme ameliorations and diminutions. Till the year 2013 there was an increasing trend. The year 2013 was in the highest peak. Year 2014 had a decreasing trend, that was caused by a decrease in a retail revenue channel. According to the prediction, it seems that the following years should be pleasant in terms of Activision Blizzard's total revenues. The trend line had been chosen polynomial because data fluctuates. The revenues may be influenced by a lot of factors not just from the gaming industry but also by the economy and it's support of the gaming industry, development of new technologies, people or other circumstances. The model is possible to confirm by the equation $y= -72.125x^2+537.85x+3766.1$.

5. Results and Discussion

According to the analysis that has been done, it is possible to draw more possible conclusions and trends that are or will influence the gaming industry and its market. The Analysis part started with trends in a gaming industry, that may influence the whole market. According to what has been found, the year 2016 has to be a year of a virtual reality. Many gaming companies are competing in who will produce a better VR or AR product. In terms of digital distribution and its support, there are many possibilities that are still not used maximally. Advanced technologies and its development offers new channels and ways how to get to a customer or how to effectively use the marketing approaches digitally. Among interesting and used channels belong crowdfunding and crowdsourcing. That is a way how to get an attention of a community or investors and start the marketing and PR campaign. Another way that is very popular and crushes the retail channels are ecommerce platforms to buy games, subscription or DLC's. Among the most famous belong for example Steam that has over 125 million users or GoG. The interesting trend that is worth mentioning is Twitch.tv that is an interactive e-sports channel and it had been already approached by e-commerce channels. The potential of this streaming service is large, because there is larger audience that want to see gaming battles and competitions.

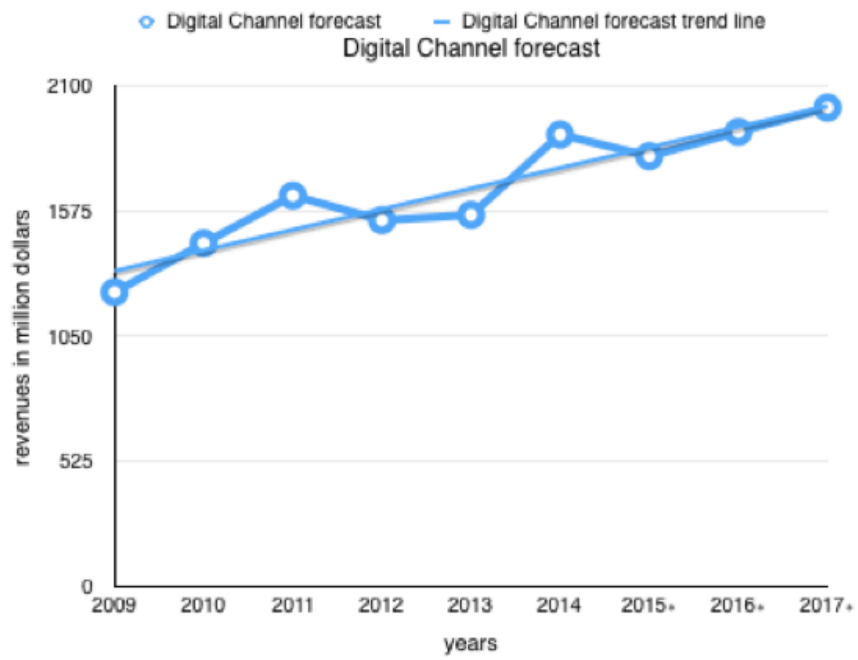
Gaming industry is developing not just in terms of technologies but also by marketing way. The number of people that play or interact in gaming is getting larger and it might also play a relevant role in the economies of countries. The possibilities had been broadened by playing games on mobile and tablet devices. This type of handheld technologies gives a space to develop games that are not time consuming but still enjoyable for customers and efficient for producers. The global trend of video games is to amplify the increasing number of players. This trend is supported by the fact that very populous regions in Asia and Southern America are getting stronger economically. There is also another factor that helps, that is a constant increase of internet availability, that supports especially mobile devices and tablets that are mainly used for casual gaming. The casual gaming is on rise and it will definitely be and nowadays is an efficient business model of ecommerce in gaming. On the contrary hardcore games are stagnating, maybe more in decline, because of it's consummation of a time. The general analysis of retail and digital channel shows that digital channels are getting stronger and it is a way where the companies should lead. The retail channel is still the cornerstone but it is not a vision of a future. To compare retail and digital channels practically, retail and it's distribution of games is obsolete and not efficient way that also covers more fees and time then to sell video games digitally. On the other hand, the retail distribution still has the collective symbolic reason for the buyer and this fact should not be neglected. Future prognosis for the gaming industry are very pleasant according to analysis that I have mentioned in my work. I have done the comparison of the digital and retail model and the results were quite predictable. Activision Blizzard belongs to one of the largest companies that have a large influence in the gaming industry and community in general.

Table No. 13: Digital Revenues forecasted data (amount in millions)

year	**digital online channel**
2009	1.234
2010	1.440
2011	1.640
2012	1.537
2013	1.559
2014	1.897
2015*	1.806
2016*	1.908
2017*	2.010

Source: own illustration, Excel

Graph No. 13: Digital Online Channel forecast



Source: own illustration, Excel

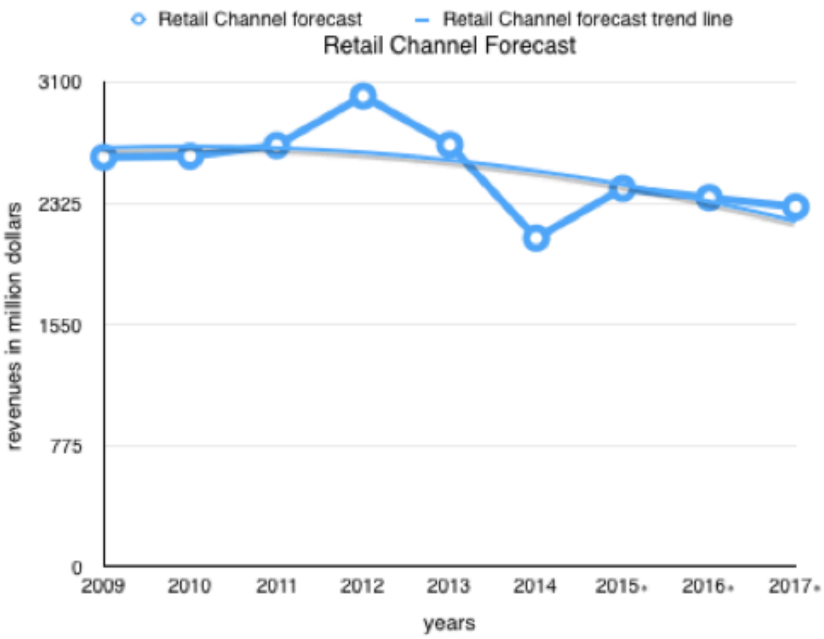
The results show obviously that the trend of digital distribution is increasing. According to the analysis of future forecast that I have done for 3 years it is possible to see that digital online channel has an increasing tendency in the forecasted years and it is relevant to emphasize that digital channel will have a strong influence on Activision Blizzard's revenues. This is confirmed by the strong coefficient of determination model where I have implemented the linear trend model.

Table No. 14: Retail Revenues forecasted data (amount in millions)

year	retail channel
2009	2.622
2010	2.629
2011	2.697
2012	3.013
2013	2.701
2014	2.104
2015*	2.422
2016*	2.363
2017*	2.304

Source: own illustration, Excel

Graph No. 14 – Retail Channel forecast



Source: own illustration, Excel

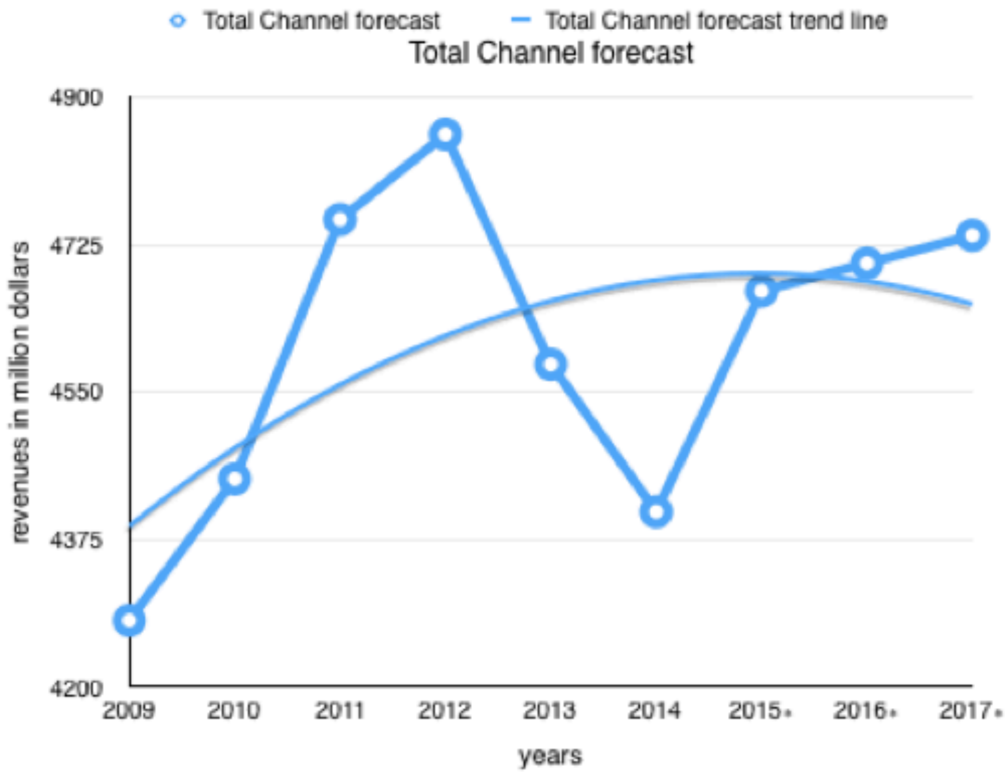
The second model that I have done the forecast for is not as stable as the model of digital revenues. The retail channel model has quite strong coefficient of determination. It is also possible to confirm that with the more possibilities of e-commerce and online channels the retail distribution is going to weaken.

Table No. 15: Total Revenues, forecasted data (amount in millions)

year	total revenues
2009	4.279
2010	4.447
2011	4.755
2012	4.856
2013	4.583
2014	4.408
2015*	4.670
2016*	4.703
2017*	4.736

Source: own illustration, Excel

Graph No. 15: Total Channel forecast



Source: own illustration, Excel

The model of total revenues seems to be fluctuating. It might be caused by a lot of factors in the gaming industry such as competition, bad timing of release or bad quality of games. There is also a large influence of the rise of digital revenues and transformation of the retail and digital channel that might caused these large leaps. The next thing is that there is a lack of observables for data. The trend of digital revenue is quite new so it was not possible to use data older than in the year 2009 unfortunately. Although all these factors the trend line seems to be increasing.

6. Conclusion

This diploma thesis focuses on the analysis of e-commerce and digital channels in a relatively young market of gaming industry. Besides the main analysis, the diploma thesis is also determined to introduce to a reader the complex economic, social and technological issues of the field in order to educate and show the context of the analyzed model afterwards. The results have shown that retail channels are in decline or used as a support platform that will disappear after some time. Digital channels are steadily increasing. It was interesting to observe that according to the correlation analysis the retail channel has shown quite a high interaction with the total revenues. This phenomenon can be explained by the fact that the retail distribution still works very well. But the more affordable the gaming hardware and the internet become the more the digital channels are going to be used and spread. The correlation analysis has also shown that there is a negative interaction between retail and the digital channel. This means that the higher are the revenues in the retail channel the lower are the revenues in a digital channel and vice versa. Based on these findings it would be appropriate to consider a possibility of bringing the digital channels to the gaming industry and business and trying to take advantage of it. In summary, this Thesis shows and explains the various factors that influence the gaming industry and e-commerce channels. The gaming industry and e-commerce field are quite a young market and because of this fact there was a problem to find the necessary and relevant data. It is important to take this into account. On the other hand, the available data were sufficient to predict various trends for my hypotheses.

7. Glossary

AAA Video game	hardcore video game possessing high budget, high production values and a large number of developers
Casual	a designation for casual players
Hardcore	a designation for games that are more difficult and time consuming
Indie	a shortcut of the term independent
Mainstream	cultural designation of a media generally, addressed to the large majority of consumers
MMORPG Genre	shortcut for massively multiplayer online role-playing game
Motion Capture	the process of recording the movement of a real object and its converting to a digital model
Multiplayer	more players simultaneously within a single gaming experience that requires a connection via local network or the Internet
Quest	the act or an instance of looking for or seeking
Retail	retail sales of physical goods to the final consumer.
Singleplayer	game for one player
Streaming	technology of continuous transmission of audiovisual material between the source and the end user (typically on the Internet).
Youtuber	people or groups who are popular because of their videos on YouTube.

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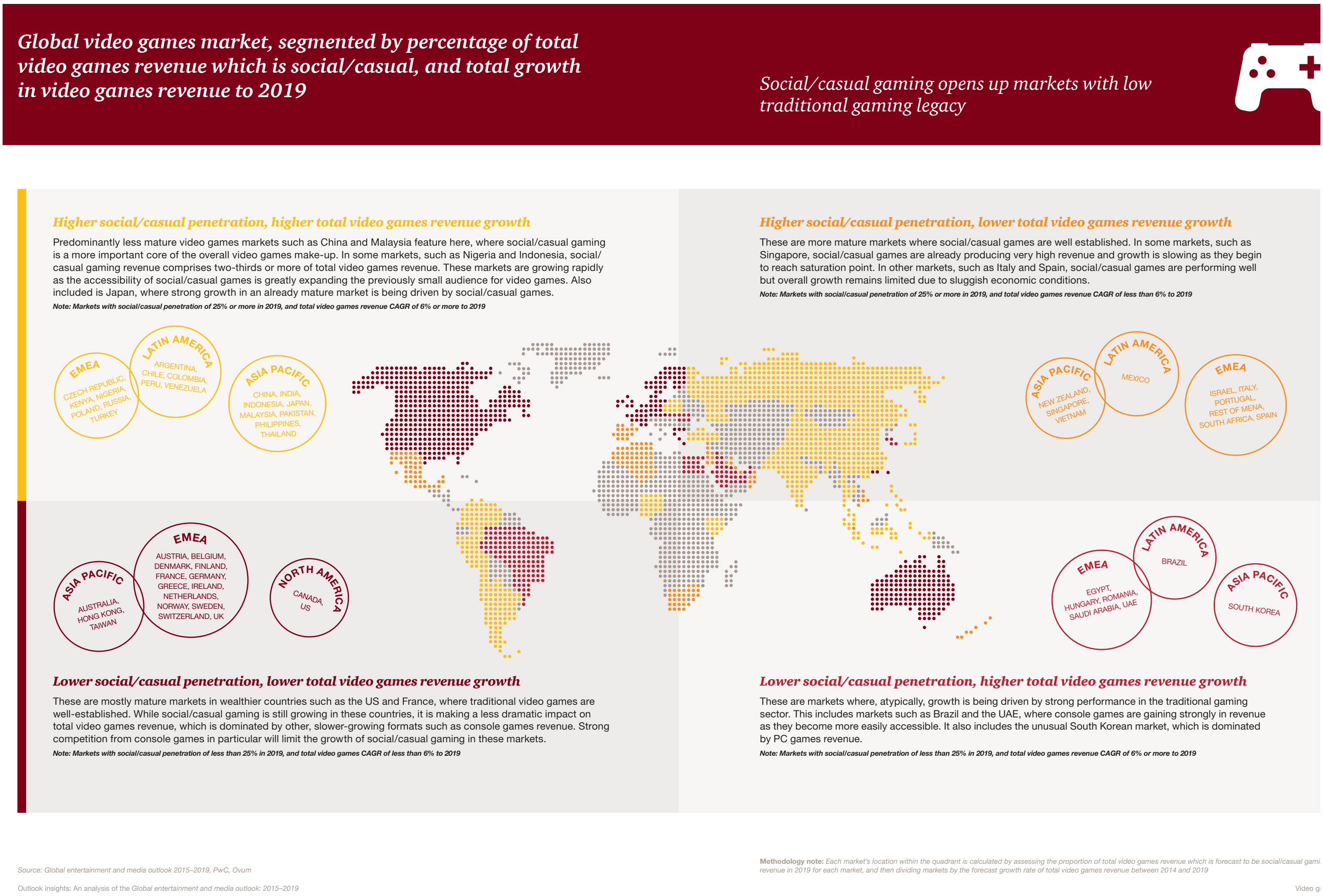
7. Appendix

7.1. Appendix No. 1 Video games by growth and scale



7.2. Appendix No. 2 Global games market by segment