



Sławomir Kamosiński¹

Birth and development of the computer game industry in Poland. Analysis of selected cases

Abstract

The first computer game appeared in the period of the People's Republic of Poland in Wrocław in 1962 (or 1963). Then, commercial projects, appeared in the 1980s. Among them there was first adventure game produced in 1986. In the times of the People's Republic manufacturers of computer games were not treated as professional entrepreneurs.

The beginnings of the professionally operating computer games industry in Poland can be found at the end of the 1980s. It was related to the popularization of imported personal computers. The first companies representing that sector were set up by some enthusiasts importing computer games for their own needs mainly from the USA. Players analyzed the construction of the games, learned the programming language and attempted to write their own games by themselves and for themselves. They also traded their products on small local markets.

After nearly 30 years since the first company was established, acting professionally in the field of computer games and software, one can observe a real progress. Polish companies achieved global success. The main research problem in finding the sources of the success and recreation of the path the sector went through, beginning from amateur activities to thorough professionalization. It should be looked into what impact on that sector of industry had the political situation in Poland in 1989, including the bankruptcy of communism and development of the free market and openness of the economy on the global markets. A product of this industry ages slowly.

Key words: computer games industry, global market of computer games' products, product innovation

¹ Dr hab. Sławomir Kamosiński, prof. UKW, Instytut Prawa i Ekonomii Uniwersytetu Kazimierza Wielkiego w Bydgoszczy, ul. Wyszenhoffa 11, 85-072 Bydgoszcz, e-mail: slawomirkamosinski@ukw.edu.pl, ORCID: 0000-0001-9314-4991.

Introduction

The computer as a completely new product, similar to semiconductors, appeared in the USA in the 1940s. However, due to their size and low efficiency, compared to contemporary computers, they were not placed on the mass market. The original version of a computer was improved over many years. The modernization process was accelerated by the invention of the microprocessor in the 1960s. Owing to that, its technical capabilities increased, size decreased and, as a result, the prices lowered. As a result, computers became commonly available products (Gomułka 1998: 21).

According to the information on Wikipedia, the first computer game was created by accident in the USA in 1947. Its authors were Thomas A. Goldsmith and Estle Ray. They designed an analogue simulator of the missile Cathode-Ray Tube Amusement Device (Krok 2016: 49). The simulator was undoubtedly an innovation for which, however, no practical application was found. Since customers were not ready to accept such a product, its authors could find no way to commercialize it. The product was perceived as “commercially unattractive”. A change in customers’ approach towards such offers occurred in the 1970s², due to the popularization of TV and the appearance on the market of the first personal computers. So it took 30 years to commercialize the industry² (Gomułka 1998: 42).

The popularization of the computer was followed by a search for new applications of the device. Professor Stanisław Gomułka, analysing the innovation, observed that ‘...after introducing a new product to the market, the search begins on how to apply the product and how to improve it, in order to shift the demand function upward’ (Gomułka 1998: 42). Fulfilment of the above conditions resulted in the computer becoming a product of entertainment, besides its being a practical tool to facilitate human work. And here the origin of computer games is to be seen. Products of this segment turned out to be commercially effective under-

² Computer games and the emerging computer games’ industry closely resemble the discovery of print in China before the Common Era. Similarly, no practical application was found for that innovation and thus it was categorized as useless. Secondary innovation of print in 15th century by Gutenberg resulted from the need arising in relation to an intellectual breakthrough. At those times the industrial print of books was by that time necessary. In my opinion, computer games, perceived as a product of the computer game industry, went through a similar path: from a product unimportant to customers, to a professionally organized industry offering technologically advanced products to the general public.

takings. One of the characteristics of the computer game industry is the fact that entrepreneurs observe and quite eagerly absorb all changes implemented by the manufacturers of computers and other electronic devices used for playing, such as mobile phones. Use of the Internet for distribution of computer games increased their attractiveness and availability to customers. As a result, in the contemporary world computer games have become a part of the fabric of reality. They accompany many people every day. Competition between players has assumed a professional character and accelerated the development of a discipline which may be called “e-sport”.

The development of the computer game industry on a global scale is, in my opinion, enhanced by, what is observed by D. de Kerckhove: ‘In our life we are accompanied by three screens, based on which objective imagination is developed: a TV screen, which is collective, a computer screen (although in the web), which is private and personalized, and mobile phone screen, which is fully connective’ (Milczka-Pajestka 2013: 153). Three screens were used by the authors of computer games to provide contemporary customers with another form of entertainment, whilst the Internet allowed the users to benefit from the product in virtual space. The above observations allow us to state that a user of computer games is attracted by the fact that on one of the screens- of a computer, TV set or telephone- he or she may create their own world, play characters and express their emotions. The global gaming industry has created a product that became a part of mass culture, such as books, films and music. A computer game is by many considered a masterpiece of contemporary art that combines picture, sound and text, and that evokes emotions and provokes thoughts and reflections. This process is now irreversible, the more so now that the number of gamers is constantly growing.

The paper aims to present, using the example of selected companies, how the computer games industry was born and developed in Poland. The author defines the reasons for the dynamic development of this sector of economy that, entering the phase of professional production, saw a chance to compete on the global markets. According to its economic performance, the adopted strategy was right. Considering the above, the author raises the research questions: did the sector make effective use of the trust of investors that guaranteed access to capital and did it create a fashion for its own products so one can speak of consolidation of the product brand? The following text consists of two parts. In the first one, covering the times of the People's Republic of Poland, the so-called “pioneer period” is discussed, concerning the production of computers and

computer games. In the second part, covering the period after 1989, the path to the professionalization of the industry is presented, based on the examples of selected companies.

Pioneer era in the People's Republic of Poland

The foundation for the Polish computer game industry was laid by the history of Polish IT, related mainly to manufacture of computers (at the start called mathematical machines). The first talks in Poland on constructing electronic calculating machines were taken up in Warsaw on 23 December 1948 on the premises of Experimental Physics, thanks to the initiative of Professor Kazimierz Kuratowski. He was a founder of the State Mathematical Institute where the machines were initially constructed (Hołyński 2017: 39). The American device ENIAC, containing over 18,000 electronic tubes, served as a model. Researchers of that period claim: 'The courage to deal with such a serious task demonstrated by a group of constructors vegetating thanks to American parcels from UNRRA and appearing at the December meeting in torn shoes is really respectable' (Hołyński 2017: 39). The first calculating machine in Poland was constructed in 1953. It consisted of 400 electronic tubes and solved systems of differential equations. The next one, called EMAL, was constructed in 1953–1955. It consisted of 1,000 electronic tubes and worked on an incorporated ultrasonic delay line (Hołyński 2017: 41). In 1958 the first properly operating digital machine was launched, named XYZ. Its logical organization was modelled on IBM 701 architecture (Hołyński 2017: 42). The XYZ Computer consisted of 4,000 electronic tubes and 2,000 diodes. That was first calculating machine that had a practical application.

The next stage of development of the industrial production of computers in Poland was the serial production of Odra 1300 computers, commenced in 1970. Another serial production was started in 1984 (PC Mazovia). The latter had similar parameters to the then IBM computers (Hołyński 2017: 52). In 1986 schools were equipped with the national product Elwro 800 Junior. There were over 10,000 units manufactured.

It must be pointed out herein that all computers manufactured in Poland before 1989 were constructed independently. Although the development of the industry in the USA was closely followed, there was no chance to purchase any license on the equipment. During the whole period of the Cold War, in western part of Europe and in the USA an embar-

go on modern technology sales to communist states was in force, which also covered computer industry.

The hold-up of communist countries in the technological race can be illustrated by this example: the manufacture of first generation computers was started in the USA in 1946, whilst in the USSR in 1952 (6 years later). Second generation computers appeared in the USA in 1957, but in the USSR in 1961 (with a 4-year delay). Third generation computers were manufactured in the USA in 1965, but in the USSR in 1972 (delayed 7 years) (Kulisiewicz 2017: 59).

Table 1. Average technical set-back between computer generations: USA vs. USSR

Tabela 1. Średnie opóźnienie techniczne między generacjami komputerów USA i ZSRR

Commencement of production – year	First generation computers	Second generation computers	Third generation computers
USA	1946	1957	1965
USSR	1952	1961	1972
set-back in years	6	4	7

Source: T. Kulisiewicz, *Własne konstrukcje, licencje, klony {Own constructions, licenses and clones}* [in:] *Polska informatyka: wizje i trudne początki*, ed. by M. Noga, J.S. Nowak, Warsaw 2017, p. 59.

Production of indigenous, independent computers in Poland was naturally followed by the emergence of the first computer games. The first computer game in the era of the People's Republic was written in Wrocław in 1962 or 1963. Witold Podgórski, employed in Wrocław Electronic Manufacture Elwro designed a logical game for the Odra 1003 computer, entitled Marienbad. The rules of the game were as follows: a computer generated four rows of matches. A game player and a computer in turns removed one match each. The one who remained with one last match - lost. That game never achieved popularity. Similarly to the situation taking place in the USA fifteen years earlier - the game was not commercialized. It constituted just an example of "another" application of the computer. The game's author just proved that the device could also be used for entertainment (Michalik, on-line).

The ensuing phase of the production of computer games in the People's Republic of Poland took place in 1984 and was a consequence of the popularization of personal computers. Tic-tac-toe game, called OIX, was drawn up by Jarosław Cichocki. The game was of logical character and was adapted to the ZX Spectrum computer. A similar one was the game Gąsienica (Caterpillar) of 1985, designed by Marek Cichocki (Michalik, on-line).

Games based on stories, so-called “adventure games”, first appeared in Poland in 1986. The first one was Pandora’s Box, made for the ZX Spectrum. It was created by Marcin Borkowski. In that game a player read a description of what he or she saw and had to write instructions corresponding to what he/she wanted to do.

In 1987 two educational games in the style of economic games appeared entitled Black Thursday and Foreign Trade. They were designed by Wiesława and Cezary Waśniewscy from Rabbit Software (Michalik, on-line).

Experts on the subject of the computer game industry suggest that the pioneer period of development of computer games in the era of the People's Republic ended with the creation of Brainprocessor game, designed at Computer Adventure Studio from Bochnia (Michalik, on-line).

Sector of computer games' manufacture in Poland after 1989

The birth and development of a professionally operating computer games industry in Poland after 1989 was affected by certain political factors. Of major importance was the Act of 23 December 1988 on economic activity, adopted by the Parliament of the People's Republic. It stated that "what was not prohibited in economic activity, was actually permitted". In August 1989 the first non-communist government was established in Poland with Tadeusz Mazowiecki as PM. The government decided to implement some reforms that restored democracy and a free market, including ownership transformations in the Polish economy. Privatization of state-owned enterprises carried out in Poland after 1990 took place parallel to intensively developing world IT and communication technologies (Godlewska-Majkowska 2008: 146). Because of that, some enterprises, at the start of ownership transformations, were affected by disruptive technologies (Christensen 2010: 33). Economic transformation in Poland towards free market and promotion of entrepreneurship helped the country with a lagging economy to absorb modern product and technological solutions similar to Western Europe states. That was observed in banking and also in the computer game industry.

The abovementioned conditions had a large impact on awakening the Poles' entrepreneurship. The generation born at the end of the 1960s entered adulthood and started their professional activities in the 1990s. Young people were curious about the world. They could find interesting information on the Internet. Access to the WWW favoured the development of IT that, from knowledge of a limited nature, changed into

a widespread speciality, and even started to be taught at schools. On local markets cheap computers appeared, imported from the USA. In Poland, like in many countries of Europe, work on the construction of indigenous computers was suspended (Hołyński 2017: 53). In Poland, however the development of the Internet was observed. The breakdown of the communist system supervised by the USSR, and collapse of the Soviet Union, enhanced cooperation between Poland and Western Europe. The evolving cooperation led to sending the first email to Copenhagen from the Faculty of Physics of Warsaw University on 17 August 1991. That date is considered as the start of the Internet in Poland. In the following years the package Internet network POLPAK was set up and made available to institutions and private customers (1992). In 1995 the Wirtualna Polska website was launched, which was a catalogue of interesting websites. Popularization of the Internet in households accelerated following the emergence of the auction platform Allegro in 1999. Neostrada, launched by Polish Telecommunication in 2001, enhanced the development of the Internet in Poland. The Internet became easily accessible to everyone (*70 lat...* 2019, p. 26).

In the history of the computer game industry in Poland after 1989 two phases may be observed. The first one, named by me “an amateur game” covers the 1990s. The second one, starts, let say, about 2001, just before Poland's accession to the EU in 2004. It was at that moment the computer game industry developed and evolved rapidly towards the direction of professional business.

In the first phase, the 1980s and 90s, the Polish entrepreneurs connected with the computer game industry were just enthusiasts of products imported from the USA for their own needs. They analyzed their structures, programming language and attempted to write their own games which they later sold on local markets. In such a way the economic activity started of the main entrepreneurs within the fledgling economic branch, such as Adam Kiciński and Marcin Iwiński (CD Projekt), Marek Tymiński (City Interactive), Adrian Chmielarz (People Can Fly) and Paweł Marchewka (Techland). The enthusiasm and passion of those people for the new technologies and possibilities of the then computers can be reflected in the personal story of Paweł Marchewka. When he was seventeen he set up the company Techland at school. He says: ‘We wanted to make games for ourselves, the games that were not on the market’ (*Blood...* 2012). The abovementioned entrepreneurs searched for new, original ideas for the plots for computer games and wanted to conquer the market with original storylines. Those who made computer games and tried to commercialize their activity thought of conquering

the global market from the very start. The local market was deemed too small for plans assuming a broad scale of production.

In the first stage of development of Polish computer games, which I called amateur, the then entrepreneurs did not have sufficient investment capital. But they had strictly identified plans that were characterized by “excessive ambitions”. Due to insufficient capital necessary to take up production of computer games, the products were built on native graphic engines. Some noticed that this allowed production capacity to increase, but was also a great technological challenge (*Blood...* 2012).

Manufacturers of computer games prepared their products in conditions where it was difficult to predict technological changes that took place in equipment used for computer games. Computers were imported and each supply of them signified a change in technical parameters with reference to the models previously purchased. Such a state hindered the production process. Employees of Techland, one of the Polish companies dealing with the creation of computer games, when they started with the “Crime Cities” game they did not foresee that when a game was on the market, it would already be old-fashioned, due to the fact that 80% of computers were equipped with graphic cards with accelerators. The situation almost led to the company’s bankruptcy. The founder of Techland recalls: ‘That was one of the hardest moments in the company history’ (*Blood...* 2012). Many Polish companies experienced the same.

In the second phase of the professionalization of the computer game industry, the entrepreneurs connected with the trade searched for access to capital. Writing computer games required adapting the products to various devices used by players: computers, consoles or mobile phones. Banks were not eager to grant loans. In that case the “old thought” collided with a non-standard vision of the digital economy among the young. Polish entrepreneurs representing a sector of computer games conducted so-called “road shows” to collect funds. They visited the leading Polish entrepreneurs with demos of games they could prepare if granted the necessary investment funds.

Lack of access to capital was a reason for the fact that in 2007 one of the most recognizable products, *The Witcher* (Wiedźmin), did not achieve the expected success, though it was welcomed all over the world, as there were insufficient investment funds to produce the console version, and the consoles at that time were a hit. CD Projekt, the company that made the game was supported by a Polish businessman, Zbigniew Jakubas, owner of, among other enterprises, rail vehicles manufacture Newag. The decision to invest his own capital in the game Jakubas explained as follows: ‘Do you know why Kiciński and the company

achieved a success? Because what they did, they did with enthusiasm, they were hard-working and had a wonderful idea fixed to make the Witcher. They came to me when they had already reached the wall – they needed 14.5 million PLN. A bank annulled their credit line and they had to repay liabilities. So they had no funds to complete the project. I visited them to see how computer games were made. I entered the room where about 100 men worked. (...) All of them were thoroughly focused on their job. (...) They focused on mastering movements of characters, on their appearance, on hair-do... I was impressed. On the following day I transferred the money to their account.’ (*I am...*, 2018, p. 22).

Since 2016, the computer game industry professionally operating in Poland has been supported financially by the National Centre for Research and Development. Enterprises may apply for grants. In 2016 out of these funds in total 116 million PLN was granted to successful applicants. The prize-winners were experienced computer games' manufacturers who, owing to the achieved funds, could strengthen their positions on the global market. The aim of the program is to keep specialists in the field of IT in Poland, as, due to lack of perspectives they might look for opportunities in other countries (*Polish...*, on-line).

The success of the Polish computer game industry on a global scale was, in my opinion, determined by the original plot of many available games. 11 Bit Studios Company achieved a global success thanks to a non-standard approach towards war in “This War of Mine”. The plot is constructed in such a way that the player is not a soldier, as one may expect, but a civilian who tries to survive in a city. The construction surprised players and thus allowed the product to become visible on the global market. In the game the Witcher, a product of CD Projekt, a Polish novel by Andrzej Sapkowski was used as a plot. The game refers to the native legends from the period before the origins of the Polish state. The legends appeared to be so interesting that the game attracted players all over the world. Get Even game achieved its success due to the application of innovative technology, based on 3D scans of real places and characters. It is called Reality 51 technology and was developed by Polish producers of games and used for the first time in Get Even (Krok 2016: 54).

The professionalization of computer game manufacturers was demonstrated by the growing need to float on the Warsaw Stock Exchange, with the aim of increasing capital. In 2018 on the WSE 18 companies were quoted from the gaming branch, and on NewConnect market – several more. Considering the capitalization, the largest companies were: CD Projekt, PlayWay, 11Bit Studios, Bloober Team SA, The Farm 51 Group and Vivid Games.

Table 2. Listing of shares of enterprises in the computer games' industry in 2015–2018

Tabela 2. Notowania akcji przedsiębiorstw branży gier komputerowych w latach 2015–2018

Enterprise/year	2015	2016	2017	2018	2015 = 100% 2018 = X
CD Projekt	21,97 PLN	51,97 PLN	98,00 PLN	146,50 PLN	665,45%
PlayWay SA	-	-	64,99 PLN	135,00 PLN	
11bit Studios	70,60 PLN	146,80 PLN	198,00 PLN	244,00 PLN	345,61%
The Farm 51 Group	13,45 PLN	14,00 PLN	6,96 PLN	21,00 PLN	156,13%
Bloober Team SA	28,50 PLN	79,40 PLN	42,00 PLN	41,70 PLN	146,32%
Vivid Games	5,13 PLN	4,29 PLN	2,47 PLN	1,96 PLN	-38,21%

Source: bankier.pl, 03.03.2019.

It must be noted down that CD Projekt was included on the WIG20, and its capitalization in 2018 exceeded 11 million PLN. The company reached the 13th position considering the valuation among the national companies listed on the stock exchange. It was placed even above Lotos petroleum company, and the Play and Orange Polska mobile networks (Kucharczyk, on-line).

The success of the Polish computer games industry may be measured by the rank of 100 largest Polish private companies that is drawn up by the Polish version of “Forbes” magazine. In 2017 the company CD Projekt was placed in the 4th position in the rank. Its value was estimated at 11 billion PLN. Before it, there were such companies as: Cyfrowy Polsat, media-related, valued at 27.336 million PLN, LPP – related to the manufacture and sale of clothing, valued at 15.486 million PLN and CCC, related to the manufacture and sale of footwear, estimated at 11.797 million PLN. Another company representing the computer game sector, Techland, took 15th position in the referred rank, with value estimated at 3 million PLN. Explaining the position of the company Techland in the rank, a journalist observed: ‘Why is this business so amazing? Because the games of fighting zombie made by Paweł Marchewka (owner of Techland), generated a 78% operating margin. Such a margin is not achieved even by CD Projekt (operates on 56 % margin)’ (Karnaszewski 2017: 21).

In the rank prepared by Forbes in 2018 CD Projekt took the second position. The advancement ensued from a valuation of the company at 17.9 billion PLN (whilst the first company related to digital media, Cyfrowy Polsat, was valued at 24.5 billion PLN). So within one year the

value of CD Projekt had increased by 6 billion PLN. The company generates 99% of its income on the global market and only 1% in Poland (Karnaszewski 2019: 90). According to economic journalists, its progression within one year and promotion from 4th to 2nd position follows from the fact that ‘the creators of CD Projekt show that dreams may come true and in nine years one is able to increase company value from 75 million to 17.9 billion’ (Karnaszewski, Kazanecki 2018: 22). Forbes noted that in 2018 five companies connected with the computer games’ industry set up companies worth over 700 million PLN. They were: Techland, placed in 21st position (company value 2,315 million PLN), PlayWay in 74th position (value 925 million PLN) and 11BIT Studios in 94th position (value 747 million PLN). The average operating margin on the abovementioned companies in 2017 reached 43.8%, and, significantly, ‘no other sector could even dream to come close to such results’ (Karnaszewski, Kazanecki 2018: 22–23). Experts comment on such success: ‘These are the companies that our economy needs most. They create high margin products and conquer global market’ (Karnaszewski, Kazanecki 2018: 23).

The global success achieved by the Polish computer games’ industry translated into the increase of prosperity of owners of companies connected with the business. According to the rank of Polish edition of “Forbes” magazine of March 2019, among the richest Polish entrepreneurs was the founder of Techland – Paweł Marchewka (in 8th position). His property was estimated at 3,527 million PLN. In the same rank, Marcin Iwiński, a co-founder of CD Projekt was placed in 13th position (net worth of 2,308 million PLN), Michał Kiciński (formally outside CD Projekt) was classified in 17th position (assets of 1,992 million PLN), Piotr Nielubowicz from CD Projekt in 32nd position (property of 1,165 million PLN) and Adam Kiciński from CD Projekt – 80th position (631 million PLN) (*Lista...*, 2019: 104–106).

The Polish computer games’ market was worth in 2016 approx. 1.5 billion PLN (about \$400 million) and in 2017 it was about 1.8 billion PLN. According to the analysis of Newzoo company, in 2017 the global computer game industry was worth \$116 billion. Compared to 2016, the value of the market grew by 10% in 2017 (*Branża gier...*). In 2018 the market, on a global scale, was worth \$134.9 billion. Within 2016–2017 a 10.9% increase was noted. The market grows dynamically, which surprises even most experienced analysts. From a regional perspective, the area of Asia and Pacific constituted a share of 49%, North America 25% (\$33.9 billion), Europe and Africa 22% (\$29.9 billion) and Latin America 4% (\$4.9 billion). Poland’s share in the global market of the computer

game industry is only 0.6%. In 2016 Poland was ranked 19th in the global rank of most important markets for the computer game industry. Whilst, according to Newzoo Polska analytical company, Poland took 23rd position in 2017. In Poland there are over 300 companies professionally dealing with the creation of computer games (*Polski sektor...*).

It is very difficult to determine how many people are employed in this sector of the economy. This results from the fact that the professional production of computer games requires the formation of interdisciplinary teams of specialists that assume responsibility for separate layers of the games. Adam Kiciński from CD Projekt observes that the process of the creation of computer games is based on the conciliation of two elements - art and technology (*Nasze gry...* 2018: 42). Because of that, CD Projekt, apart from programmers, employs also animators, graphic designers, sound engineers, authors of dialogues and game testers. The scale of professionalization in this sector is reflected by the fact that, in the case of the *Witcher 1* game in 2007, the company CD Projekt employed five persons, but making of the most recent product of this company – *Cyberpunk* – required the engagement of an international team, consisting of 400 persons. Other games produced by this company are also made by numerous teams. (*Nasze gry...* 2018: 27). For *The Witcher 3* game: *Wild Tail* there were 240 persons employed from 18 different nationalities. Production cost 306 million PLN. Besides, at each stage of production support was provided by an additional 1,500 persons, including 500 actors who provided dubbing for various languages versions (Krok 2016: 49).

Specialists consider the computer game industry as one of the most innovative fields of Polish creative industry. In 2016, of 6 million units of *The Witcher 3 – Wild Tail* sold out within 6 weeks since its premiere, but only 5% was sold in Poland. The greatest hit of CD Projekt, *The Witcher* (on the market since 2007), sold a total of 33 million copies globally (Karaszewski 2019: 47). Techland's production “*Dying Light*” was a similar market hit. The game sold 15 million copies (Karaszewski 2019: 52). Most of computer games are nowadays sold via digital distribution and in free-to-play formula. This means that a game is free and a client pays only for the entitlement to activate additional options. Clients' needs are also met by games platforms, where one must pay a subscription fee. It has been observed that sales of games increase in vacation season. This means a new form of leisure has appeared.

The most important strategic task of computer game producers is brand creation. And brand creation is always strengthened by care for high product quality and by following a principle that a brand cannot

age. Therefore, every company attempts to create a specific eco-system around every game, as if in Hollywood productions. After all, computer games are like books or films. Although they age, users come back to them. Because of that, as creators of computer games emphasise, games must have such plots that people would like to reach for them and study them. According to Adam Kiciński from CD Projekt, ‘good RPG games are on sale for a long time. This means that such investment has a potentially fast return. Such games, if they have a good plot, age really slowly’. (*Nasze gry...* 2018: 26). Let's take the example of The Witcher game. 2018 saw the tenth anniversary of its launch, but income from sales remains stable (*Nasze gry...* 2018: 26). Specific character of CD Projekt is that the company does not excessively seek for preparing big production for the market, but benefits from profits from the productions that are already on the market. The adopted strategy of development enabled the company in 2018 earn a profit of 114 million PLN, although no new productions appeared (Karaszewski 2019: 90).

Summary

In Poland after 1989 the computer game industry achieved global-scale success, measured for instance by the number of products sold. This fact is unquestionable. In my opinion, entrepreneurs operating in this sector of the industry seized the chance presented by the opening of Poland to the international division of labor and global markets. It must be assumed that the strategy of so-called ‘forward escape’, adopted by some entrepreneurs after 1989, aiming at constructing enterprises open to the distribution of their products on the global markets, was fully justified. The entrepreneurs related to the computer game industry benefited from the possibilities offered by the Internet. Products with original plot were then prepared, standing out in the markets. Polish culture and history are not very well known around the world, so setting the computer games stories in a domestic landscapes increased the attractiveness of the offered products. Intriguing plots set in the reality of Polish legends, tales, myths and experiences have a decisive impact on the customer's choice. Discussing the directions of development of the Polish economy, we see that the computer games industry creates enormous opportunities for Poland to find a permanent place in the global group of manufacturers. This industry is a real alternative to the environment-damaging extractive industry. Its advantage over other production sectors in Poland is the innovative nature. What is more, this industry does not damage the

natural environment, which is significant, considering the global discourse over climate changes.

In the context of computer games, one must also point out an additional, wider issue. The computer game industry has good prospects of development. This is evident. But it must be remembered that this sector of the economy requires great investment capital for preparation of a game, for promotion and finally for sales. The computer game industry is in a better situation, though, than the movie industry, since games – unlike films, may be modified at every stage of production. They are productions that resemble animated cartoons.

Experts in the field observe that clients have become more demanding concerning the product. Clients have little time now for private life due to numerous tasks in professional life. Therefore, they focus on the best titles that are well rated by other clients. It is worth considering whether computer games should be included in the fruits of disruptive technologies. A question arises, whether the games, alongside books and movies, have become the third element of entertainment and education.

Literature

- 70 lat polskiej informatyki, 2019, „Gazeta Wyborcza”, no. 52.9569.
- Blood-dripping millions*, 2012, "Forbes" 2012, no 1.
- Branża gier wkrótce będzie więcej warta niż rynek sportowy*, 2017 {*Soon computer games' industry will be worth more than sports market, year 2017*}, <https://www.gry-online.pl/S013.asp?ID=106805> (access: 26.02.2019).
- Christensen C.N., 2010, *Przełomowe innowacje {Breakthrough innovations}*, Wydawnictwo Naukowe PWN, Warszawa.
- Godlewska-Majkowska H., 2008, *Proces rewitalizacji starych okręgów przemysłowych {Process of revitalization of old industrial regions}* [in:] *Stare okręgi przemysłowe. Dylematy industrializacji i dezindustrializacji*, ed. by W. Morawski, A. Zawistowski, Szkoła Główna Handlowa – Oficyna Wydawnicza, Warszawa.
- Gomułka S., 1998, *Teoria innowacji i wzrostu gospodarczego {Theory of innovation and economic development}*, CASE – Centrum Analiz Społeczno-Ekonomicznych, Warszawa.
- Hołyński M., 2017, *Maszyna matematyczna – co to właściwie jest? {Mathematical machine - what it really is?}* [in:] *Polska informatyka: wizje i trudne początki*, ed. by M. Noga, J.S. Nowak, Polskie Towarzystwo Informatyczne, Warszawa.
- I am not greedy – interview with Zbigniew Jakubas by Piotr Karnaszewski and Filip Kowalik*, 2018, "Forbes", no. 6.
- Karnaszewski P., 2017, *Sto lokomotyw polskiej gospodarki {One hundred locomotives of Polish economy}*, "Forbes", no. 11.
- Karnaszewski P., 2019, *Jak w Polsce buduje się fortuny {How to build up fortunes in Poland}*, "Forbes", no. 3.

- Karnaszewski P., W. Kazanecki, 2018, *Polski biznes znowu w górę {Polish business goes up again}*, "Forbes", no 11.
- Krok E., 2016, *Rynek gier wideo i jego uczestnicy {Market of computer games and its users}*, „Studia Informatica Pomerania”, no 2 (40).
- Kucharczyk K., *Polski rynek gier komputerowych wart ponad 500 mln dolarów {Polish market of computer games worth over 500 million USD}*, <https://www.parkiet.com/Technologie-i-IT/305079958-Polski-rynek-gier-komputerowych-wart-ponad-500-mln-dolarow.html> (access: 26.02.2019).
- Kulisiewicz T., 2017, *Własne konstrukcje, licencje, klony {Own constructions, licenses and clones}* [in:] *Polska informatyka: wizje i trudne początki*, ed. by M. Noga, J.S. Nowak, Polskie Towarzystwo Informatyczne, Warszawa.
- Lista najbogatszych 2019 {The richest Poles}*, 2019, „Forbes”, no 03.
- Michalik Ł., *Najstarsze polskie gry komputerowe. Wszystko zaczęło się... w 1962 roku! {Oldest Polish computer games... Everything started in 1962}*, <https://gadzetomania.pl/2874,od-tego-sie-zaczelo-poznajcie-najstarsze-gry-napisane-przez-polakow.all> (access: 13.03.2019).
- Miczka-Pajestka M., 2013, *Wirtualizacja codzienności a realna potrzeba „bycia” {Virtualization of everyday life and real need of "being"}* [in:] *Wirtualizacja problemy, wyzwania, skutki*, ed. by L.W. Zacher, Wydawnictwo Poltext, Warszawa.
- Nasze gry się nie starzeją, Adam Kiciński w rozmowie z Forbes {Our games never age, Adam Kiciński interviewed by Forbes}*, 2018, "Forbes", no 11.
- Polski sektor gier komputerowych rośnie o 10% rocznie. Wyzwanie, aby utrzymać informatyków w kraju, {Polish sector of computer games grows by 10% annually. A challenge to keep IT specialists in the state}*, <https://biznes.newseria.pl/news/polski-sektor-gier> (access: 26.02.2019).

Narodziny i rozwój przemysłu gier komputerowych w Polsce. Analiza wybranych przypadków

Streszczenie

Pierwsza gra komputerowa w Polsce powstała w okresie tzw. Polski Ludowej we Wrocławiu w 1962 lub 1963 r. Stworzono ją dla polskiego komputera Odra 1003 we Wrocławskich Zakładach Elektronicznych Elwro. Miała ona charakter gry logicznej. Traktowano ją jako naukową ciekawostkę i nie miała szans na komercjalizację. Kolejne, tym razem komercyjne projekty pojawiły się w dekadzie lat 80. XX w. Wśród nich była pierwsza gra przygodowa wyprodukowana w 1986 r. W okresie Polski Ludowej producentów gier komputerowych nie traktowano jako profesjonalnych przedsiębiorców. Władze nie dostrzegły narodzin nowego sektora gospodarki.

Początków profesjonalnie działającego w Polsce przemysłu gier komputerowych należy doszukiwać się u schyłku lat 80. XX w. Związane jest to z upowszechnianiem się importowanych komputerów osobistych. Pierwsze firmy reprezentujące ten sektor produkcji były zakładane przez pasjonatów importujących głównie z USA na własne potrzeby gry komputerowe. Gracze analizowali ich budowę, poznawali język programowania i podejmowali próby samodzielnego pisania własnych, przeznaczonych dla siebie i najbliższego otoczenia, gier. Handlowali też tymi produktami na lokalnych bazarach.

Zbiorowy portret założycieli firm należących do sektora produkcji gier komputerowych wyróżnia kilka cech. Twórcy tej branży przemysłu byli ludźmi młodymi (20–24

lata). Nie mieli, w przeciwieństwie do rodziców, kompleksów wobec Europy i świata. Łatwo nawiązywali międzynarodowe kontakty i odważnie oferowali swoje produkty na rynkach globalnych. Przedsiębiorców pracujących w tej branży wyróżniały ogromny entuzjazm, zaangażowanie i wiara w osobisty sukces.

Po prawie trzydziestu latach od chwili powstania pierwszych firm profesjonalnie działających w branży gier komputerowych zaobserwować można ogromny progres. Polskie firmy odniosły globalny sukces. Podstawowym problemem badawczym jest odszukanie źródeł tego sukcesu, odtworzenie drogi, jaką przebył ten sektor gospodarki od amatorskiej działalności do pełnej profesjonalizacji. Zbadania wymaga, jak duży wpływ na narodziny tego przemysłu miała sytuacja polityczna w Polsce w 1989 r., w tym bankructwo komunizmu i rozkwit wolnego rynku oraz otwarcie gospodarki kraju na rynki globalne. Produkt tego przemysłu starzeje się bardzo wolno, a jak twierdzi część klientów, jest jak książka, która zawsze jest aktualna i do której się wraca.

Słowa kluczowe: przemysł gier komputerowych, globalny rynek produktów przemysłu gier komputerowych, innowacja produktowa