Analysis of the video game industry in the Czech Republic in 2016-2020

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Abstract

The video game industry is a branch of the industry dealing with the creation and sale of computer games, or video games. It includes dozens of specialized professions and employs lot of people around the world. The aim of the work was to analyze the Czech video game industry in the years 2016-2020. The basic data source is data from the studies of the association of Czech game developers GDACZ. A quantitative method of data analysis was used here, where data from the Czech video game industry was compared with data from the Slovak video game industry from 2016 to 2020. The research results showed that turnover increased by CZK 3 billion over five years, which is an increase of 163,3%. Furthermore, the results showed that the total turnover of the Czech Republic is greater than that of Slovakia, however, the percentage growth was greater in Slovakia. The Czech video game industry should continue to be monitored in the coming years in order to find out whether, with increasingly available and better technology, it manages to achieve even better results than in the examined period of 2016-2020.

Keywords: video games, video game industry, turnover, employment, technology

Introduction

It could be said that the video game industry started in the 1970s based on arcade video games. Since then, however, it has moved to a level that no one could have imagined at the time (Gao et al., 2021). In recent years, the gaming industry has developed into a thriving digital business segment with exceptional business prospects and has developed into a significant economic sector (Flunger, Mladenow & Strauss, 2022). In the context of the coronavirus epidemic, the video game industry has become an economic giant. Other entertainment such as sports and cinemas were limited, so people had no choice but to find a type of entertainment that could be done from home (Formosa et al., 2022). In 2020, it even surpassed the global film industry. It also helped that new games are constantly being released and new genres are being created, which means that the target audience is also expanding. The video game industry is not just about computer games. Game consoles are also on the rise, and especially thanks to rapidly improving technology, mobile phone games as well. These account for over 50% of turnover in the video game industry (Nan et al., 2022). There are currently 118 development companies operating in the Czech Republic alone. During 2020, 58 new games were released in the Czech Republic and the turnover of the Czech gaming industry was CZK 5,3 billion, which is 17% more than in 2019 (Knazek et al., 2021). The aim of the work is to analyze the development of the Czech video game industry during the years 2016-2020. In order to achieve the goal, the following research questions were formulated: What was the turnover of the Czech video game industry in 2016-2020? What was the number of employees in the Czech video game industry in 2016-2020? How did the Czech video game industry perform compared to the Slovak video game industry in 2016-2020?

Literature Review

The development of technology and the Internet has enabled the emergence of a new kind of games. Video games are increasingly replacing traditional board games and have a direct impact on how internet users spend their free time (Baltezarevic et al., 2018). Video games have historically been associated with youth and underground culture, as well as trivial and sometimes even antisocial activities and lifestyles. Some video game developers and commentators argue that the industry is marked by its "geek culture", portraying video games as an adolescent and essentially male pastime (and thus more broadly demonstrating a trajectory similar to that of computer science) (Styhre, Szczepanska & Remneland-Wikhamn, 2018). The video game market has gone through a process of gradual but constant growth over the years. Despite its humble beginnings, the sector has thrived and generated profitable numbers that help it continue to grow. There are more and more consumers of video games and interest in them has grown in such a way that websites that deal only with the topic of video games have multiplied to satisfy users, to have an overview of all the news (Gonzales, 2019). In 2019, approximately one-third of the world's population reportedly played video games. Total spending on video game products and services that year was estimated at $152 billion. (Tsang, 2021). The significant growth of the video game industry and the production of video games in the global market is a remarkable cultural, economic and financial achievement that has not yet been fully recognized by the news media. Additionally, as a cultural expression and genre of popular culture, video games tend to be associated with previous media (especially cinema). As new handheld media (smartphones, tablets, laptops) are now widely used, new categories of players are entering the market, including for example women and the elderly (Styhre, Remneland-Wikhamn, 2021). Game development and production processes are complex and highly reflective processes - worldwide (Zeiler, Mukherjee, 2022). In addition to standard uses that contribute to the economy, the video game industry is incorporating virtual technologies in areas such as military training, biomimicry, and display products. Knowledge of video game technology inspired managers to develop the concept of "gamification," an application that motivates employees and engages consumers. It is argued here that the technological contribution of the video game industry is far more significant than its mere economic contributions and that it affects a myriad of organizations in society (Xi et al., 2022). The year 2020 has seen many global changes in the video game industry due to the coronavirus (COVID-19) pandemic. Video games played a key role in the context of the exceptional measures taken in response to the pandemic (Angeles Lopez-Cabarcos, Ribeiro-Soriano & Pineiro-Chousa, 2020). Lockdowns and restrictions around the world, along with recommendations to avoid large gatherings of people, have led not only to an increase in gaming, but also to consumers spending more time gaming than ever before. This growing interest in playing in this atypical environment means that video games have come to play an important social role, not only as a simple option for personal entertainment, but also as a way to promote social interaction by bringing people together through a shared experience (Nunes et al., 2022). The video game industry is a dynamic and complex industry with an unpredictable future due to the many determining factors and the number of people involved in the various roles of the video game industry (Ritzki, Mukharil & Hermawan, 2019).

Methods and Data

To achieve the goal of the work, a quantitative method of data analysis will be used, in which data from the Czech video game industry will be compared with data from the Slovak video game industry in the period from 2016 to 2020. The basic data source will be data from the studies of the Czech Association of Game Developers GDACZ, prepared by the Institute for the digital economy. They will be further processed in the Microsoft Excel program. The monitored indicators will be:

- the turnover of Czech game development companies,
- the total number of workers in the game industry,
- the number of games published in the Czech Republic,
- financing of computer game development.

In addition, these data will be compared with the statistics of the Slovak Association of Game Developers SGDASK, where the monitored indicators will be:

- the turnover of Slovak game companies,
- the total number of workers in the Slovak game industry
- the number of games published in SK.

Charts created in Microsoft Excel will be used to interpret the results.

Results

Chart 1 shows the growth in turnover of Czech game companies between 2016 and 2020. The only exception is 2018, when turnover growth reached 68% (an increase of 40.37%

compared to 2017). Within the compared period, the turnover of gaming companies grew as follows: in 2017 compared to 2016 it increased by 10.62%, in 2018 compared to 2017 by 40.37%, in 2019 compared to 2018 by 16, 52% and in 2020 compared to 2019 by 14.66%.

Graph 1: Turnover of Czech gaming companies (in billions of CZK)

Source: Custom processing based on GDACZ data.

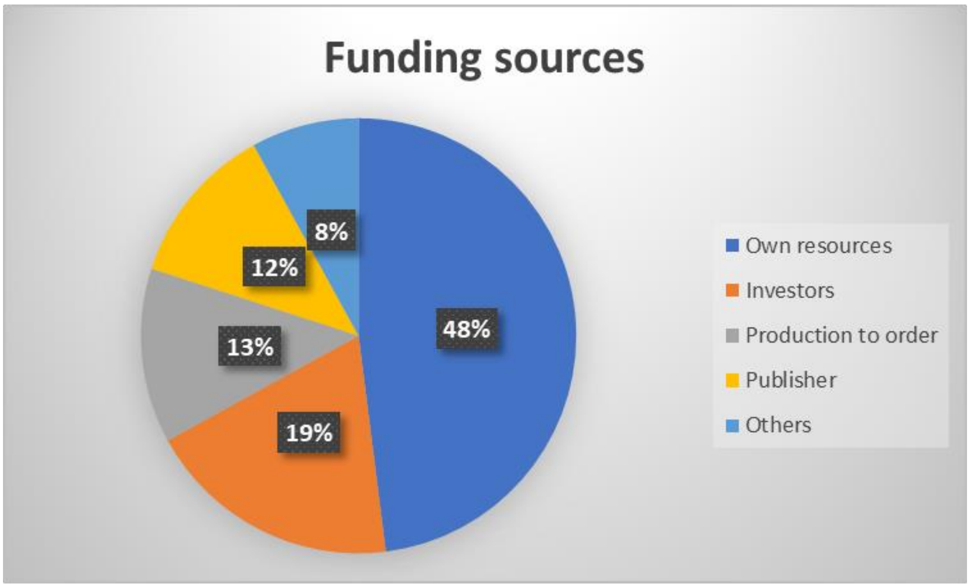
Despite the highest increase in turnover of game companies in 2018 by 40.37%, the number of games released in the Czech Republic was the smallest in that year compared to other years, when only 23 games were released, as can be seen in graph 2 (in 2016 35 games were released, 31 in 2017, 46 in 2019 and 42 in 2020), which can be attributed to the great success of only a few of them.

Graph 2: Number of released games in the Czech Republic

Source: Custom processing based on GDACZ data source.

Chart 3 shows the sources of funding by which game companies in the Czech Republic finance game development. Almost half of the companies (48%) draw funds 100% from their own resources, 19% of them used financing from investors, 13% prefer financing their operation from custom development, 12% used additional financing from a game publisher, and 8% of them used some other source of financing (4% received a bank loan and another 4% received a subsidy in the form of creative vouchers).

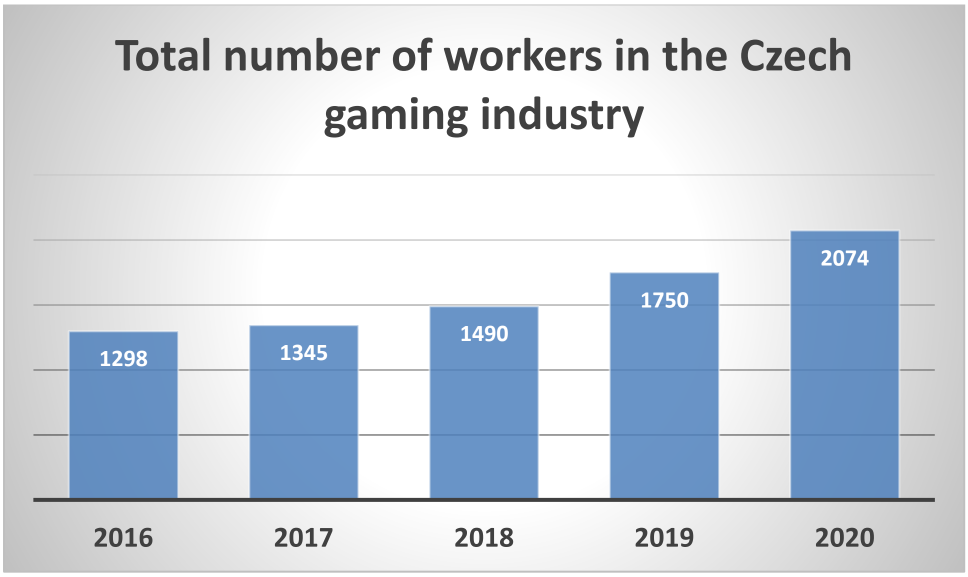
Graph 3: Funding sources



Source: Custom processing based on GDACZ data source.

The increasing trend of the Czech game industry can also be seen in graph 4, which shows the number of workers working in this industry. While in 2017 compared to 2016 the total number of employees increased by only 3.49%, in 2018 it was already by 9.73% compared to 2017. In 2019, their number increased by 14.86 % compared to 2018 and in 2020 it increased by 15.63% compared to 2019.

Graph 4: Total number of workers in the Czech gaming industry



Source: Custom processing based on GDACZ data source.

Chart 5 shows a comparison of Czech and Slovak turnover in gaming companies. It is clear from the graph that the Czech video game industry fared better than the Slovak one in each of the monitored years. In 2016, the turnover of Czech game companies was higher by 70.79% compared to the turnover of Slovak game companies, in 2017 by 60.62%, in 2018 by 70.18%, in 2019 by 72.25% and in 2020 by 66.54%.

Graph 5: Turnover of Czech and Slovak gaming companies (in billions of CZK)

Source: Custom processing based on GDACZ and SGDASK data.

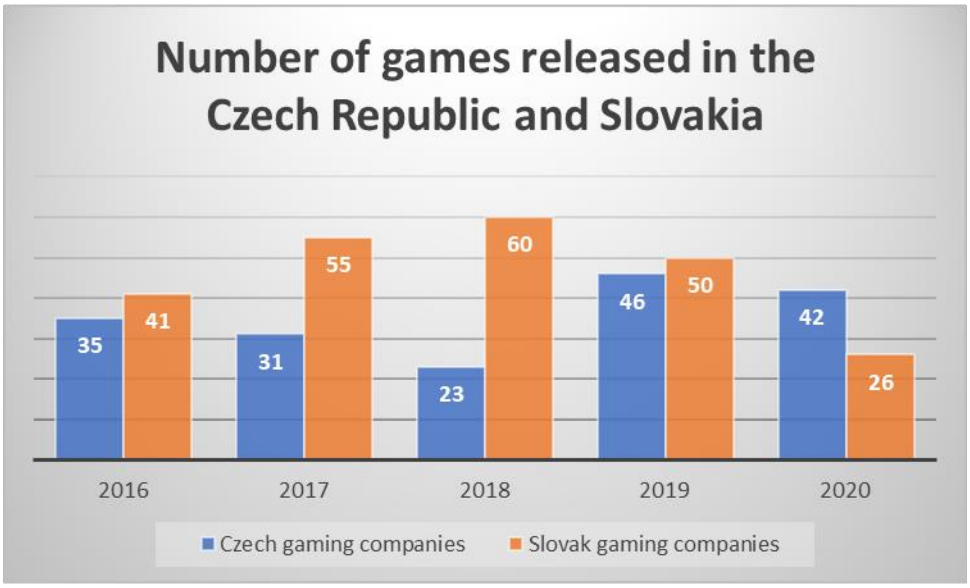
Chart 6 shows that the total number of workers in the Czech and Slovak game industry is quite similar to the turnover of game companies. Compared to Slovakia, in 2016 the number of workers in the Czech Republic was higher by 60.4%, in 2017 by 64.61%, in 2018 by 64.83%, in 2019 by 56.46% and in 2020 by 58.05%.

Graph 6: Total number of workers in the Czech and Slovak gaming industry

Source: Own processing based on GDACZ and SGDASK data source.

Despite the fact that the Czech Republic led in turnover and number of employees, Slovakia led in the number of published games, as we can see in graph 7. In the years 2016-2019, Slovakia created more games than the Czech Republic every year. In 2016, compared to the Czech Republic, there were 14.63% more games released, in 2017 by 43.64% more, in 2018 by 61.67% more and in 2019 by 8% more. 2020 was the only year where it was the other way around, when there were 38.1% more games released in the Czech Republic than in Slovakia.

Graph 7: Number of games released in the Czech Republic and SK



Source: Custom processing based on GDACZ and SGDASK data source.

Discussion

Based on the results, we are able to answer the research questions:

What was the turnover of the Czech video game industry in 2016-2020? From 2016 to 2020, the turnover of the Czech video game industry grew by CZK 3 billion. This is more than double what it was in 2016. Despite the fact that the fewest games were created in the Czech Republic in 2018, the biggest growth took place in 2018, when the 2 largest Czech companies Bohemia Interactive Studio and Warhorse Studios released their long-awaited the games Kingdom Come: Deliverance and Dayz. The graphs also show that the COVID-19 crisis has had no significant effect on turnover, which means that the video game industry is one of the few industries that has not been harmed by Covid-19. According to Nunes et al. (2022) COVID-19 has led to a large increase in gaming. Maybe so, but it was not reflected in the Czech turnover. The sources of financing are almost 50% from own resources. Most of these resources are from previous games that the companies have made. In the Czech Republic, development on PC and console platforms is still leading, compared to worldwide development, where mobile game development is leading.

What was the number of employees in the Czech video game industry in 2016-2020? The number of workers in the Czech video game industry increased by 776 workers between 2016-2020. This is half more than it was in 2016. The gender of the workers is predominantly male. There are 5 times more men than women working in the video game industry. 93% of workers have at least a secondary education. The most common age of workers in the video game industry is 26-35. The main reasons for this age are that those under 25 years old do not have the necessary experience to do this work, and those over 36 years old are not as trained and do not know the technology in which games are developed. The most common professions in the video game industry are programmers and graphic designers (they create the most important parts of the game - the functionality of the game and the visuals of the game). But only these two professions are not enough to produce a complete game. Testers are also important for finding bugs, thanks to which programmers or graphic designers can fix errors in the game. Level designers for creating environments in the game. Game designers and screenwriters to create the story or main idea of the game. PR, marketing, sales to successfully show the complete product that others were working on. Animators for character or environment animation. Audio designers, musicians for music and atmosphere creation. This profession occupies only 3% of the total video game professions. The main reason for this is that most of the time this profession is outsourced, which means an outside company will create the music for them. It's because game companies can't afford to own orchestras for a few hours of music.

How did the Czech video game industry perform compared to the Slovak video game industry in 2016-2020? According to the data, it is possible to say that the Czech video game industry is doing much better than the Slovak video game industry, both in terms of turnover and the number of employees. However, the number of games released during the years 2016-2020 has more Slovak video game industry. However, if the percentage growth during the years 2016-2020 is calculated, it can be found that the Czech video game industry grew by 163.3%, while the Slovak video game industry grew by 201.7%. Here it can be seen that during these years the Slovak video game industry performed better than the Czech video game industry by 38.4%. It is certainly important to continue to watch and monitor the video game industry.

Conclusion

The aim of the work was to analyze the Czech video game industry during the years 2016-2020. The goal was accomplished. In the results chapter, it was found that the turnover of the Czech video game industry increased by 163.3% over five years. The number of employees increased by 59.8%. The comparison with the Slovak video game industry turned out to be that the turnover for the Czech video game industry was approximately 3 times larger than for the Slovak video game industry. However, the turnover growth of the Slovak video game industry was 38.4% greater. The biggest limitation of the research was that more accurate data on the Czech video game industry began to be measured only from 2016. Therefore, if someone wanted to create an analysis from, for example, 2005, it would be quite unrealistic. This topic certainly has potential for further research. A comparison with an Asian country would certainly be quite informative and interesting. Also, a comparison of all European countries could give some insight into the whole situation regarding the video game industry. The lesson learned from this work is that even unknown and not so visible industries in the Czech Republic can have a considerable influence on the Czech culture and economy in the future.

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