Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Humanities

Bachelor Thesis

Management and Labour Organisation in the Video Game Industry - 'the Crunch'

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CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

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Thesis title

Management and Labour Organisation in the Video Game Industry – 'the Crunch'

Objectives of thesis

The thesis aims to investigate the issues of human resource management and labour organisation raised by practices in the video game industry. Specifically, the thesis focuses on the practice of 'the crunch', a period of intensified work in the period immediately before the release of games, in which games designers are frequently expected to work long hours under intense pressure. This practice is relatively normalised, even celebrated, but raises obvious questions of labour exploitation, leadership and strategic management.

Methodology

The thesis will employ case study analysis to investigate the issues raised by the 'crunch', using the example of the company Naughty Dog company and its game Uncharted 4. Data will be obtained through secondary information sources, primarily media reports

The proposed extent of the thesis

30-40 pages

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Human Resources, Management, Video Games, The Crunch, Exploitation

Recommended information sources

BOON, C., DEN HARTOG, D. N., and LEPAK, D. P. (2019). A Systematic Review of Human Resource Management Systems and Their Measurement. Journal of Management, 45(6), 2498–2537.

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Declaration

I declare that I have worked on my bachelor thesis titled " Management and Labour Organisation in the Video Game Industry - 'the Crunch' " by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break any copyrights.

In Prague on 15.03.2024   _____

Management and Labour Organisation in the Video Game Industry - 'the Crunch'

Abstract

The thesis aims to investigate the issues of human resource management and labour organisation raised by practices in the video game industry. Specifically, the thesis focuses on the practice of 'the crunch', a period of intensified work in the period immediately before the release of games, in which games designers are frequently expected to work long hours under intense pressure. This practice is relatively normalised, even celebrated, but raises obvious questions of labour exploitation, leadership and strategic management. The thesis will employ case study analysis to investigate the issues raised by the 'crunch', using the example of the company Naughty Dog company and its game Uncharted 4. Data will be obtained through secondary information sources, primarily media reports due to low research concentration on this topic. The work aims to understand the concept of unpaid imposed overtime work, and tries to justify them according to management practices.

Keywords: Crunch, overtime, planning, vision, budget, management

Organizace managementu a práce ve videoherním průmyslu – „The Crunch"

Abstrakt

Diplomová práce si klade za cíl prozkoumat problémy řízení lidských zdrojů a organizace práce vyvolané praktikami ve videoherním průmyslu. Konkrétně se práce zaměřuje na praxi 'crunch', období zintenzivnění práce v období těsně před vydáním her, kdy se od herních designérů často očekává, že budou pracovat dlouhé hodiny pod silným tlakem. Tato praxe je relativně normalizovaná, dokonce oslavovaná, ale vyvolává zjevné otázky pracovního vykořisťování, vedení a strategického řízení. Práce bude pomocí analýzy případových studií zkoumat problémy vyvolané „crunch" na příkladu společnosti Naughty Dog company a její hry Uncharted 4. Data budou získávána prostřednictvím sekundárních informačních zdrojů, především zpráv v médiích z důvodu nízké koncentrace výzkumu. na toto téma. Práce si klade za cíl porozumět pojmu neplacené uložené přesčasové práce a snaží se je zdůvodnit podle manažerských postupů.

Klíčová slova: Crunch, přesčasy, plánování, vize, rozpočet, management

Table of content

1 Introduction

The video game industry is one of the most popular entertainment sectors, yet novel. Nowadays it is a part of our lives, thanks to wide variety of products that has been invented. However, in the last few years, we have been getting bad news from the industry. Since that is very skill demanding technology field, it experiences talent scarcity. Nevertheless, we hear that big companies and studios lose a huge number of employees. The exodus was followed by reports about bad work practices.

It is important to examine the industry itself to see what mistakes the employers are making and how it affects their capital. As a gamer who follows the industry, the author intends to look deep at this problem to understand the roots of it and look at it through the lens of management practices. The thesis is going to investigate the case with one of the most successful gaming studios like Naughty Dog, the game of which "Uncharted 4" had a scandalous production.

2 Objectives and Methodology

Objectives

The thesis will study the history of games in order to notice the process of the market and industry. That will enable us to look at the production process to identify mechanisms utilized. The market evaluation is looked to show the potential of the industry to estimate the future demands that will affect the labor force.

All this will help when the analysis of the "crunch" begins. The work is going to show how crunch is practiced, cultivated, and how it affects businesses and employees. The Human Resources practices are going to be used to pinpoint the effectiveness of different practices to retain talents.

Methodology

The thesis will develop a literature review based on scholar and media sources to understand the scope of ethical and business problem regarding the production of the games.

The practical part is going to focus on the case study of Uncharted 4 to look at the issues and obstacles that the studio has faced with during the development of the product, and how outcomes affected further work of the studio.

3 Literature Review

The video game history

In the 1940s, the computer has been skill-demanding (Anon., n.d.)and expensive item that made it available only for universities, government-funded enterprises, and big companies. They were big and used to make calculations for scientific purposes. The development of games was an intention to test different applications of machines other than calculations to establish their limitations. For example, in 1952, PhD student Alexander "Sandy" Douglas (D.S.Cohen, 2019) was writing his dissertation about human interaction with computer. He created the game OXO, which is an analogue of tic-tac-toe. This work was not only the first game, but also a first example of artificial intelligence, because Douglas also programmed the code to play against the computer.

Then other works (Amanda Onion, 2022) were granted several times to test different operations like Steve Russel's team's work in 1962 at MIT. The team created Spacewar that was an interactive game. Nevertheless, that game and others were not published because they were accessible only within the rooms of the university. To expand the number of players, there was a need in engineers who can develop new tangent technologies for the masses.

After several failures to create something, Steven Bushnell and his business partner Ted Dabney formed Atari, Inc in 1972 and produced their arcade machine with the game Pong on it. It gained success, which made their next goal to bring the game to the houses of players by making a home version of the Pong, which was also successful.

Figure 1First Arcade Console "Pong"

Therefore, games were accessible for gamers at home that started the era of consoles. The manufacturers that were operating in this sector are Atari, Sega, Nintendo, Microsoft, and Sony. Also, in the 1980s (Plunkett, 2023) the price for personal computers has drastically dropped that started to bring PC to home. There was an enormous demand for interesting games.

In 1983, there was a "Great Video Game Crash" which resulted in people stopping purchasing games. Due to high demand for games, studios and publishers were producing a lot games. At that time, the game could've been developed by one person that made the cost cheap, but mostly low quality too. Hence players stopped buying games at all. To improve the situation while entering to the Europe and North America markets, Nintendo has developed "Nintendo Seal Of Quality" (Segrest, 2016). This seal meant that Nintendo could guarantee the quality of the product. To sustain this, Nintendo allowed studios and publishers to produce only 5 games per year and work only for them exclusively. Despite companies having detected ways to avoid this, for example by making a new daughter company, the trust of gamers has been regained. Since that moment, companies started to focus more on quality of games, which increased the number of the producing team and budgets.

Figure 2 Yoshi's cookie cartridge with Nintendo Seal Of Quality (below right)

One of the main games in history was "Final Fantasy VII" in 1997. That was the first AAA game (Chapman, 2022), which is a multi-year project with a big budget. The total cost of it was 80 million dollars, with 40 million for development and the other 40 for world-wide marketing (Santon, 2013). The most important about the process of development is that it had largest development team at that time (LEONE, 2017). At that time, development was

made by 20 people, but the project had 150. Square Enix's office in Japan focused on the game itself, when office in Los Angeles worked mainly on city backgrounds.

When the internet became accessible to everyone, it allowed multiplayer to move from local to online. The distribution of games switched mainly to online and now we have online market stores where clients can purchase games, like Steam, Playstation Store, Microsoft Store etc.

3.1.1 Video Game Production

Games now require a lot of time and labor to make. That resulted to 3 main stages of development: pre-production, production, and post-production.

At the pre-production, the team creates concept, plan and prototype. This stage takes approximately 10-20% of the whole production. The team develops the concept of what and about the game is going to be. For plan, the developer creates macro design document, where they establish game concept, game core mechanics, gameplay features, gameplay breakdowns, project scope breakdown that contains all of these outlines with room for expansion and updating. The prototype allows to create the test for functions and ideas of the game to detect team's limitations and determine the essence to work with these limitations or extend the time to overcome them.

The production stage is the most time-consuming part of the game development, during which the new staff is hired for team. This stage focuses on content, assets, testing, and developing various demonstration builds of the game before publishing.

The post-production phase is when the staff polishes the game and develops updates, patches, and downloadable content (DLC), which can include new skins, characters, weapon, levels, and plot segments with new location.

It is important to mention and describe some elements of the development, like engine and builds. The engines is the framework that maintains game engines, like graphics, audio, physics, AI. It optimizes the work of the memory management when it comes to loading and unloading the game to keep the process smooth. The team can develop their own engine that

would satisfy all their needs and allow them to implement all their mechanics, but this would be time-consuming. The engine can be purchased that allows teams to save time for development of their own and staff training, however it limits them to capabilities of the engine.

Build is a prototype that demonstrates how game mechanics work. There are 3 main types of builds. *Vertical Slice* is minimum achievable final version of the game. It can cover only certain mechanics, levels, and locations, to show investors and public how gameplay looks like. *Alpha* show the gameplay in action with interface and content. It is necessary for QA (Quality Assurance) testers to play and find breaches and failure during gameplay to give a big report for improvement. *Beta* version means that game is done. It needs bug fixing, polishing, maybe few levels, but no new mechanics and major features won't be implemented.

Another essential part of the production is marketing. Marketing team is responsible to introduce game to gamers and to awaken the desire to follow the news. The promotion strategy consists of trailers, gameplay videos, and sending playable press-kits like beta to journalists. The biggest promotion stages used to be trade events like E3 (until retirement) and Gamescom, but now big publishers organize their own events to demonstrate products.

3.1.2 The cost

Games are mostly produced by studios and distributed by a publisher. There are two classification of video games: AAA and Indie. The former is a multi-million-dollar project made by a big development team with full promotional campaigns provided by a publisher. The publisher can intervene in the production by making change that can drastically change the vector of development. The latter has lower budgets, small team, and not a big support from the publisher, but it can act "independently" (Wearn, 2016).

Indie games cost around 20-40$, which is usually less than AAA that used to cost 60$ (now 70$). According to Alexey Zubrag's approximate calculations, 60$ games have next expenses:

0.5$- cost of bank operation

11.9$-VAT

14.55$-platform commission

10.05$-publisher commission

8.05$-tax on net profit (USA)

1$-for engine use (Unreal Engine)

At the end, game receives in USA 13.95 of net profit. During the year, the price can go down because of the seasonal discounts and start to bring less to studio. That is why the main focus is made on first month of sale (STAFF, 2015).

3.1.3 Video Game Market

The industry was growing fast during the COVID-19 pandemic that happened in 2020 and paralyzed the world, so video games became the most popular form of entertainment in 2022 (Lewis, 2023). This led to a rise of revenue in this sector. According to Statista, the revenue is expected to grow in the next years.
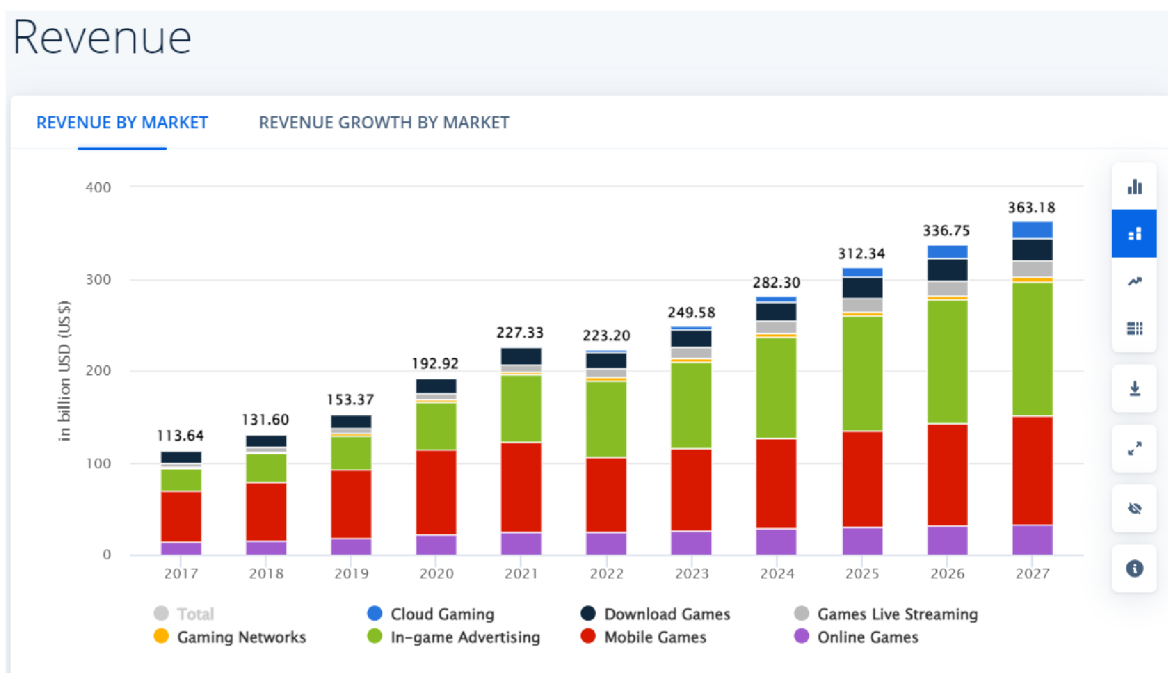

Table 1Video Game Industry Revenue 2017-2027 by Statista

In future, companies want to extend the number of players to 2 billion players by expanding in regions like Africa and South America that have room to grow. By realizing cloud gaming, the content would become available for everyone who has a device with a display and internet on which games can be streamed. That is why companies are focusing on cloud gaming.

Crunch

3.1.4 What is crunch and why it happens?

The term "crunch" stands unpaid long working hours that number of which is bigger than standard 40 week-hours. According to various biographies of famous developers, crunch has always been in industry. But due to small team and young industry, the will and desire to create a great game was driving them to work more. Most of the employees are former fans who desire contribute by making their own game. Nevertheless, nowadays companies use them to fulfil their business demands and treat their romanticized interests (Harris, 2021). They are forced to stay late at the office due to collective initiative to overwork to finish the assignments (Fabio Petrilio, 2009). Yet, this happens to be overwhelming and exhausting.

The main reasons of crunch are mostly due to the issues with communication, finances, technology, process, bad roadmap, excessive scope, and pressure from publisher (Henrik Edholm, 2017). It all can cultivate unhealthy company culture that can be maintained there for pretty long. 53% tells that crunch is a compulsory element, and only 18% mentioned overtime compensation (Eve Crevoshay, 2019).

Despite having a big number of people in the team, the industry delegate some processes to outsource in order to realize the plan and lower the expenses. Unfortunately, It is important to mention that one of the severe victims of crunch are outsource studios. These studios are minor but to significant for the industry. The employees there get low salary and expected to work more (Bratt, 2021).

3.1.5 Types of Crunch

According to Edholm, there are 4 types of crunches. *Mini crunches* are short periods of long hour work weeks that usually last 2 weeks in order to push the development to meet the milestones. This type is the less harmful.

Final crunch is one big crunch session that takes place before the delivery of the product to polish the game and make game playable for release. In aims to prepare game on time, the team can end up creating more mistakes because of stress and sleep deprived mode.

Continuous crunch is crunch maintained throughout whole process until the game is complete. Usually happens because of bad scheduling because of which team doesn't have time to reflect on the work they've done. The lack of time leads to creating more bugs, which affects the employees' work hours.

Delusional crunch is when the studio believes that everything is going smooth while not and their team stays overnight at offices. It can be combined with one of the other types.

3.1.6   Consequence for employee

Excessive overwork can cause chronic stress that contributes to health issues. It also leads to problem with mental health that can result in depression or insomnia. Some workers can't handle such pressure from the work environment and it can lead to death (Greene, 2021). In 2016, a worker of Netmarble passed away from coronary arteriosclerosis (heart disease), because of marvellous schedule with 89 hours per week (Royce, 2017).

The work on which the employee has spent several months or even years, can be deleted because it might be challenging to execute and takes so much time, which makes the executive choose to erase it. Also, the company can change the vision in which there is no place for some of the previous work. It can seriously harm the creativity and the attitude towards the future work with project (Peter Zackariasson, 2008).
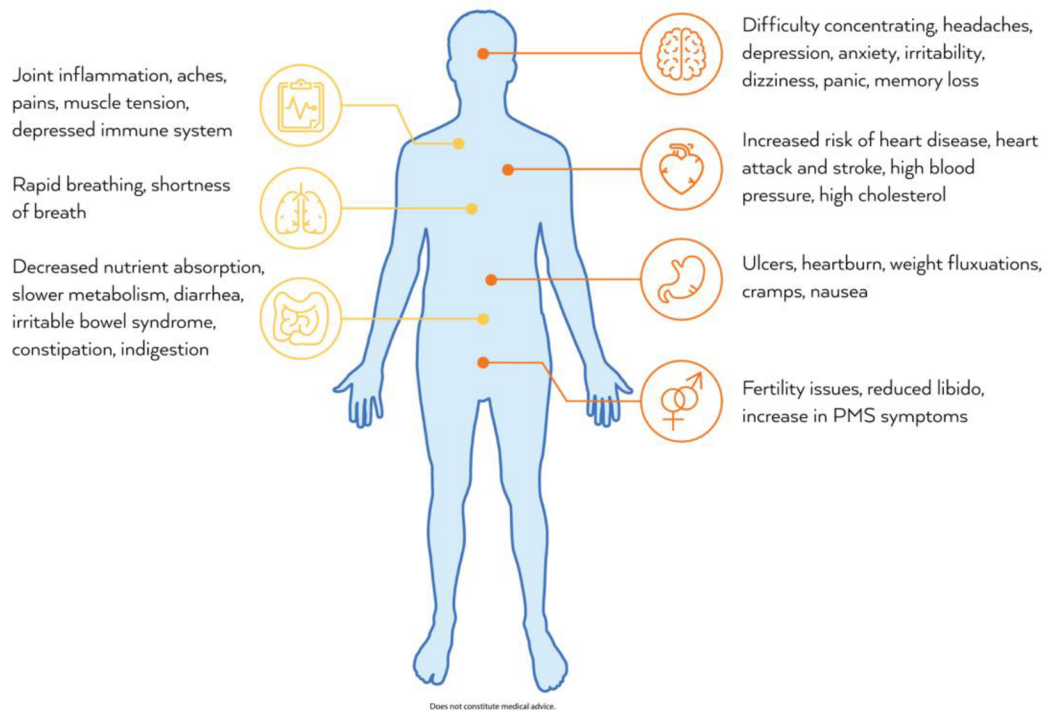
Figure 3Effect of Chronic Stress. Source Take This

3.1.7 Consequence for company

The crunch has always been in industry, and it doesn't happen to be improved drastically in future. Even though, there are examples of teams with sustained work-life balance approach, most of the specialists can ensure that it works well there. It is still can be a tool for the businesses to secure their investments. However, it has affected several publishers like Ubisoft, which was portrayed as a cruel employee with "hostile" work environment. They have cancelled few games and changed focus to elevate financial efficiency, because of the probability of financial collapse that has grown in the last 10 years (Browne, 2023). Exposed to crunch employer can make mistakes during work. It affects the quality of the work that can affect economic performance too. Their retirement from company launches a process of talent acquisition to replace them, which might take time for search and training. These roadblocks can take the precious time of development that affect productivity of the team. The turnover can cost a lot to company (Paulsen, 2021).

Human Resources

3.1.8 Strategic Management

Strategic Management is a systematic approach towards long-term projects with focus on establishing objectives, formulating plans to achieve these objectives, and utilize necessary assets to accomplish the objectives. It includes assessing internal and external variables, organize strategies, set plan, and track effectiveness to keep to the schedule (Kennedy, 2015).

The participation of Human Resource team in the development of products is essential to carry out operations of strategic management. According to Boon, implementation of various methods of strategic management has improved moral well-being of the team and financial effectiveness in terms of three decades.

Kennedy underlines importance of well-established communication within the business. It helps to follow the strategies and monitor the accomplishments. As result of that the flexibility in decision making and plan adjustments. Developing good talent acquisition and network communication principles is fundamental for this.

Human Resource should provide different methods for talent growth and engagement in project for workers, like bonuses, trainings, various discounts and memberships, compensation for overtime work, etc. That would help to retain staff and strengthen their skills. Skilled workforce secures growth of the company and enhance its value of current and future assets (Urme, 2023).

3.1.9 Strategies In Video Game Industry

Most of the labor force in industry enter it to live their dream of game producing and expressing themselves. Managers are dealing not only with tech, but also creative personnel with ambitions and drive. It is a duty of the leaders and managers to control their and address their innovative motivation and bearing in mind a limit of resource that they possess. So they need to identify production restraints and determine the importance of it.

While making strategy, it important to look at different scenarios of production to determine choice system. It should focus on choosing the best available practice the goal of which should be improvement over current one. Developed alternatives restriction would help to avoid ambitious yet most likely difficult to realize different approaches that can lead to bad consequences and become an obstacle in development (Harris, 2021).

With further analysis of series of this algorithm, leaders need to aim to build a prototype to test their work in terms of entertaining gameplay. After the tests, reports should be formulated with full details for improvement. The practice must be consistent in order to meet the deadlines.
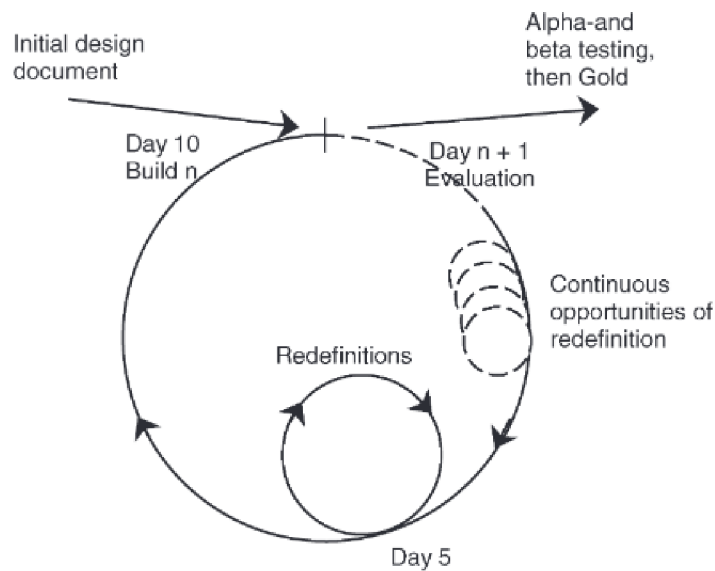
Table 2 Individual cycle In Video Game Development. Source: Zackariasson

The role of the leader in this process is one of the key factors for smooth production process. They need to be a major bridge between the stakeholders and developers, or if it can be paraphrased in "the link between financial objectives and creativity". They is the one who systematically approaches to accomplish task and stick to the calendar. They is responsible to let staff evaluate their work and give them credit to make decisions by giving them good reports on their work. They also need to care about their health to keep them driven during the whole process. Leader candidate needs to demonstrate experience to be reliant on by the team (Peter Zackariasson, 2008).

4 Practical Part

Naughty Dog

Naughty Dog is a video game studio based in Santa Monica, California. It was founded in 1984 by two school friends, Andy Gavin, and Jason Ruby. In the first two decades after the foundation, the studio was developing platformer series "Crash Bandicoot" and "Jak and Dexter ."In 2001, the studio was acquired by Sony.

After a few years after the purchase, Sony ordered Naughty Dog to develop a new IP product. It was an adventure action about the treasure hunter. The position of the videogame director and of the head writer was given to Amy Hennig, who has previously worked on Jak and Dexter series. In 2007, Uncharted: Drake's Fortune was released. It showed a good sale (4.8 million copies), and Sony has ordered a sequel of the franchise. During the production, Bruce Straley, who was a game design artist of the first game, met a programmer Neil Druckmann and became good friends with him.

After the release of the first part, Straley was promoted to the position of a creative director under the direction of Hennig, and Druckmann took the position of videogame designer. In 2009, Uncharted 2: Among Thieves received good reviews from critics and gamers, and the sequel sold over 5 million copies. The production of the trilogy has started, but this time without Straley and Druckmann.

Amy Hennig finished the production of Uncharted 3: Drake's Deception in 2011, which has sold 6.6 million copies. At the same time, the duet of Straley and Druckmann was working on a new game intellectual property, the story of which is an adventure of a smuggler Joel and a teenage girl Ellie across the post-apocalyptic United States. "The Last Of Us" was released in 2013 and received astonishing reviews. The game sold over 3.4 units in three weeks. After this, Naughty Dig established two teams.

4.1.1 Uncharted 4

From 2011 till 2014, Amy Hennig, with a small number of developers, was working on the fourth part of the Uncharted series. They reconsidered all the aspects of the previous

trilogy and wanted to bring a new vision to the fourth part. Nathan Drake used to be a character who was able to kill thousands of his enemies. The team decided to change the gameplay to make Drake make rely on stealth and fist fights (Schreier, 2017)

In 2014, a downloadable content, "Left Behind" for The Last Of Us was released. After that, Naughty Dog allocated the team to help with Uncharted. Straley said that: "there was no time to relax."

The game was in a production crisis. Hennig had a controversy with the management of the company regarding the vision of the game. The size of the team was pretty small, and the game release was delayed, because they was not able to finish the game by the scheduled deadline.

In 2014, Hennig left the studio. She gave no comments, and as some sources suggest, she has signed a non-disclosure act. Naughty Dog has substituted her role with the duet of Straley and Druckmann.

When they arrived, they had the work that was done by the team in three years. However, they had a different view of the game. They have changed characters, gameplay, plot, missions, and mechanisms. A lot of work was thrown away. The employees were observing how the things, which they had been developing for several months, were removed. In fact, Drcukmann did not want to deal with this project in the first place, so he announced the fourth part to be the last. On the contrary, Hennig was not planning to finish the series.

The duet was having arguments about several game elements. The atmosphere at the office was toxic because Hennig's team worked with Druckmann's one that didn't want to take this project. This controversion took a lot of time and effort. With the upcoming deadline, the team started to crunch and worked 12 hours a day in order to meet the deadline. Sony's management allowed to postpone the release date a few times. Finally, on May 10th, Uncharted 4: A Thief's End was released.

4.1.2 Economic Results

In three weeks, the game has sold 8.7 million units. It also received a good critical response. Still, success is followed by bad news. 70% of the staff has left the studio, including 14 out of 20 non-lead designers. Straley has also left the company. He recognizes Uncharted 4 to be the hardest game that he has worked on. As he mentioned in the interviews, „he was burnt out". Because of the turnover, the studio got rid of opportunity to develop two games at the same time. (Schreier, 2020)

Figure 4 The Poster Of Uncharted 4

This huge turnover has affected the next project, The Last Of Us Part 2, by slowing down production. It was postponed several times and was released on June 19, 2020 with 4 million sold copied in first weekend that beat Sony Entertainment's games' record. There was a doubt about the quality of the game, but Sony gave the studio extra two weeks to fix bugs. The Last of Us Part 2 also experienced severe crunch which led to another massive quits within the team, including long-time veterans of the studio. The final product, however, received bad reviews because of the plot which was written solely by Neil. In the first part, Bruce used to decline the worst ideas of Neil. Druckmaann later told that he failed to sustain balance for employees and came out about the necessity to bring to acquire new external help for future games.

In 2022, Straley joined Wildflower Interactive. The studio has mentioned on its website that its goal is to make" 'small-ish,' creatively-charged, uniquely-stylized games that explore the possibilities of our medium... Let's enjoy our work and appreciate the people we get to work with. And let's try to advance our industry in the process." To realize it, the company focuses on maintaining a work-life balance by establishing remote work and avoiding unpaid overwork (Carter, 2022). In 2023, Straley mentioned the industry needs to have labor unions to fight and avoid a crunch (Carter, 2023).

5 Results and discussions

The Sony tried to resolve Hennig's team inability to move in development by adding team that expressed no desire to operate in this. This caused several arguments and biefs that resulted in Hennig departure from the studio with scandal. As most of the drafts were erased, the production team's drive was hurt, and new process started that caused change the vector of the project.

Despite showing great sales, the company lost a huge amount of specialists including some studio veterans. The studio lost the ability to increase their productivity and remained with one single team that also faced severe crunch during development of the The Last Of Us Part 2.

Even demonstrating huge economic success, the team couldn't handle crunch further and exodus of talent happened. Druckmann admitted consequences of his failure to retain the team. Without Sony letting them polish the game, they would not able to make it. The importance of duo was also significiant in the succcess of the first part, but Druckmann have exhausted the limit and it affected the game quality. The company is going to reevaluate to keep being the one that can produce big games.

6 Conclusion

To conclude, the author wants to demonstrate hope in the future of the industry, yet the study doesn't indicate a major shift in it. The reason would be infantile management and inability to learn from mistakes. The businesses also participate in this by changing the strategy of games or with bad regulations. This doesn't help them to build a good conveyer of high-quality games. However, the discussions about that brought awareness to players and can contribute in the perception of the cruel system that doesn't have mercy for anyone.

Hopefully, ex-workers decide to change the system by running their own studios to create a pleasing work environment for game creaton. That can be a new wave of well-developed entertaining games.

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8 List of pictures, tables, graphs and abbreviations

List of pictures

List of tables

Appendix