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Ready Player Green – A case study of sustainability in the Swedish games industry

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Ready Player Green – A case study of sustainability in the Swedish games industry

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SIAO-YU LIN

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Abstract

The video games industry is taking more sustainability responsibilities since video games can reach a broad and tremendous audience. Apart from adopting sustainable business strategies, games companies also need to navigate various stakeholders' expectations and draft strategies to communicate with them. However, despite an abundance of corporate social responsibility literature, there is no existing research specifically focusing on how the video games industry can contribute to this topic. The social and environmental responsibilities of games companies are usually discussed separately. Therefore, this project aims to explain, in the video games industry, how social and environmental impacts are addressed in the form of corporate social responsibility and how companies meet stakeholders' needs as a part of their sustainable business strategies. Six companies in the Swedish games industry were selected and interviewed. Together with the published sustainability reports, a theory-based content analysis was applied. The results indicate that games companies have mature strategies to tackle social impacts. For environmental impacts, on the contrary, there are no united strategies. The measures used to address environmental impacts vary from corporate to corporate due to the significant differences in business models. Besides publishing documents to communicate with stakeholders, games companies can also communicate sustainability via their games, which can be done by integrating sustainability in game mechanics or as an add-on feature. In conclusion, achieving a competitive advantage is the ultimate goal in engaging corporate social responsibility. Also, stakeholders' expectations push companies to be more sustainable. Communicating sustainability via games may raise environmental awareness among the players; however, it might only apply to a specific group of people.

Keywords: Corporate social responsibility (CSR), corporate sustainability, gaming industry, stakeholder management, sustainable gaming, sustainability reporting

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Abstract

Video game is a product that reaches millions of players worldwide. Therefore, it comes with responsibilities for the developers to ensure that the products do not result in negative impacts. Apart from social impacts, such as gender inequality and toxic player communities, there is also a rising environmental awareness among the games companies lately. However, existing research mainly discusses games companies' social and environmental responsibilities separately. This project aims to explore how games companies address social and environmental issues in sustainability and how they communicate their sustainability efforts to their stakeholders. Six companies in the Swedish games industry were selected and interviewed. Together with the published sustainability reports, a theory-based content analysis was applied. The results show that games companies have a well-developed strategy to tackle social issues. In contrast, the measures to environmental issues vary due to differences in business models and their roles in the value chain. Games companies communicate their sustainability in two forms – through documentation and in-game features. To conclude, the main goal for companies to engage in sustainability is primarily to increase competitive advantage, and stakeholders' expectations drive their sustainability engagement. Communicating sustainability via games may raise environmental awareness among the players; however, it might only apply to a specific group of people.

Keywords: Corporate social responsibility (CSR), corporate sustainability, gaming industry, stakeholder management, sustainable gaming, sustainability reporting

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1 Introduction

This chapter presents a general background of the study and the problem, which is the foundation of research aim and questions. After having an overview on the problem and the background of Swedish games industry, delimitation sets the scope and boundaries of the study. Finally, an outline gives information on the structure of this project.

1.1 Problem background

Playing game is a widespread animal behaviors that determines the survival rate of animal cubs, which is also a deeper part of human nature (Dalton and Luongo, 2019; Fagen and Fagen, 2004). Without being taught, animals know how to play; they naturally know how to invite each other, follow rules of play, and most significant, have enormous fun and joy (Huizinga, 1949). The reasons behind playing are complex and have various versions of explanation. Generally, researchers believe the behavior results from psychological needs or chemical rewards incentives of the brain (Reinhold *et al.*, 2019). It helps to explain why the crowd enjoys watching soccer games, why gamblers get lost in playing high-stakes poker, and why some teenagers are addicted to video games. The definition of "game" on Collin Dictionary is "an activity or sport usually involving skill, knowledge, or chance, in which you follow fixed rules and try to win against an opponent or to solve a puzzle." There are many types of games; they vary from culture to culture and evolve with technological advancement. Among various forms of games, the term "game" used in this project refers to video games.

Playing video games is proved to have physical and mental benefits, especially during the COVID-19 pandemic, which was the opposite in early days. After the first video game was created in 1958 by a physicist (American Physical Society, 2008), video games faced many criticisms throughout the development. Many adverse effects of playing games were identified on young players, such as game addiction and aggression (Adachi and Willoughby, 2011; Carnagey and Anderson, 2004; D. Griffiths *et al.*, 2012). However, these effects are disputable due to overinterpretation and poor design of measuring questions (Adachi and Willoughby, 2011; Ferguson and Kilburn, 2010). Only recently, the positive effects of video games are getting recognized, which is specifically reflected during the COVID-19 pandemic due to social needs (ISFE, 2021). Many studies support the positive effects of video games on improving brain functions (Schenk *et al.*, 2017) and reducing risks on mental issues (Lewis *et al.*, 2021). When looking at the games industry, it has a long history of gender issues that are reflected in the games companies and game content. The issues include pay disparities, male-dominant working environment and main protagonists in the games, over sexualization of female characters etc. (Bailey *et al.*, 2021; Jagoda, 2017; Lynch *et al.*, 2016). Further, carbon footprint of games is also significant, such as cloud gaming and console manufacturing (Molloy, 2020). These issues point to the need for games companies to become more responsible towards their employees, players, and the environment.

As a result, companies have adopted corporate social responsibility, CSR, a prevalent management concept implemented in many contemporary contexts (Bailey *et al.*, 2021; Horrigan, 2010; Jagoda, 2017). Taking corporate responsibility implies for example, responsible resource use, an extended stakeholder definition and other actions that may be related to established pathways for sustainable development (Olofsson and Mark-Herbert, 2020). It is closely related to sustainable development (Ebner and Baumgartner, 2008; Olofsson and Mark-Herbert, 2020). Thus, it is suggested to integrate the concept of sustainability into the core business management because it influences strategic decisions. It can potentially affect the short term financial performance of companies as well as the long term business market position (Bilan, 2013; Ebner and Baumgartner, 2008; Lee *et al.*, 2013). The sustainability aspect in the business is interpreted through the Triple Bottom Line (TBL), which establishes value creation in three dimensions: the financial, environmental, and social value dimensions (Elkington, 1994).

All industries face sustainability challenges, but they are specific to the industry and even the corporation (Dabic *et al.*, 2016). In the games industry, there is increasing attention placed on sustainability and

CSR. However, there are no literatures specifically on this topic and most literature with "gaming" as keyword are related to gambling industry. Although either the environmental issue or social issue is discussed in existing literature, there is no information regarding how to address the two problems from a business sense. It remains unclear how the games companies engage in sustainable development and how they contribute to reducing both social and environmental impacts.

1.2 Problem

The games industry is a booming industry in Sweden, and one out of every four people in the world has played swedes developed games (Swedish Games Industry, 2021). There are five main actors in the games value chain: studios that develop games, publishers that publish games, distributors that distribute games physically or digitally, console manufacturers that produce game platforms, and players who purchase and play games. Some actors have overlay business areas; for example, console manufacturer Microsoft own many studios and publish games on their own platform. These actors contribute to 40% market growth in 2020 with total revenue of 3.312 million euro compared with the previous year. The revenue has increased 150% from 2016 to 2020 (Swedish Games Industry, 2021; Swedish Institute, 2021). There are approximately 6600 employees hired in the Swedish games industry, and one out of five employees is a woman. Six hundred sixty-seven registered games companies are reported active in Sweden; Among them, the most considerable number of the companies are SMEs, and many of them have been founded in the past five years (*ibid.*).

The reasons behind making the games industry booming in Sweden lie in four factors. The first factor is the gaming culture in Sweden; It is created by gamers, e-sport competitions, Youtubers, and digital festivals such as DreamHack (Swedish Institute, 2021). The second factor is the early access to computers and the internet, creating experienced computer users, gamers, and game developers at an early stage. The third factor is that the start-up-friendly environment encourages the birth of new companies. Finally, the small domestic market in Sweden enables market testing, which is less risky than launching a product in a higher populated country.

The dramatic economic growth and the high number of games companies indicate high competition in terms of market share and talents (Harvey, 2019). In other words, it points to the need to attract more talents and approach more customers. Sweden is ranked third in the IMD World Digital Competitiveness Ranking (2021); it measures 64 countries in terms of their capacity and readiness in using digital technology to transform the business, governmental, and social sectors economically. The vital need for having access to talents is the driver for games companies to set up offices overseas (Swedish Games Industry, 2021). As a result, the collaboration between higher education and the regional economy is key to filling the talent gaps in Sweden. Another effective approach to attract more talents and customers is through increasing positive brand image (Greening and Turban, 2000). According to Bilan (2013), there is a growing awareness among representatives of companies of the need to meet CSR expectations from customers and society at large. It is especially critical in Nordic countries where customers are high in sustainability awareness. Knowledgeable customers are resulted from the social context – "Consensus societies, social equity, and love of nature" (Birkin *et al.*, 2009, p.288). Excellent brand image can attract more talents. In contrast to companies with less sustainable business practices, companies with higher contributions in sustainability are more attractive to job applicants (Magbool *et al.*, 2016). Therefore, CSR performance is crucial in allowing companies to establish a (TBL) competitive advantage.

Environmental responsibility in the games industry is a relatively new concept. The spokesperson of the Swedish Games Industry Association, Per Strömbäck (2022, *personal communication*) pointed out that 2019 is the significant year for the Swedish games industry. Nordic games companies gathered at a meeting called Bornholm Game Days in Denmark; they concluded that "climate change is the biggest problem, affecting the continued success and well-being in the industry" (*ibid.*). It was a clear mandate for every games company. Many of them in the Bornholm Game Days meeting later become active members in the UN program established in 2019– Playing for the planet (**P4P)**.

The Swedish games industry has been working on increasing diversity and inclusivity, including both game developers and players (Swedish Games Industry, 2021). Although men are still the dominant gender in the industry, the percentage of women employees is on the rise. The most significant is the number of women employees, increasing from 121 in 2010 to 1410 women in 2020. One of the factors was the collective efforts of games companies and the Swedish Games Industry Association on improving gender balance (Strömbäck, 2022, *personal communication*). Many initiatives in Sweden are dedicated to raising awareness of gender equality, diversity, and inclusion in the industry; for example, Game Empowerment Movement promotes inclusion and diversity, and DONNA supports the process of obtaining employment for women who study game development (Game Habitat, 2022; Sweden Game Arena, 2022).

1.3 Aim and research question

The aim of the project is to explain how Swedish games companies contribute to sustainable development in their CSR activities. Therefore, the result is generated by analyzing the practices and in-game sustainability elements. Regardless of size, it can provide suggestions for games companies to engage in sustainability.

The study answers the following questions and sub-questions:

- What sustainable business measures are currently in practice within the Swedish games companies?
    - What results do games companies want to achieve?
    - What are the motivations for these practices?
    - What are the challenges in implementing the practices?
- How do games companies communicate CSR with their stakeholders?
    - What are the goals for the CSR communication?
    - What kind of CSR communication strategies are currently implemented?
    - How do the companies prioritize stakeholders?
    - What impacts on players do games with sustainability content create?

The questions were answered through analyzing selected cases of Swedish games companies in terms of sustainability reports, games with sustainability elements, and data collected from interviews with company representatives.

1.4 Delimitations

This research focused on developers and publisher that are part of the process of games development. The main reason behind the choice is that game content created by developers represents the value of the industry (Marchand and Hennig-Thurau, 2013). Many large studios also publish games, which is why publishers are also included in the research. Note that the practices for sustainability differ slightly between the two actors, depending on whether the company is directly associated with customers. This is reflected in the result chapter about their choices on critical stakeholders. Considering sustainability-related topics are new in the games industry, a case study is applied in the research to provide a broader overview of sustainability implementation. Data is collected through interviews and officially published reports; however, due to the limited timeframe of a master's thesis and availability of interviewees, two interviews are conducted via texts and some major Swedish games companies are not included in this project. Background interviews are used to fill in the gap of literature, providing contemporary data reflecting on issues and challenges within the games industry. Theories were developed based on the research aim and research questions. Together with CSR, sustainable development and stakeholder theory are included in the theory because they partly overlay with CSR.

1.5 Outline

The seven chapters in this project are presented in Figure 1.

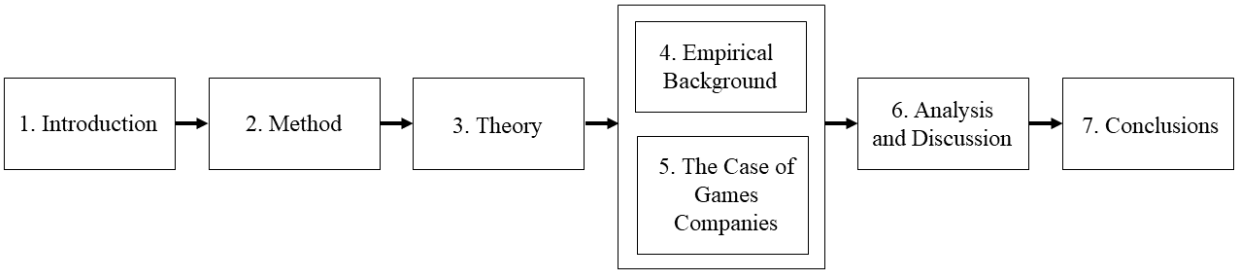

Figure 1. Outline of the project.

The first three chapters set the foundation of the project. The introduction in chapter one is about why there is a need to understand the effectiveness of CSR implementation in the Swedish games industry. In the next chapter, the methods used to approach the topic are identified and explained. Theory in chapter three is applied to understand a particular phenomenon and will later be used to design the project and present the findings. In chapters four to five, an empirical background and the results are demonstrated, later analyzed and discussed in chapter six. Finally, chapter seven concludes this project, pointing out limitations and what can be further studied in future research.

2 Method

In this chapter, several approaches used to develop research questions, research design, data collection, and data analysis are presented. Case study is applied in this project, and techniques for ensuring data validity and reliability are explained. This chapter ends with ethical considerations.

2.1 Literature Review

The literature review lays the foundation of a thesis in terms of its research questions and research design (Bryman and Bell, 2011; Hart, 1998). In other words, a literature review is crucial in conducting research because "knowledge advancement must be built on prior existing work" (Xiao and Watson, 2019, p.93). It helps researchers define their research boundaries and scales through an in-depth understanding of the research topics. A literature review can set up an empirical background for interpreting the results from an informed and unbiased perspective (Bryman and Bell, 2011). The literature review finding contribute to the understanding of the industrial context and the previous research. In this project, these understandings contribute to the empirical background and strengthened understandings of methodological and theoretical choices made in the project.

The primary source of the literature is online databases such as Google Scholar, Emerald, JSTOR, Elsevier, and Uppsatser.se, a database of bachelor's and master's thesis published in Sweden. Most literature chosen is peer-reviewed and is well cited within its domain. According to Bryman and Bell (2011), the publications from newspapers and other non-academic organizations can explain the present business topics. Therefore, some articles on web pages associated with the games industry and publications from organizations such as UNEP and The Swedish Games Industry are used as secondary literature resources.

2.2 Case study

According to Yin (2009), the case study method is relevant when research questions are required to investigate existing events and social phenomena. The case in a case study can be individual, community, organizations, institutions, events, or situation (Robson and McCartan, 2016; Yin, 2009). A case study can be conducted in three ways: theory generation, theory testing, and theory elaboration (Ketokivi and Choi, 2014). Theory elaboration is applied in this project, indicating that a theoretical framework is developed to address the empirical context. Besides, it also implies that researchers are ready for the possibility that unexpected evidence will reform the theory (*ibid.*). It emphasizes the critical role of a theoretical framework as the blueprint of a case study, leading a way to discover a potential phenomenon, guide the data collection process, and suggest a strategy for data analysis (Robson and McCartan, 2016; Yin, 2009). Therefore, the theoretical framework should be extensively developed before collecting data (Yin, 2009).

This project uses a multiple-case study approach. It contains several cases and a cross-case conclusion. Yin (2009) stresses the replication logic behind a multiple-case study, similar to conducting several experiments. After gathering data and evidence from the first case, the following cases are built to replicate the procedures that will enable a cross case comparison. Accordingly, a multiple-case study is considered to have the potential to generate robust and comparable results compared with a single-case study (Gustafsson, 2017; Yin, 2009). Yet it requires considerable time, resources, and effort. Due to the characteristics of a multiple-case study, the key role of a theoretical framework in guiding the research process is highlighted (Robson and McCartan, 2016; Yin, 2009).

According to Robson and McCartan (2016), there is a recognizable trade-off in the case study method between "looseness" and "selectivity." A rigorous research design can affect the broadness of data selection. In other words, the more rigid the conceptual framework, the higher possibility that it might lead to data misinterpretation (*ibid.*). The dilemma is nearly impossible to be resolved. Moreover, the lack of rigorousness in research design and data validity is one of the main criticisms of case studies

(Yin, 2009). As a result, Yin (2009) advocates that researchers follow a systematic case study procedure to avoid biased views and ambiguous evidence. Another approach to ensure the case study rigor is proposed by Ketokivi and Choi (2014), suggesting researchers examine the logic behind the conclusion and arguments and balance the unexpected findings with theoretical implications. Both measures aid in generating reliable research results.

This project minimizes the risk of misinterpreting the results by following a case study protocol (Appendix 1) and applying an abductive approach. A case study protocol is especially suitable when a multiple-case study is adopted. The abductive approach allows researchers to reconcile the theoretical framework and research questions based on the collected evidence (Dubois and Gadde, 2002; Ketokivi and Choi, 2014). The research framework, theory, the case, and the data obtained from the empirical fieldwork usually evolve with one another. Therefore, the abductive approach makes the data and theories correspond, leading to compelling and robust results.

2.2.1 Choice of unit of analysis

The case study in this project focuses on in total six companies chosen from the primary game companies in terms of revenue based on The Swedish Game Industry Index (2020) as well as participants of Green Game Jam (2021). The criteria (Table 1) for selecting the unit of analysis guided the selection process of companies.

Table 1. Criteria for selecting unit of analysis

Criteria	Justification
Companies in the games sector	Within the same sectors and roles, the companies are in a similar context regarding the challenges and opportunities of implementing CSR.
Business models are primarily in developing and publishing games	Many multi-national companies such as Microsoft and Sony are excluded in this project. They invest in many business areas including games. Their communication strategy might not focus only on games but every business area as a whole.
Companies belong to Swedish Game Industry	Companies registered in Sweden operate under similar legal contexts, such as environmental regulations.
Companies with published sustainability reports and Code of Conduct ***Or*** ***Companies develop games with clear sustainability elements***	It represents that the companies are aware of sustainability issues, and some measures have been applied to mitigate negative impacts. To establish the same baseline of each company, the sustainability reports are chosen from the same year (2021). Some companies put efforts in sustainability but do not communicate their work very well (Morsing, 2006). Both communication and sustainability efforts are important and were taken into account.

The main characteristic has to do with the company's business models and willingness to participate in the project. Here, the size of companies was not considered in the selection of companies because company size is mainly associated with the form of sustainability engagement. Since games are a form of entertainment and can be a way for expression, even small companies may engage in sustainability through creating game content associated with this topic. It is less costly compared with most CSR activities, and it also allows small companies to participate in sustainability considering their financial limitations (D'Amato and Falivena, 2020; Hidayati, 2011; Lepoutre and Heene, 2006). For companies that are large in scale may indicate higher revenue and the ability to engage in various sustainability initiatives (Khaveh *et al.*, 2012). These companies can carry out CSR activities, establish partnerships, and also design games with sustainability elements. Each sustainability engagement is a form of communicating sustainability efforts. This affected the analysis of data, which is explained in section 2.4 and is presented in chapter 6.

Based on these criteria (Table 1) six corporations were selected (Table 2). Companies were divided by whether a sustainability report was published. This consideration is based on the business model in the

games industry and the resources availability of small studios. Some large games companies are both developers and publishers, meaning that the companies might own more than one studio. Under this situation, many Swedish studios with a parent company do not publish sustainability reports. The situation for most small studios is that they usually lack resources and financial ability to carry out CSR initiatives, therefore, do not publish sustainability reports.

Table 2. Selected companies in the case study. F2P is the abbreviation of "free to play"

Name of company	**Embracer Group**	**Stillfront Group**	**Paradox**	**Rovio**	**Mojang**	**Toppluva**
Positions/Roles	Parent company of 80 studios and 8 operative groups	Parent company of 22 studios	Parent company of 9 studios	Parent company of 7 studios	Studio (owned by Microsoft)	Studio
Headquarter	Sweden	Sweden	Sweden	Finland	Sweden	Sweden
Game genres	Diversified portfolio	Diversified portfolio	Strategy and management	Puzzle and slingshot (F2P)	Sandbox and survival	Adventure
Main platform	PC, mobile, and console	Mobile and browser	PC, mobile, and console	Mobile	PC, mobile, and console	PC, mobile, and console
Number of employees (2021)	+8,500	1381	721	496	600	3
Annual revenue (million EUR)	1114.5	516	136.7	286.2	-	-
Sustainability Manager in top management	Yes	Yes	Yes	Yes	-	No

These companies (Table 2) were contacted and invited to participate in an interview. Embracer Group, Stillfront Group, Paradox, and Rovio are all parent companies that owns many studios across the world; they develop and publish games. Their sustainability reports are used to represent the general efforts of the Swedish games companies regarding sustainability. Mojang and Toppluva are game developers based in Sweden. These companies are significantly smaller in company size compared to the other companies. Due to this, only their games with sustainability elements are analyzed and discussed in chapter 6.

Table 3. Interview participants in the case study

Participant	**Company**	**Position**	**Interview date**	**Validation (Date)**
Parent companies				
Karin Edner	Embracer Group	Corporate Governance and Sustainability Coordinator	March 25, 2022	May 25, 2022
Sofia Wretman	Stillfront Group	Head of IR, Communication and Sustainability	March 15, 2022	April 06, 2022
Marcus Hallberg	Paradox Group	Financial Communications and Sustainability	March 21, 2022	April 25, 2022
Tommi Lappalainen	Rovio	Corporate Responsibility Manager	March 18, 2022	April 01, 2022
Studios				
Sebastian Sehr	Toppluva	Founder	March 22, 2022	April 12, 2022
Bryan Bonham	Mojang, Microsoft	Program Manager of Minecraft Learning Programs	April 6, 2022	April 22, 2022

Six companies that belong to the Swedish games industry were chosen in the case study. There are positions and teams specific in charge of sustainability communication or CSR in Embracer Group,

Stillfront Group, Paradox, and Rovio. These companies usually provide direct contact information if the public have questions on sustainability-related issues. Reaching a person at Mojang took many attempts until one of the employees helped direct to the right person who could answer interview questions. As for Toppluva, they are a small studio with only three people, so it was a direct conversation with the founder.

Table 4. Background interview participants in the case study

Participant	Organization	Position	Interview date	Validation (Date)
Daniel Wood	Ukie	Special Projects Lead	March 23, 2022	April 25, 2022
Maria Wagner	GamesForest.Club	Initiator & GM	March 18, 2022	April 01, 2022
Per Strömbäck	Swedish Games Industry Association	Spokesperson	March 22, 2022	April 10, 2022
Dennis Scholz	Strange Loop Games	Associate Producer, Community Manager and QA Supervisor.	Text Interview	N/A

Background interviews were conducted to have a deeper understanding of the games industry. Ukie provided perspective from the UK games industry. Daniel is the author of Green Game Guide. The guide provides suggestions on sustainability measures that are suitable for games companies. It is also a critical playbook promoted by the UN program P4P. Swedish Games Industry Association gave an in-depth overview on the Swedish games industry, which is directly linked to the scope of the project. Games Forest Club is an initiative that helps games companies engage in trustworthy natural preservation projects. Their perspectives gave a different angle on sustainability in the industry. The last one is Strange Loop Games that creates the game *Eco*. Alongside with *Minecraft*, these two games were promoted in Playing for the planet because they can be applied in schools for teaching sustainability concept.

2.3 Data Collection

Primary data related to company profiles was collected from CSR reports, financial reports, and information on their websites. Hidayati (2011) suggested that conducting an interview is necessary to support CSR practices found on the available sources. Thus, a qualitative interview with sustainability managers and related positions provides in-depth information regarding the sustainable measures applied within the companies. Other valuable information such as motivations, the effectiveness, the challenges in applying the CSR strategies, and the plan were also identified through the interview. The design of the interview was built on research questions and theories (See Appendix 2). Each question is linked to a certain theory, which later guided the analysis. The design of the interview questions is slightly different between publishers and studios (including the ones that are acquired). Some interview questions avoided using the term – CSR. One reason is that some parent companies do not directly use CSR in their sustainability report, although the content is about their responsibilities toward society and the environment. The other reason is that many studios do not publish sustainability reports; mentioning CSR may make the participants feel intimidating. Interviews were primarily conducted digitally via Zoom, and they were also recorded. Later, an interview summary was provided to each participant for validation.

2.4 Data analysis

Content analysis is applied to the project since it aligns with research aim, which is to explain motives, challenges, and communication associated with sustainability. It is used to study communication content (Prasad, 2008). Systematic coding and thematic categorization are applied in order to understand the relationship, patterns, and structures of unobtrusive texts in any form of documentation

(Vaismoradi *et al.*, 2013). In other words, content analysis is "any technique for making inferences by objectively and systematically identifying specified characteristics of messages" (Holsti, 1969, p.14). Due to the amount of collected data and the short timeframe of this project, making a transcript for interview data is not feasible. As a result, content analysis is more suitable than discourse analysis in this context because discourse analysis requires very detailed transcripts (Robson and McCartan, 2016).

The selection of codes is intimately related to the research questions, while themes are identified through the content of collected data and theoretical frameworks (*ibid.*). The concepts in the theory can help generate a coding rule (Potter and Levine-Donnerstein, 1999). As the interview questions were built on the theoretical framework, the data collected can provide specific themes that can be further categorized. Codes were captured while reviewing interview data and documentation of sample companies. Themes and codes are then presented visually with techniques such as matrices and networks to facilitate data interpretation.

Robson and McCartan (2016) pointed out several deficiencies and bias of human beings as an analyst in every qualitative analysis; for example, human can only deal with limited amount of data and the results of repeat analysis are inconsistent. Two approaches for ensuring validity are suggested by Potter and Levine-Donnerstein (1999): "Developing the coding scheme" and "standard for coded data". A coding scheme is a set of rules to connect researcher's observation into correct themes. Therefore, a theoretical framework can provide guidance in this sense. A standard means a foundation for comparing coding. Techniques such as collecting data from various sources and using tables to present data can also help ensure the quality of data analysis (Robson and McCartan, 2016).

2.5 Quality assurance

Validity and reliability in case study and data analysis are presented in individual section (See section 2.2 and 2.4). All the techniques in this project to ensure research quality are summarized in Table 5.

Table 5. Techniques for ensuring validity and reliability in a case study (Riege, 2003:78-79 modified by the author)

Case study design techniques	Examples of techniques	Application in this project
Construct validity	Use multiple sources of data	Triangulation of data collection by analyzing documents and doing interviews
	Establish chain of data collection	Summarized recorded interview and documented collected data
	Have third-party to review data and case study draft	Reviewed by supervisor, subject reviewer, and opponent Integrated feedback from them
Internal validity	Assure result and concepts are systematically related	Applied identical framework on each piece of data
	Apply figures and diagrams to build on explanation	Applied graphic model in theory and conceptual framework for analysis
External validity	Define scope and boundaries of the research	Completed in Method chapter
	Compare empiric evidence with existing literature	Applied abductive approach; Analyzed data based on theoretical framework
Reliability	Think carefully about theories and ideas	Completed
	Ensure research issues and elements of research design are in accordance	Completed in Method chapter
	Use case study protocol	Completed (See Appendix 1)
	Record observations and actions accurately and objectively	Recorded interview and made observations
	Record data mechanically	Taped interview properly
	Develop case study database	Coded and categorized collected data.
	Secure meaningful parallelism of findings through multiple sources of data	Applied identical framework throughout interview and documentation
	Peer-review and examination	Participated proposal seminar and half-time seminar with peers; Passed final examination of thesis course

Validity is constructed using various data sources, such as digital and text interviews, background interviews, and documentation published by sample companies. Information obtained through digital and text interviews can be supported by evidence collected in background interviews. To ensure an accurate understanding of interview content, interview summaries were provided to every interviewee through email, and validation of the summary was received. Internal validity is secured by applying the same framework and using the graphic model to aid both analysis and explanations. External validity is done by determining the scope and boundaries of this project, which can support valid and logical interpretations that fit into a specific context. Additionally, the literature supports every piece of data, and an abductive approach is applied in data analysis. Lastly, various techniques are applied to ensure reliability, including using case study protocol, recording data concretely, and peer-reviewing data. All methods presented in the table can help achieve a rigorous and high-quality case study.

2.6 Ethical considerations

When human subjects are involved in research, ethical considerations are required throughout the project (Robson and McCartan, 2016). It points to the need for informed consent, giving participants the right to decide whether they want to be involved in the research (Robson and McCartan, 2016; Yin, 2009). Ethical considerations are followed strictly in this project. Building on the model in Boynton, (2005), every interview participant was informed about the study's purpose and that the interview was

recorded. In addition, interviewees also have the right to stop the interview whenever they want and refuse to answer certain questions.

Another ethical consideration is to protect participants from any form of harm (Bryman and Bell, 2011). In this case study, the harm refers to reputational damage. Conducting corporate social responsibility means companies operate in a way that can positively impact society and the environment. It is reflected in business strategies and values, which can affect companies' brand image. As a result, ethical considerations on documented correct information are applied in this project. Any business measures disclosed in the interview that was later told confidential would not be documented. The aspect of privacy invasion was also considered in this project. Therefore, personal information that interview participants wished not to be shown in public would not appear in the document.

3 Literature review and theoretical framework

This chapter presents the following theories: sustainable development, Corporate Social Responsibility (CSR), stakeholder theory, and CSR communication strategy. These theories are centered around CSR, and concepts of each theory overlay partly with one another. At the end of the chapter the conceptual framework is presented, which is the foundation of analysis in chapter six.

3.1 Sustainable development

The most well-known explanation of sustainable development is defined in the *Report of The World Commission on Environment and Development: Our Common Future*. "Development that meets the needs of the present without compromising the ability of future generations to meet their own need" (United Nations General Assembly, 1987, p.37). It raised the awareness of environmental concerns in terms of society, economy, and policy. Besides, it was the first time that the term "sustainable development" was introduced in political discourse (Redclift, 2005). "Sustainable development" can also be understood as a concept that reflects the previous environmental and social issues due to destructive industrial activities (Shrivastava *et al.*, 1995). Next, corporations were requested to carry out ecological actions at the Earth Summit in 1992, a turning point that enhanced the relationship between corporations and the environment (Redclift, 2005). In 2015, *The 2030 Agenda for Sustainable Development* introduced the global Sustainable Development Goals (**SDGs**), including 17 goals and 169 targets (United Nations, 2015). It calls for attention to socially and environmentally sustainable development while stressing eliminating inequalities and poverty (United Nations, 2015). With the collaboration and partnership of each country, the SDGs goals can be secured, creating prosperity and a peaceful planet for people. Since then, the SDGs have been implemented as the core of business sustainability strategies and is used to advocate ethics and responsibility in business practices (Pedersen, 2018). Sustainable development, starting from a concept that reflects society and policymakers' needs, is transformed into an approach for private sectors to meet stakeholders' expectations.

The concept of sustainability in many corporations is introduced by external pressure from competitors and stakeholders. To put sustainability into business practice, it is crucial to take economic, environmental, and social aspects into consideration throughout the decision-making process (Emas, 2015). In line with the sustainable development concept, many terms have been generated, such as Corporate Social Responsibility (**CSR**) and Corporate Sustainability (**CS**) (Steurer *et al.*, 2005). Many large corporations have adopted and developed sustainable business strategies (Utting, 2000). However, many business guidelines of sustainable development are delivered in an elusive discourse and focus on creating a win-win situation on environmental issues (Barkemeyer *et al.*, 2014). Besides, the motivation for implementing sustainable business strategies is less related to the concerns towards the negative impacts on the environment and society (Utting, 2000); It is driven by either the need to increase competitive advantage or the expectations of stakeholders (Ortiz-de-Mandojana and Bansal, 2016; Steurer et al., 2005; Utting, 2000). For instance, customers and employees may put pressure on companies to induce the publication of high-quality sustainability reports (Rudyanto and Veronica, 2018). This phenomenon reflects the critical role of stakeholders and their influence on business sustainability strategies.

3.2 Corporate social responsibility

There is no universally agreed definition of CSR (Muñoz-Torres *et al.*, 2019). Besides, the definition of CSR changes according to the business and cultural context (De Geer *et al.*, 2009; Matten and Moon, 2008; Whitehouse, 2006). The most widely adopted definition of CSR is applied in the European Commission (2001, p.6): "companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis." Thus, CSR is a concept that covers three value dimensions - financial, environmental, and social values. The explanation of CSR in this project is based on the triple bottom line developed by Elkington (1994), considering the equal importance on economic, environmental, and social performance.

Corporate social responsibility programs should be seen as a continuous investment that will eventually lead to financial benefits and meet the expectation of stakeholders (Hidayati, 2011). For many companies, CSR is "the concept of firms sacrificing profits in the social interest in the environmental realm" (Reinhardt *et al.*, 2008, p.21), implying it as a driver of costs (Hidayati, 2011). However, implementing CSR does not mean that corporations must compromise on pursuing profit. Porter and Kramer (2011) argued that benefiting the public and creating "shared value" leads to economic growth. The same view applies to the mitigation of environmental impacts in industrial activities. Enhancing productivity and efficiency in the value chain can reduce pollution significantly while creating economic advantages (Porter and Linde, 1995). Economical involvement in CSR initiatives might be an intimidating idea for many since there is no direct benefit in the short-term. Therefore, it is important for companies to set a long-term goal when engaging with CSR.

When there is no genuine commitment in CSR engagement, it can pose limitations and ineffectiveness. Whitehouse (2006) asserted that companies are unable to address stakeholders' expectation because managerial units misconduct CSR to best maximize the profits. However, the perceived duty of most corporate managers is not related to developing strategies based on profit-maximizing but to considering public interests in the business strategies (Elhauge, 2005). Although CSR is known for its ability in mitigating the risk of reputational damage, it is used by some as a mask to cover their unethical behaviors (Karwowski and Raulinajtys-Grzybek, 2021; Whitehouse, 2006). In certain industries that are recognized harmful by the public, such as the tobacco industry, their CSR engagement might not be as effective as in other industries due to the low level of trust (Palazzo and Richter, 2005). If CSR is conducted unethically, it may fall into the application of being a "greenwash" tool, allowing companies to harm the public goods under the mask of environmentalism (Greer and Bruno, 1996; Sheehy, 2015).

The support from the government is specifically crucial in CSR performance (Lopatta *et al.*, 2017; López-Concepción *et al.*, 2021). CSR can be seen as complementary for governmental policy and regulations, motivating companies to take action (Reinhardt *et al.*, 2008). As defined by Sheehy (2015, p.625), CSR is an "international private business self-regulation" with a focus on mitigating the harmful effects of industrialization and providing public goods. High performance in CSR can be interpreted as the result of collaboration between private sector, government, and stakeholders.

3.2.1 A contemporary context of corporate social responsibility

For many contemporary corporations, CSR is a measure that can help respond to dynamic conditions as grounds for differentiation (López-Concepción *et al.*, 2021). The strike from the COVID-19 pandemic has negatively affected many industries and individual companies' economies. In this situation, even a high performance in CSR might fail to secure stakeholders' wealth (Bae *et al.*, 2021). Due to the rising inequalities and remote working policies during the COVID-19 pandemic, Crane and Matten (2020, p.1) pointed out four aspects that are under examination: "stakeholders, social risk, supply chain responsibility, and the political economy of CSR,"; meaning that there is a need for companies to identify and prioritize the workers who are exposed to high risk, addressing social needs by being more responsible and providing a higher quality of services. As a result, the current concept of CSR is facing many challenges and reformation to better fit into the contemporary context (Bae *et al.*, 2021; Carroll, 2021).

3.2.2 Institutional contexts of corporate social responsibility

The way managers approach CSR changes according to national, cultural, and institutional contexts since stakeholders' roles and expectations also vary (Aguilera and Jackson, 2003; Matten and Moon, 2008). The reason why countries have different CSR strategies lies in "a variety of longstanding, historically entrenched institutions" (Matten and Moon, 2008, p.406), which is shaped by political, financial, education and labor, and cultural systems (Whitley, 2000). In addition to the systems, the desire to be legitimate drives companies to standardize and rationalize CSR strategies (Matten and Moon, 2008). As a result, the CSR concept in Nordic countries is transformed to better fit society (Gjølberg, 2010). The Swedish CSR is policy-driven and is built on social and cultural norms (Gjølberg,

2010). As a representative of a welfare country, the Swedish government engages actively in societal and financial activities (De Geer *et al.*, 2009; Mazboudi *et al.*, 2020). However, from the perspective of the Swedish government, CSR is seen as a measure to address sensitive political topics such as human rights (Gjølberg, 2010). They believe the private sector can manage CSR strategies independently without the assistance from the government (Gjølberg, 2010). The only exception is the requirement of CSR reporting from every state-owned enterprise, following the Global Reporting Initiative (**GRI**) guideline (Gjølberg, 2010). Even though there is no formal CSR policy to regulate the private sector, CSR is accepted as a managerial concept by many Swedish companies (De Geer *et al.*, 2009; Gjølberg, 2010). In the pursuit of acquiring legitimacy, many international Swedish companies are increasingly adopting CSR policies (Mazboudi *et al.*, 2020). The GRI guideline is also followed by many in CSR reporting (Hedberg and von Malmborg, 2003). When presenting CSR on companies' websites, Castelo Branco *et al.* (2014) found that most Swedish companies communicate on their code of conduct and publish articles associated with their CSR initiatives.

3.3 Stakeholder theory

The stakeholder theory has become a significant part of corporate social responsibility in the business context after it was first introduced by Freeman (1984, p.46), who explained stakeholder as "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Donaldson and Preston, 1995; Freeman, 2004; Mitchell *et al.*, 1997). Based on Freeman's view, an improved stakeholder model (Figure 2) is proposed by Fassin (2009), which integrates critics and suggestions from earlier stakeholder models. He divided stakeholders into three categories: stakeholders, stakewatchers (primarily advocacy groups), and stakekeepers (governmental or regulatory actors). In other words, "The stakeholder who holds a stake, the stakewatcher who watches the stake, and the stakekeeper who keeps the stake" (Fassin, 2009, p.128). The model allows companies to start the first step of stakeholder management – identifying and analyzing stakeholders (Figure 2).

The key to a successful company lies in how corporate managers manage the relationship with stakeholders, meeting their expectations, and creating long-term values with them (Freeman *et al.*, 2002); This is in line with what is embedded in the CSR concept. Furthermore, Roloff (2008) suggested optimizing stakeholder management through engaging and building multi-stakeholder networks. This can be applied practically in business activities and help achieve the goals relating to sustainable development in corporations (Roloff, 2008; Svendsen and Laberge, 2005). This reconciles with the perspective of Freeman *et al.* (2020): Each business and corporate is a system. In the systems, stakeholders are interrelated and independent (Crane, 2020; Freeman *et al.*, 2020). As a result, a thriving system is created by the collective effort of every stakeholder. This perspective points to the need of a system thinking on the relationship between stakeholders and the corporation where every stakeholder has more or equal influence on the business strategies (Roloff, 2008; Svendsen and Laberge, 2005). In short, "stakeholder theory is about "knowing how" to engage stakeholders and create value for them" (Freeman *et al.*, 2020, p.217). It is a vehicle that encourages corporations to reach an ideal outcome that other means cannot achieve. Additionally, it allows businesses to build on humanism, reflecting an understanding of their role, purpose, and impacts on society (Freeman *et al.*, 2020).

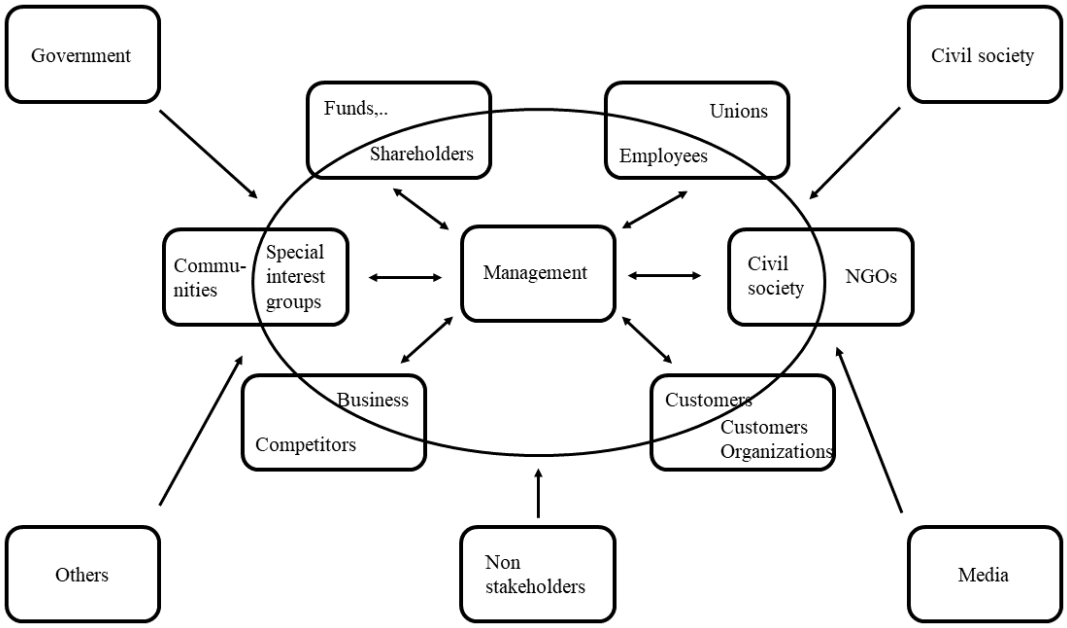

Figure 2. The refined stakeholder model (Fassin, 2009, p.124 with minor modifications).

In a stakeholder system (Figure 2) various stakeholder groups contribute to value creation. The management strategy toward each stakeholder group needs to build on fairness; otherwise, it can lose stakeholders' trust and lead to undesirable stakeholder behaviors. In the early stage of stakeholder theory development, many scholars believed that managers should identify the most important stakeholders and focus on narrowed stakeholder groups (Agle *et al.*, 1999; Clarkson, 1995; Mitchell *et al.*, 1997). This can sometimes be a good strategy for companies to address their responsibility to a specific stakeholder group (Dmytriyev *et al.*, 2021).

Mitchell *et al.* (1997) offer a model for stakeholder characteristics (power, legitimacy, and urgency) that explains how corporations respond to responsibility (CSR). It was tested in actual cases and found that the level of power, legitimacy, and urgency determine the importance of stakeholders and how CEOs prioritize and respond to them (Agle *et al.*, 1999). However, many recent articles posit that prioritizing powerful stakeholders is problematic; it ignores the interconnectedness of stakeholders and can result in negative consequences (Bridoux and Vishwanathan, 2020; Crane, 2020; Freeman *et al.*, 2020). Impartial treatment of stakeholder groups has become increasingly important as digitalization is progressing (Crane, 2020). Based on the three characteristics of stakeholders, Bridoux and Vishwanathan (2020) define the powerful stakeholders as those who (a) possess the resources that are critical to the basic operation of a company, (b) have demanded that a company may have difficulties to meet, and (c) are hard to replace. They concluded that the bargaining power of powerful stakeholders could force a company to prioritize their interests. Nevertheless, if the managerial units can carry out a stakeholder strategy based on equity, the powerful stakeholders may not resort to the bargaining power for their interests. Although different stakeholders have different needs and demands, treating them fairly does not imply treating them uniformly; instead, companies should address the common needs across all the stakeholder groups (Crane, 2020). This way, companies can convey trust through their actions toward and interactions with stakeholders. Trustworthiness is the moderator that can create competitive advantages and greater value for a company (Ashforth and Gibbs, 1990; Barney and Hansen, 1994; Crane, 2020).

3.4 CSR communication strategy

Ensuring stakeholders receive and understand companies' contribution to CSR can increase competitive advantages and brand image (Blombäck and Scandelius, 2013). As a result, communicating CSR provides a way to present a trustful corporate image to critical stakeholders. Morsing and Schultz (2006) developed three strategies for communicating CSR efforts with stakeholders (presented in Table 6), based on the models of public relations created by Grunig and Hunt (1984). The theory of sensemaking

supports the communication strategies used to understand the process for people to "give meaning to their actions and experiences" (Bentley, 2016, p.743) in the organizations (Morsing and Schultz, 2006). Conversations in an organization and its language environment shape each other, and they reflect how people interpret the meanings and how things are made sense of (Taylor and Robichaud, 2004). Therefore, managerial units need to consider the dynamic of the language environment, understanding the internal and external organizational context and adjusting their perception to it (Morsing and Schultz, 2006). The process of sensemaking is facilitated by sense-giving, which refers to the activities that managerial units take step by step to communicate the visions and values of a strategic plan (Gioia and Chittipeddi, 1991). In other words, they try to make sense for others in the organization. Then internal stakeholders would respond to the managerial units and put the vision into practices based on their interpretation (Figure 3).

Figure 3. The sequential and reciprocal cycle of sensemaking and sense-giving to expanding audiences (Gioia and Chittipeddi, 1991, p.443 with minor modifications).

As shown in Figure 3, the process of sensemaking and sense-giving is interacting in a circle, which will eventually crystalize the values and context in an organization.

In the communication strategies, Morsing and Schultz (2006) stressed the role of external stakeholders whose influence on CSR efforts is tremendous. The stakeholders may engage in sensemaking and sense-giving since it strengthens the understanding of mutual expectation.

Many negative consequences arise from the failure to communicate with stakeholders. One example of the unpleasant outcome is negative brand image, which is caused by over-communicating CSR without CSR engagement to support what has been communicated (Viererbl and Koch, 2022). It can also lead to the loss in trust from consumers, the damage of company reputations, and the loss of competitive advantage (Elkington, 1994).

Table 6. Three strategies used in CSR communication (Morsing and Schultz, 2006, p.326 with minor modifications)

	The stakeholder information strategy	**The stakeholder response strategy**	**The stakeholder involvement strategy**
Communication ideal	Public information, One-way communication	Two-way asymmetric communication	Two-way symmetric communication
Communication ideal: sensemaking and sense-giving	Sense-giving	Sensemaking ⇩ Sense-giving	Sensemaking ⇩ Sense-giving – in iterative progressive processes
Stakeholders	Request more information on corporate CSR efforts	Must be reassured that the corporation is ethical and socially responsible	Co-construct corporate CSR efforts
Stakeholder role	Stakeholder influence: support or oppose	Stakeholders respond to corporate actions	Stakeholders are involved, participate and suggest corporate actions
Identification of CSR focus	Decided by top management	Decided by top management. Investigated in feedback via opinion polls, dialogue, networks and partnerships	Negotiated concurrently in interaction with stakeholders
Strategic communication task	Inform stakeholders about favorable corporate CSR decisions and actions	Demonstrate to stakeholders how the corporation integrates their concerns	Invite and establish frequent, systematic and pro-active dialogue with stakeholders, i.e., opinion makers, corporate critics, the media, etc.
Corporate communication department's task	Design appealing concept message	Identify relevant stakeholders	Build relationships
Third-party endorsement of CSR initiatives	Unnecessary	Integrated element of surveys, rankings and opinion polls	Stakeholders are themselves involved in corporate CSR messages

The stakeholder information strategy is a one-way communication from the company to the stakeholders. The company gives sense to the general public through press activities, media channels, and brochures (Morsing and Schultz, 2006). The information is delivered to a vast audience without the intention of being persuasive (Grunig and Hunt, 1984; Morsing and Schultz, 2006). Specifically, the delivered information should bring out positive stakeholder behaviors that will support the company by purchasing products, praising, and showing loyalty. To gain support from the stakeholders, the information should be built on stakeholders' expectations and inform them what CSR initiatives are engaged in to benefit their communities and society (Morsing and Schultz, 2006). Here, the key is to understand what messages are more favorable to the stakeholders and can achieve high effectiveness. This strategy does not consider the support from third-party stakeholders; the company should ensure trustworthiness by itself.

The stakeholder response strategy is an imbalanced two-way communication between the company and

the stakeholders. It stresses that "responding to stakeholders is still rather sender oriented" (Morsing and Schultz, 2006, p.327). Instead of actively engaging with the CSR initiatives, the stakeholders here are considered passive but influential. It is a seemingly two-way communication strategy but is a one-way communication used to support and strengthen the initiatives and image of the company. By having an appealing dialogue with the stakeholders, a company intent to change the behaviors and attitudes of the stakeholders and win their support (Grunig and Hunt, 1984; Morsing and Schultz, 2006). Accordingly, companies will make sense to stakeholders and ensure the relevance of corporate decisions and actions to them (Morsing and Schultz, 2006). Then, a survey poll and marketing survey are carried out to evaluate if stakeholders' understandings achieve the goal of the communication.

The stakeholder involvement strategy is two-way communication that a company and stakeholders persuade each other to make change through a "progressive iteration sensemaking and sense-giving process" (Morsing and Schultz, 2006, p.328). Understanding what stakeholders think about a company is insufficient; the company should involve stakeholders with developing and shaping the CSR initiatives. Namely, managerial units should engage with stakeholders into dialogue on a frequent basis, seeking mutual benefits and influencing each other to change (Grunig and Hunt, 1984; Morsing and Schultz, 2006). As stakeholders communicate their expectations and concerns, the company may change its CSR initiatives when necessary (Morsing and Schultz, 2006).

3.5 A Conceptual Framework

"Corporate social responsibility, triple bottom line, and stakeholder theory constructs represents the natural evolutionary actions large corporations take in response to their obligations toward the claims of different stakeholders" (Russo and Perrini, 2010, p.217). While sustainability is embedded in corporate CSR strategies (Emas, 2015; Steurer *et al.*, 2005), this statement indicates the close relationship between CSR and stakeholder theory. Dmytriyev *et al.* (2021) concluded the differences between the two concepts. Firstly, the business perspective of CSR and stakeholder theory is different. CSR focuses on making society a better place, whereas stakeholder theory focuses on making a successful business. Secondly, CSR extended the relatively narrowed responsibilities of managerial units in stakeholder theory, from company stakeholders to the whole society, without geographical limitation. CSR can ensure that corporations fulfill their social responsibilities (Dmytriyev *et al.*, 2021; Reinhardt *et al.*, 2008; Sheehy, 2015). Finally, CSR is a one-way direction from a company's responsibility to society. However, stakeholder theory is bidirectional; the responsibility can be from a company to its stakeholders or the other way around (*ibid.*). Regardless of the differences, the two concepts aim to tackle similar managerial issues and complement one another. Many scholars posit stakeholder theory as a tool that can assist companies in achieving a more remarkable outcome of CSR and evaluate CSR performance (Clarkson, 1995; Frynas and Yamahaki, 2016; Garriga and Melé, 2004; Jamali, 2008). Consequently, sustainable development (3.1) that covers economic, environmental, and social aspects and stakeholder theory (3.3) are the subsets of CSR, as presented in Figure 4.

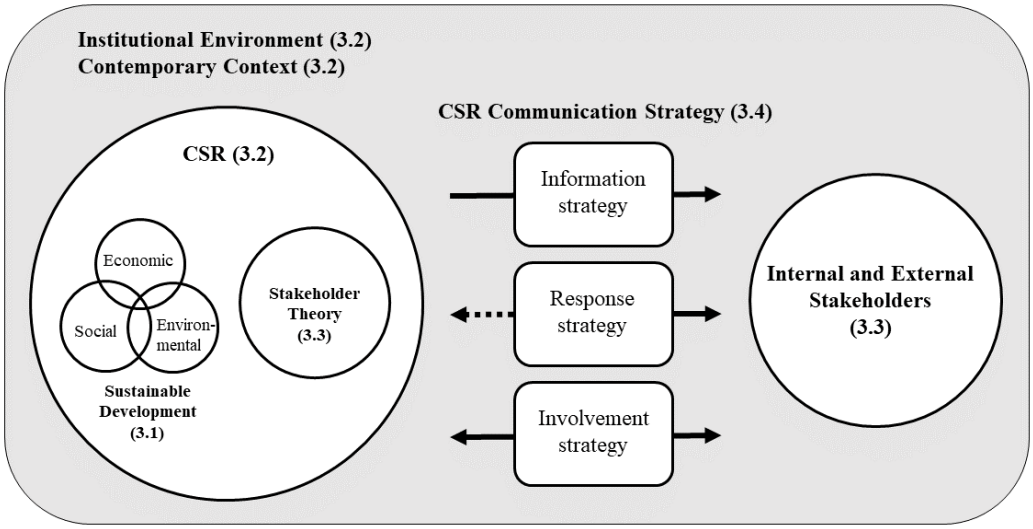

Figure 4. The conceptual framework applied in this project.

The relationship with stakeholders (Figure 4) plays a vital role in both corporate CSR performance and CSR communication effectiveness. High performance in CSR and effectiveness in CSR communication strategy can lead to an increase in trust and corporate image (Lopatta *et al.*, 2017; Palazzo and Richter, 2005; Viererbl and Koch, 2022). While CSR communication strategy (3.4) is to manage good relationships with stakeholders and gain their support (Morsing and Schultz, 2006), CSR (3.2) is to address the expectation of stakeholders (Hidayati, 2011). According to the institutional environment (3.2), a company adjusts the interpretation and communication of CSR to fit in the context (Gjølberg, 2010; Matten and Moon, 2008). The contemporary context (3.2) refers to the COVID-19 pandemic, which can also affect a company's types of CSR initiatives (Bae *et al.*, 2021; Carroll, 2021; Crane and Matten, 2020). Despite the differences in the understanding of CSR, the common goal for every company is to create maximum values for all stakeholders (Dmytriyev *et al.*, 2021; Freeman *et al.*, 2002). As a result, it is critical to apply system thinking on the relationship between a company and its stakeholders (Roloff, 2008; Svendsen and Laberge, 2005); The actors are interconnected, and they influence each other, therefore, determining the level of prosperity in a system (Crane, 2020; Freeman *et al.*, 2020). This implies a successful company built on high stakeholders' satisfaction and its ability to address stakeholders' concerns.

In the stakeholder information strategy (3.4), a company communicates its CSR strategies with stakeholders at large (Morsing and Schultz, 2006). Stakeholders are not prioritized; It is mainly to inform stakeholders about how a company addresses economic, environmental, and social issues and what benefits may stakeholders obtain. Furthermore, a company may avoid communicating CSR efforts too actively as there can be negative consequences (Viererbl and Koch, 2022). From the reaction of stakeholders, either being supportive or opposing, a company can realize whether its CSR effort is sufficient (Morsing and Schultz, 2006).

In the stakeholder response strategy (3.4) and the stakeholder involvement strategy (3.4), powerful stakeholders can have a massive influence on a company's CSR strategy. Stakeholder prioritization is promoted by many scholars, considering different needs and expectations of stakeholders as well as the limited resources of a company (Crane, 2020). It is asserted that critical stakeholders should receive the most resources and attention. Unaware of the importance of ensuring fairness, it can be challenging to manage stakeholders (Crane, 2020). In the stakeholder response strategy, a company puts additional effort to convince critical stakeholders to create a positive attitude towards its CSR engagement (Grunig and Hunt, 1984; Morsing and Schultz, 2006). The groups of stakeholders who are deemed less critical may consider that a company does not treat them on an equal basis (Crane, 2020). As a result, it is tricky to achieve high effectiveness in reaching CSR communication goals under this condition. In the stakeholder involvement strategy, stakeholders are invited to discuss what CSR initiatives a company should participate in and how to create mutual benefits (Morsing and Schultz, 2006). The opinions of stakeholders may encourage a company to change its CSR initiatives (*ibid.*). Here, powerful stakeholders will use their bargaining power and interfere; they will direct CSR strategies to maximize their interests (Bridoux and Vishwanathan, 2020). Many issues caused by prioritizing stakeholders are complicated and problematic; it lies in the responsibility of managerial units to adopt a fair stakeholder strategy (Crane, 2020). Additionally, companies should ensure trustworthiness and fairness are conveyed when communicating with stakeholders.

4 Background empirics

This chapter gives an overview of the games industry in terms of market size, the role of games during the COVID-19 pandemic, and initiatives. Next, a structure of the industry reflects the relationships among the actors and their roles in the value chain. Later, the sustainability aspects and related issues in the industry are presented. This information then points to the need of a green movement and some key initiatives are summarized.

4.1 The games industry overview

Game industry is driven by creativity, which stands it out from other key industries (Swedish Games Industry, 2021). This industry intimately linked to other entertainment and technology industries (Marchand and Hennig-Thurau, 2013). The revenue of the global games industry has surpassed the global movie and music industry (Cadin and Guérin, 2006; Marchand and Hennig-Thurau, 2013). In 2021, the global revenue in the industry was 155 billion euros and it is predicted to generate more than 177 billion euros by the end of 2023 (Palermo, 2021). The largest sector of the games industry belongs to mobile games, consisting of more than half of the revenue. Due to the COVID lockdown, players from all age group have increased dramatically, leading to high market growth for most games publisher (Skwarczek, 2021).

In Europe, the video games industry is also growing rapidly. According to the report published by Europe's Video Games Industry (ISFE, 2021), the revenue of the European video game industry increased by 19 percent from 2019 and 2020 with a total market size of 23.3 billion. Players are across all age groups. The data shows that 50 percent of video game players in the European market are between the ages of six to 64 and the average age is 31.3. Among them, women players consist of 47 percent with a total number of 56 million players. The growth of the industry is also reflected by the number of employees across Europe, which has increased from around 77,000 to 87,000 from 2018 to 2019. There is an estimated 20.38 percent of women employees in the European games industry.

Positive impacts of video games during the COVID-19 pandemic lockdown are specifically highlighted in the ISDE report. Many games can encourage players to do exercise at home and help them become fit, for example, Niantic *Pokémon Go* and Switch *Ring Fit Adventure* (McWhertor, 2021; Sarkar, 2020; Wu *et al.*, 2022). Video games are also used to support cultural and creative sectors during the COVID-19 pandemic. An example is The Anger Museum in Germany presented their collection in the game - *Animal Crossing* as a way to engage the visitors (UNESCO, 2020). Moreover, games can also be applied to education. For instance, *Roblox*, a tool that allows developers to create their games, updated a Teaching Remotely resource to support teachers (Roblox, 2021). There are also games such as *Minecraft Education Edition* and *Eco* that create an immersive learning environment used in teaching (Eco, 2022; Fjællingsdal and Klöckner, 2019; Skwarczek, 2021).

Many awareness initiatives are ongoing in terms of diversity, women representation, and climate actions in the European games industry (ISFE, 2021). NGOs such as women in games is promoting equity and parity for every women working in the industry and the pledge #RaiseTheGame is raising awareness for diversity, equity, and inclusion (#RaiseTheGame, 2022; Women in Games, 2022). To tackle climate change as an industry-wide effort, European Union initiated Playing for The Planet in 2019 (Playing for the Planet, 2022). Several members in the Playing for The Planet alliance initiated the publication of Green Game Guide by Ukie and the climate handbook – PlayCreateGreen by Nordic games companies.

4.2 The structure of games industry

The business model in the industry evolves continuously in terms of techniques used for production, channels for distribution, and various platforms and technologies to "fully adapt to the needs and preferences of users" (González-Piñero, 2017, p.30; Wood and Ruiz, 2021). Many new features in the

industry were introduced after the wide adoption of the internet, including Free to Play (F2P) games and Downloadable Content (DLC) as additional content of a video game (González-Piñero, 2017). This industry is very user-oriented as users determine values. Therefore, introducing new ideas or products needs to consider users' opinions. "User toolkits for innovation" (von Hippel, 2001) is a concept that companies use to invite customers to design their own customized products, which is applied in the games industry to create great values (González-Piñero, 2017). Therefore, it is crucial that games developers constantly "re-thinking content and developer relationships, creating captivating gamer experiences, delivering content where gamers want it, and innovating both business model and franchise intellectual property" (González-Piñero, 2017, p.28). To better understand the value chain of the games industry, main actors are introduced in Table 7 and their relationships are explained in Figure 5.

Table 7. The definition and function of actors in the game industry (Cadin and Guérin, 2006; González-Piñero, 2017; Zegarra, 2020)

Actors	**Definition and function**
Developers	The creators and designers of games. The size of the developers varies from solo studios to large and self-publish companies. In a partnership between developers and publishers, the developers have limited freedom in game creativity due to the marketing purpose.
Publishers	Apart from game publishing, game publishers also take care of funding, marketing, and communicating with the public. Some also distribute games. Publishers can establish partnership with or acquire independent game studios.
Distributors	Distributors ensure the products reach the consumers. The platforms for game distribution can be both physical and digital.
Console manufacturers	Console manufacturers are the maker of game platforms. The three main console manufacturers are Microsoft (Xbox), Sony (PlayStation), and Nintendo (Switch).
Customers	They are players or gamers who purchase and play the games. They determine the value of a game.

There are the five main actors in the industry– game developers, game publishers, distributors, console manufacturers, and costumers (Cadin and Guérin, 2006; González-Piñero, 2017). Their functions are partly overlayed, meaning that an actor may have multiple roles in the value chain. Developers are the creator of the games. They can work independently or work with publishers. For publishers, their main responsibility is marketing game products (González-Piñero, 2017). As for distributors, they deliver game products to customers digitally in this information age. Console manufacturers such as Microsoft, Sony, and Nintendo are the owner of gaming platforms. Note that the gaming platforms are not exclusive on consoles, there are also platforms for browser, PC games, and mobile games. Players can also purchase and download games from the gaming platforms (Tapsell, 2021). Finally, customers, or players, who buy and play game products, and they determine the value of games.

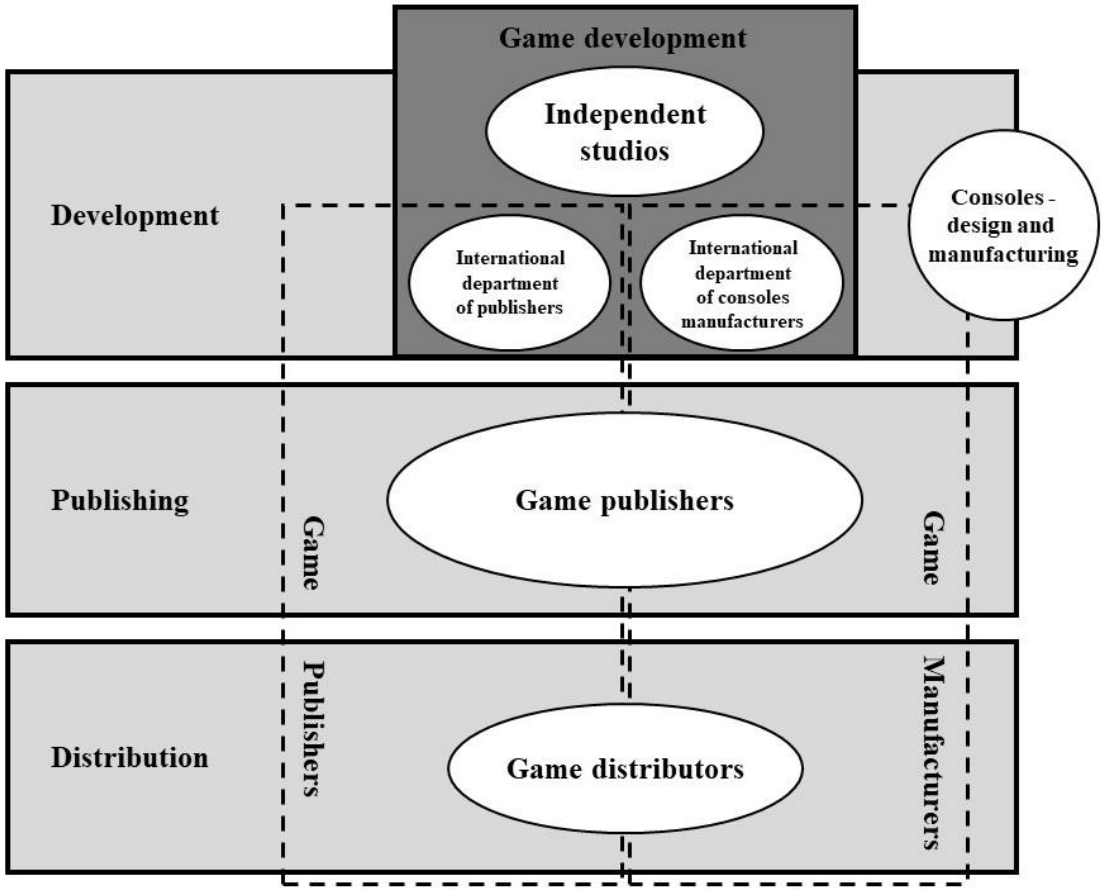

Figure 5. The structure of games industry (Cadin and Guérin, 2006, 6, with minor modifications).

Following by the description of Table 7, the business areas of each actors are presented in Figure 5. Customer is not included in the figure. As shown, games developers can work on their own (independent studios), sell product licenses to publishers, or develop games for publishers (González-Piñero, 2017). Publishers might own several game studios or through acquisition to obtain more studios (Cadin and Guérin, 2006; González-Piñero, 2017). In addition, they might sign contract with studios or sub-hire studios to develop games for them (González-Piñero, 2017). The majority of publishers have their own network for distributing the games to customers. Console manufacturers may be involved in the whole value creation process of games. For example, Microsoft is the maker of the gaming platform, Xbox. The company has Xbox Game Studios that develop games and publish games (Microsoft, 2022). Xbox Game Studios comprise of in total 23 games development studios. Next, the lifecycle of video games is shown in Figure 6.

The lifecycle in games industry

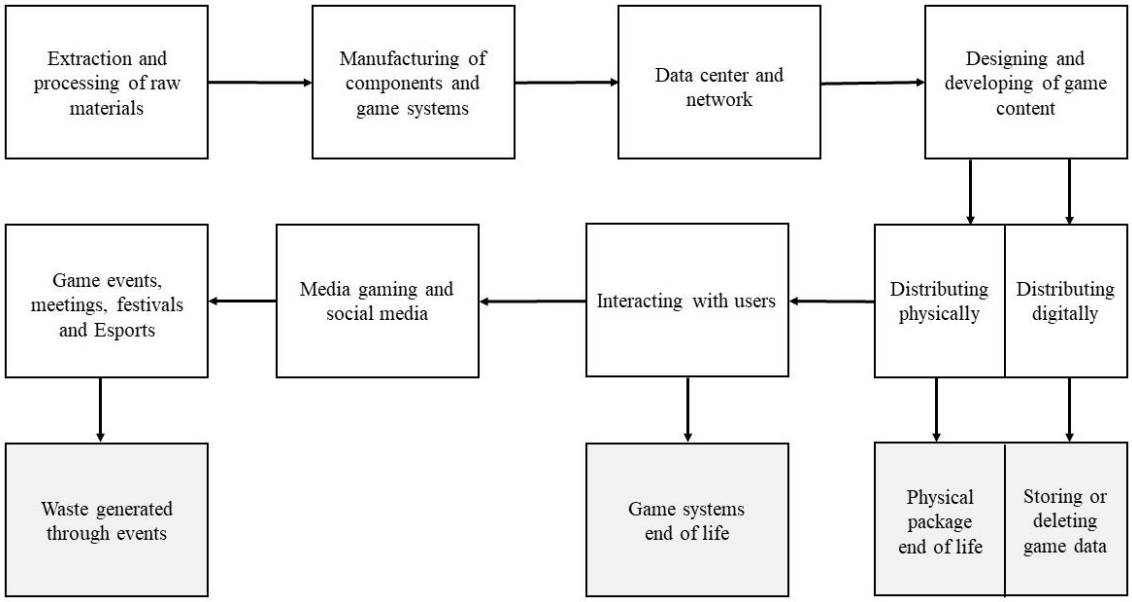

Figure 6. The lifecycle of game industry (Wood and Ruiz, 2021, Green Game Guide, p.8 with minor modifications.)

The lifecycle (Figure 6) gives an overview from the production of games to generating end-of-life products. In this project, the lifecycle covers from data center and network, designing and developing of game content, distribution of games, to interacting with users. Combining the chosen lifecycle process with sustainability practices in the games companies, it is then about the choice of energy suppliers, in-game sustainability elements, transiting from physical products to digital products, and collecting and involving players. The sustainability issues outside this scope such as Esport waste are not discussed.

4.3 Tackling sustainability issues in the industry

Here, the environmental and social responsibilities associated with sustainability will be presented. Each aspect contains main issues result from playing games and activities of the games companies as well as how the issues are addressed.

4.3.1 Environmental responsibilities

One of the most major environmental impacts is energy use at the consumer end associated with cloud gaming. The wide use of internet creates a novel way of communication, leading us to the digital age. It indicates unprecedented high amounts of data flowing across networks. Internet usage has increased each year and rose by 70 percent during the COVID-19 pandemic (Beech, 2020). Nowadays, games are mainly purchased and downloaded from digital platforms. An example is data delivered on the digital gaming platform, Steam, which has increased by 30 percent from 2020 (Tyson, 2022). This vast amount of data is also reflected on game size, which is also becoming bigger with every in-game update and new releases (Marks, 2020; Tapsell, 2021). In the carbon footprint disclosed by Space Ape, cloud data was the largest emission source (Space Ape, n.d.). The demand of data centers is growing, which play a crucial role in sending and receiving data rapidly, and running them requires a great amount of electricity (Rooks, 2022; Tapsell, 2021). A recent statistic shows that the efficiency of data center has improved (IEA, 2021). However, it is predicted that the energy consumption and data usage would further increase in the future (Montevecchi *et al.*, 2020). Whether the improved efficiency can lead to the reduction in equivalence of carbon emissions is still in question (Tapsell, 2021).

At the consumer end, recent research on the electricity use of gaming systems in United States shows that the energy use is 34 terawatt-hours per year, which is equivalent to the carbon emissions of 5 million cars (Mills *et al.*, 2019). However, individual energy use depends on the choices of hardware and

software systems on gaming devices; therefore, Mills *et al.* (2019) advocated players, game system designer, and game developers to apply hardware and software strategies. Players can decide the way they play the game based on the one that emits the least carbon emissions (Tapsell, 2021). With the efforts of the three actors (designers, game developers, and players), the energy use of gaming at the consumer end can potentially be reduced to half without affecting the gaming experience (*ibid.*). Also, green coding is proposed in Green Game Guide to increase energy efficiency in the games (Wood and Ruiz, 2021). It is an emerging thinking in terms of making games sustainably. However, it can be tricky to measure energy output after changing the code (Wood, 2022, *personal communication*). There are differences in devices, games, and ways of playing the same game. Besides, many developers might already optimize their games and make the CPU and GPU work as efficiently as possible.

Waste and resource use of consoles also pose threat to the environment. These products are made by conflict minerals such as tin, tungsten, tantalum, and gold, which may come from vulnerable areas where civil wars and human right abuses are prevalence. Moreover, consoles are notorious for their difficulty in recycling, ending up as single-use electronics (D'Anastasio, 2020).

4.3.2 Social responsibilities

Toxicity in the games industry

Although working in the games industry is a desired option for many people, it is common for game creators to get occupational burnout (Hamilton, 2020). "Burn-out" is caused by unresolved chronic stress from work, which can lead to mental health problems such as depression and anxiety (Ahola, 2007; WHO, 2019). It is the "crunch" culture within the industry that makes burning out a typical issue (Hamilton, 2020; Hoggins, 2019). "Crunch" refers to game developers who are under high stress as they work long hours to achieve challenging targets (Hoggins, 2019). Game developers burning out can lead to unpleasant outcomes, which can lead to poor game quality and, the worst case, resignation of talented employees (Hamilton, 2020; Hoggins, 2019; Madigan, 2011).

Another issue is associated with unwanted behaviors in games communities, such as hate speech, harassment, and discrimination. Some notorious examples are *League of Legends*, *Call of Duty*, and *Counter-Strike: Global Offensive* (Melissa Brinks, 2020). These highly competitive online games with chat functions are prone to become toxic (Kou, 2020; Märtens et al., 2015). Players can find all kinds of ways to verbally abuse other players even though the chat system is designed to block nasty words and protect other players. Despite the fact that toxicity is prevalent throughout the internet, the anonymity provided in the game made hate speech become worse (Shen et al., 2020; Suler, 2004). Gaming communities are created by games companies and they profit from it (Faber, 2022). It naturally is the companies' duty to ensure ethical and safe gaming communities, however, some choose to ignore this issue until the situation requires immediate action. Whether the issue can be resolved rely on companies' willingness to tackle it.

The impacts of playing video games

The effect of games on human is a double-edged sword. It is mostly associated with game content and how it can affect user behaviors and health status. The effect of violent games on players is a controversial topic and has received much attention. On the one hand, some studies show that violent games can lead to aggressive behaviors and lack of sympathy (Gabbiadini *et al.*, 2016; Greitemeyer, 2018; Prescott *et al.*, 2018; Tian *et al.*, 2020; Verheijen *et al.*, 2018). On the other hand, some researchers claim that violent games can bring on positive behaviors and improve well-beings on players (Ferguson, 2007; Halbrook *et al.*, 2019). The result of players being aggressive might attribute to other individual factors, such as being exposed to family violence and depression (Ferguson *et al.*, 2012). Moreover, the result might be caused by overinterpretation of data (Ferguson, 2018; Hilgard *et al.*, 2017). In other words, no solid evidence is provided to prove the close relations between violent games and aggressive behaviors towards the society (Marchand and Hennig-Thurau, 2013).

Outside the genre of violent games, studies have shown that playing games, in general, can be both harmful and beneficial. Gaming may lead to health problems. Weaver *et al.* (2009) asserted that adult gamers tend to have health risk issues compared with non-gamers. Female players are prone to have depression and poor health, while male gamers have more issues with obesity. A small portion of players may also develop gaming disorder, which is relatively common among adolescents (Müller *et al.*, 2015). It is classified as addictive behavior, and people with gaming disorder would prioritize gaming in their daily lives instead of engaging in other activities (WHO, 2020). Dong *et al.* (2017) explained that playing games could stimulate a specific brain area of people with gaming disorder, which encourages the craving to play more games. Moreover, this addiction is caused by various internal and external factors, making it tricky to diagnose (Paulus *et al.*, 2018). Currently, there is no evidence of whether gaming disorder can be treated (Gentile *et al.*, 2017).

Despite playing games being thought of negatively by the general public for a long time, there is a growing recognition of the benefits of this activity. Many recent articles have proved that playing video games is positively related to well-being. For instance, enhance problem-solving skills (Adachi and Willoughby, 2013), improve children's diets by increasing the intake of fruit and greens (Baranowski *et al.*, 2011), and boosts to cognitive functions (Schenk *et al.*, 2017). There is also research on analyzing how games can develop interests and motivate positive human behaviors. Hosein (2019) found out that adolescent girls who are heavy game players are more likely to pursuit physical science, technology, engineering and mathematics (PSTEM) Bachelor degrees than non-players. Wang *et al.* (2020) discovered a positive relationship between game avatars and players' behavioral change; players who play multiplayer online games reflect their identification in the games, which can encourage a sustainable lifestyle. During the COVID-19 pandemic, social video games such as *Animal Crossing* play a critical role in helping players connect with others, reducing anxiety and loneliness (Johannes *et al.*, 2020; Lewis *et al.*, 2021). The other significant benefit of video games is that games can encourage people to stay fit, which is especially reflected during quarantine (Sarkar, 2020).

Except for entertainment, games can also be used for other purposes. The concept of gamification and serious gaming appeared in 2007 (Jagoda, 2017). It is about applying game mechanics in other non-game context with the purpose other than entertainment. Games that designed with educational purposes are receiving praise among teachers and students. The two examples are *Eco* and *Minecraft Education Edition* and both games have collaboration with P4P. These games provide immersive learning environments, which visually present consequences of climate change and player's actions in the game without telling players what is right or wrong. Both games are applied in education, *Minecraft Education Edition* is focused on elementary school students while *Eco* is mainly applied to university teaching (Bonham, 2022, *personal communication*; Scholz, 2022, *personal communication*). Their potential in education and the ability to raise environmental awareness are supported by many scholars (Fjællingsdal and Klöckner, 2019; Kuhn, 2018; Ming, 2020).

Gender equality, inclusivity, and diversity

"You can talk about gender equality in three dimensions: representation in the games, representation in the industry, and representation in the player community. Representations is not only about counting heads but also to do with opportunities and influences" (Strömbäck, 2022, *personal communication*).

Gender and diversity issues reflect on the game characters. Throughout the history of video game development, white and masculine males dominated the main protagonists. Female characters only started to appear in the mid-80s and some of them even look similar to male characters due to low graphical integrity (Harveston, 2017; Lynch *et al.*, 2016). With access to more advanced technology between the 1990s to early 2000s, game designers can build more anthropomorphic figures (Lynch *et al.*, 2016). The first female protagonist – Lara Croft is introduced in 1996 in the game *Tomb Raider*. Despite the strong and brave image, she is sexualized to attract male players (Lynch *et al.*, 2016). Thus, from the 1990s to early 2000 is the period when women characters are sexualized the most in the game history. Women characters' sexualization has decreased since 2006 due to rising female interests in the games and the criticisms of male domination in the industry. According to the statistic provided by Feminist Frequency (2020), games with female protagonists have increased from an average of six

percent (2015 to 2019) to 18 percent in 2020 (Sarkeesian, 2020). Besides, games with multiple options for genders have maintained more than 50 percent since 2017. Non-binary gender as an option is also taken into consideration in games since 2018. Therefore, games reflect the current social movement that is happening around the world regarding gender identification and diversity.

In the industry, gender composition and pay disparity between men and women have been an ongoing issue. According to the latest census of the UK games industry published by Ukie, the employees are mainly young, white, and male (Taylor, 2022). Most people believe the significant gap between men and women, and bad culture in the company result in sexism scandals in certain games companies (Reymann-Schneider, 2021). One well-known example is the "bro cultures" at Riot Games and this company was accused of gender discrimination and harassment by many former women employees (D'Anastasio, 2018). Although the company committed to taking the issue seriously, it is reported that many executives accused of alleged behaviors are still employed (D'Anastasio, 2021; Martens, 2020). Some other recent cases are sexual scandals at Activision Blizzard (Weststar, 2021) as well as "Culture of Silence" and discrimination at Paradox (Blazewicz, 2021). Compared with men, women mainly sit at relatively low-paying roles and take no leadership positions (Bailey *et al.*, 2021). The exposure of transparent gender composition in games companies is unable to indicate gender equality is improving because of the differences in role and pay (*ibid.*). Despite this when tackling issues related to gender equality and diversity it is hard to have quick and successful results (Wood, 2022, *personal communication*), these recent scandals show that there is a need for more efforts.

According to the latest report from Europe's Video Games Industry (ISFE) (2021), the number of female players has reached approximately 50%. It is one of the reasons why games companies require a transformation in terms of female employees and more games targeting female players (Yokoi, 2021). Game design should also consider people with disability. The gaming experience of many players with disability are affected by the lack of accessibility options in games and the toxicity of other fellow gamers (Gardner, 2021). The accessibility options include color blindness, subtitles, customized control options, and graphic settings, which are not addressed sufficiently in games. Around half of the female gamers with disability suffer from hate and inappropriate language by men (ibid.). However, games can also be beneficial to people with disabilities. They claim that games allow them to make friends with each other online. Playing games has brought them improved mental health and happiness (ibid.). Games are to bring joy, and this should be accessible for every person in the world. Thus, the changing composition of players and the needs of players with disability are driving games to become more accessible and inclusive (Moss, 2014). Sustainability issues in the industry are summarized in Table 8.

Table 8. Overview of environmental and social responsibilities in the games industry

Environmental responsibilities		
Energy use and carbon footprint	• Running cloud servers. • Device energy use at the consumer end.	
Resources use and waste	• Console manufacturing has the highest impact on the environment due to the usage of conflict minerals. • Consoles are hard to recycle.	
Social responsibilities		
Toxicity	Working environment	Employees burn-out due to high stress and long-working hours
	Gaming community	Hate speech, harassment, and discrimination in gaming community.
Impacts of gaming	Negative	• Aggressive behaviors • Health risks such as obesity and depression • Gaming disorder
	Positive	• Benefits for well-being • Develop interests for science related subjects • Motivate sustainable lifestyle • Satisfy social needs • Apply in educational context.
Gender equality, inclusivity, and diversity	Game content	• Issues with sexualizing female characters • Games center around white and male protagonists
	Workplace	• Issues related to the male dominant working environment • Pay disparity between men and women • Sexual harassment and gender discrimination
	Players	• Lack of diversity in the games for a diverse player group • Lack of accessibility in the game for people with disability

Table 8 provides an overview of the areas of responsibility that the games industry may engage in. Each of the areas are related to problems that the industry may address in the development of products, the use of products and the corporate engagement in sustainable development.

4.4 The green game movement

Sustainability issues in the games industry are tackled by a global approach, and some territories are more active in engaging environmental topics (Wood, 2022, *personal communication*). The UN program, Playing for The Planet is one of the key platforms in the industry regarding sustainability. It encourages collective efforts of games companies to fight against climate change. This section presents the result from background interviews, combing information on presented organization's webpage and annual reports. Information regarding the experience interacting with presented organizations from personal interviews are also collected.

4.4.1 The UN Program - Playing for The Planet (P4P)

Playing for The Planet is a partnership initiated by United Nations Environmental Program (**UNEP**) in 2019 (UNEP, 2020). With a focus on environmental issues, the organization aims to help games companies to reduce carbon emissions. It also creates a platform for companies, both inside and outside the P4P program, to participate in environmental activities and create a mutual learning environment for each other. According to UNEP, there are currently 32 games companies and 7 trade associations in the alliance, 50 actions were implemented, and over 200 million players engaged in the activities (UNEP, 2022, 36). Each company in the alliance is required to make a commitment to sustainability and publish a report every year, tracking its sustainability efforts and reflecting on its progress and results. In 2021, members were asked to include their gender equality matrix in the report, following the gender guideline of UNEP. It is reported that on average 28% of women employees and on average 30.5% of women

leaders are working in the companies of P4P members (UNEP, 2022, p.37).

Green Game Jam is an UNEP initiative that encourages game developers to integrate sustainability elements in game. It partners with two UNEP campaigns that address environmental awareness of forests and coral reefs: Play4Forest and Glowing Glowing Gone. This later became the theme of Green Game Jam, educating environmental conservation and restoration as well as encouraging sustainable behaviors among players. Studios may, for example, plant trees if players spend more time playing the game or allow players to win games props if they engage in in-game events within environmental theme. This is praised, appreciated, and engaged by large numbers of players; they also have positive attitude towards the developers (UNEP, 2022).

4.4.2 Ukie – Green Games Guide

Ukie is a non-profit organization founded in 1989, and it represents the voice of the United Kingdom games industry. It is one of the trade associations in P4P. There are approximately 500 members in the UK, including independent studios, international publishers, games platforms, and other games-related services. This organization also launched campaigns that contribute to games accessibility, responsible gameplay, gender equality, diversity, inclusion, and sustainability. In 2020, the organization published the Green Game Guide, showing games companies how to become more sustainable through decarbonation and inspiring their players to take sustainable actions. It demonstrates practical sustainable activities throughout the game value chain with examples from leading games companies. Then, in 2021, an official sustainability group was established within the UK games industry (Wood, 2022, *personal communication*).

4.4.3 Bornholm Game Days –PlayCreateGreen

A Nordic game community (Bornholm Game Days) initiated this program. Bornholm Game Days is also an invitation-only event where games companies' leaders gather informally to discuss games creation and the role of the games industry in society. The increasing awareness among games companies facilitated the development of PlayCreateGreen.org. It is a non-profit organization, and it acts as an online handbook, providing suggestions and real examples for environmental actions that games companies can put into practice. Similar to Green Game Guide, the approaches to mitigate adverse impacts cover the whole supply chain.

4.4.4 GamesForest.Club

GameForest.Club (the Club), based in Berlin (Germany), is a non-profit company founded on October 26th, 2021 (Wagner, 2022, *personal communication*). They aim to support companies in the games and creative industry to invest in carbon sinking and natural conservation projects (GamesForest.Club, 2022). The games industry can make a change with its great community and its creativity, which can be influential in preserving and restoring nature. The Club acts as a bridge between tree planting and restoration organizations and games companies. As it is challenging for natural conservation organizations to approach games companies due to the lack of knowledge in games and ineffective communication (Wagner, 2022, *personal communication*). In addition, the Club also makes the process for games companies to engage in sustainability effortlessly. They have a member community program and games companies can join the community with 15 € per employee each month (GameForest.Club, 2022). Companies then have access to benefits provided by the Club and can contribute to carbon sinking projects. Regarding the benefits, companies receive guidance on CO2 reduction and social media branding. As for projects chosen by a member company, 70 percent of the membership fees go directly to them. To sum up, the Club is a platform for companies to exchange knowledge and support each other and they also help harbor the knowledge and projects already in practice, saving forests and planting trees.

The Club ensures the quality of projects by a systematic and detailed examination process. This includes project validity, providing sound and convincing data, and administrative efficiency. They work exclusively with certified projects. Take tree planting project for example. A climate expert on the team would conduct research on contracts, ensuring the trees stay for more than half century (Wagner, 2022, *personal communication*). In order to minimize the risks, every project is required to provide GPS data and certificates on the differences between trees and areas. GPS data is provided to companies engaged in the project to know the progress of tree-planting. Moreover, the Club also uses satellite data to monitor their partners. The Club strives to become the most significant sustainability NGO in the games industry. To be the driving force to make the games industry carbon neutral by 2030.

5 Case studies

This chapter summarized the findings from interviews, reports, and websites of each company. Five themes are presented in each parent company, starting from brief background information, data from the sustainability report and website, and interview data. For studios, the themes focus on the background information, sustainability games, and challenges of designing these games.

5.1 Stillfront Group

Stillfront Group was founded in 2010 in Sweden with a vision to "build a well-diversified portfolio of long life-cycle games by acquiring independent gaming studios and letting these operate independently within the same group" (Stillfront Group, 2022). In other words, studios in Stillfront Group can keep their identities. There are 22 free-to-play games studios and 64 games, and 75% of games are mobile games.

5.1.1 Sustainability framework

"Striving to make a positive impact on people's life through games"

Stillfront Group Annual Report 2021, p.11

Stillfront Group's sustainability is integrated into the business model and acquisition process, which is also believed to be the future for the games companies (Stillfront Group, 2021; Wretman, 2022, *personal communication)*. There are three pillars in the sustainability framework: Gaming for all, Living our values, and Smart resource use. Gaming for all is about a diverse game portfolio and responsible gaming. Diversity is achieved by creating various genres of games and acquiring studios from multiple countries. Responsible gaming is based on the FAIR model (Forums and communities, Age protection, Inclusion and diversity, and Responsible gaming and monetization). The model helps create positive game content and a gaming culture free of unethical and abusive behaviors. Data security and privacy is one of the key areas in Responsible gaming. Living our values is associated with creating an equal and diverse working culture. Stillfront Group set a target to increase the percentage of women in the company, which they aim for 40/60 at all levels. They ensure a working culture where everyone is treated equally and has an equal opportunity. Attracting and retaining talented individuals is also crucial for Stillfront Group. They are also working on a talent management program to achieve better results. Smart resource use is about climate actions and targets. Stillfront Group has been climate-neutral since 2019, and they disclose GHG emissions each year. There is 96.6 percent of the indirect emissions from the energy use on the player side. To compensate for all GHG emissions, the company partners and invests in trustworthy, transparent, and certified projects. The sustainability efforts in the whole organization were started by both the parent company, Stillfront Group, and the studios.

"Some of our studios are really small, so they had not been doing much before we started. Some of our large studios found many different initiatives before we did. It was from both ends, from the Group and the studios, and we met somewhere in the middle. And from the beginning when we started testing on how much should we push this (studios to engage in initiatives), we always received the best feedback from the studios."

Wretman (2022), personal communication

Representatives of each studio can participate in the environmental committee to facilitate the implementation of the sustainability framework.

5.1.2 Challenges of engaging sustainability

Wretman (2022) pointed out three major challenges in engaging sustainability. The first challenge is

balancing between negative and positive image of games. Some people see games influencing the young population adversely, while some see games as another form of entertainment. Specifically, some people from earlier generations could not understand games. They can only relate games to their kids or the people around them. Therefore, poor communication of game content can result in them having a negative perspective of games. The positive aspect of the games is particularly reflected during the COVID-19 pandemic. The second challenge is reporting, which is essential in sustainability; However, it is time-consuming and expensive.

"The reporting of sustainability is starting to become too tough for companies. With EU legislation coming out, it is just getting tougher. And it costs a lot of money. I am uncertain whether it is a good way to go. I fully agree with the development that we have to work for the climate and everything, and we try to do that. But I am just a bit hesitant about the reporting machinery. If that is the way to go, if that is an efficient investment that companies do in the reporting, or the companies could have done much better if they only focused on doing the right things. Instead of just reporting."

Wretman (2022), personal communication

Although companies have the responsibility to contribute to sustainability, the exact amount of time and money can allow companies to do the right things, such as creating a better game community (*ibid.*). The third challenge is the lack of a common platform for the studios. There are many genres of games and separate audiences at the current stage. Thus, Stillfront Group is working on an ecosystem of studios to run environmental and social campaigns simultaneously among all the studios while reaching all players and communicating with them.

5.1.3 Communicating sustainability

The goals of communicating sustainability can be divided into external and internal goals. Externally, Stillfront Group aims to provide a fair view of its position and values via reports and websites to a wide range of stakeholders.

"With the sustainability report and the website, I want to give a fair view of Stillfront's position, such as where we are at different initiatives. And be as transparent as possible so that we can provide a wide range of stakeholders with our views and these matters. Stakeholders do not have to reach out with separate questionnaires and interviews, and so on. Instead, we provide them with a good and transparent view."

Wretman (2022), personal communication

Being as transparent as possible is the key to communicating in the documentation. With sufficient and clear information, stakeholders do not need to reach out to the company for questions, surveys, and interviews. Internally, the goal is to make employees feel like they are working for a value-based company.

5.1.4 Communicating sustainability by games

On the studio level, studios run various campaigns occasionally. The campaigns differ a lot and must be customized according to the genre of the game. *Big Farm* is a game with sustainability elements that Stillfront Group's studio, GoodGame, develops. The game integrated tree planting in-game events, allowing players to collect tree seedlings from their farms (Playing for The Planet, 2021b). Players are also rewarded with props when their community reaches a specific goal (*ibid.*). Moreover, a link is shared in the game to provide players with information on reforestation (*ibid.*). The in-game sustainability received much positive feedback from the players (Wretman, 2022, *personal communication*).

"I am on the conservative side of doing those things (using games to communicate sustainability)

because, as a commercial company, it is good to reach out with initiatives. But at the same time, I think companies need to be very delicate with what they push to the players or whether companies are entitled to say what players should focus on. I am lining toward giving players the options and including them in the solutions integrated into the games. It is a very nice way if companies do it smartly."

Wretman (2022), personal communication

When sustainability elements are put smartly, appealing, and playable, they can positively influence players.

5.1.5 Stakeholders

For Stillfront Group, every stakeholder is equally important. External stakeholders are owners, ESG analysts, and investors, and they affect Stillfront Group's sustainability work substantially at the beginning. Internal stakeholders are employees. Employees provide feedback and their expectations. This lets Stillfront Group knows what values are perceived as important and what future they want to create. Regarding players, they are important but relatively far-fetched because the studios run the campaigns in the games and engage with the players. Plus, most players are not aware that Stillfront Group is the studios' parent company that develops their games.

5.2 Paradox Interactive

Paradox Interactive was founded in 2004. They develop and publish strategy and management games on mainly PC and consoles. Their headquarter is in Stockholm and they have nine game development studios in six countries. In the past five years, Paradox Interactive has had dramatic growth in their revenue, profit margin, and the number of employees (Hallberg, 2022, *personal communication*). Additionally, they also became a listed company on First North Premier Growth Market, which increased the regulatory demand as well as public interest. As a result, stakeholders, including investors, current and future employees, owners, and regulators expect the company to work with sustainability.

The turning point where Paradox Interactive decided to be more proactive in tackling sustainability issues was in 2020 (Hallberg, 2022, *personal communication*). They felt the need to start engaging in sustainability, and a materiality analysis was conducted to determine the connection between their sustainability framework and SDGs. The carbon footprint calculation done last year follows the GHG protocol, including calculating upstream electricity cost. The analysis and calculation later provide suggestions on inquiry and mitigation options. In 2021, Paradox Interactive published a more ambitious sustainability report than those in the early years. They found the need to further work on it and identify the most relevant sustainability-related areas.

5.2.1 Sustainability framework

"For Paradox Interactive, sustainability is an important part of the company's value creation for players, employees, owners, partners, and the societies in which the company operates. Robust and forward-looking sustainability work contributes to sound operations and governance and creates the conditions for long-term sustainable growth that meets the requirements and expectations of the company's stakeholders. At the same time, it supports Paradox in limiting the negative effects that its operations have on its operating environments and in managing non-financial risks that are judged to affect Paradox's business."

Paradox Interactive Annual Report 2021, p.26

Their focus areas in sustainability are closely related to SDGs, which are goals 3, 8, 10, and 12. With the help of the materiality analysis, Paradox Interactive figured out a framework that can address relevant issues under each SDG. In 2021, the framework was redefined to fulfill the increasing expectations and demands from the stakeholders. The four areas are Sustainable operations, High-

performing teams, Responsible gaming, and Long-term financial value.

Sustainable operations is related to minimizing environmental and social impact, which is done via influencing the whole value chain. To reduce the social impacts, the company developed a code of conduct for business operations, and the code for suppliers is planned to be implemented within the next two years. The largest area of GHG emissions goes to electricity and heating, which accounts for 60 percent of total emissions. The indirect emissions from scope three are not completely included in the calculations.

"Paradox currently has no emissions within Scope 1 as the company does not have a company-owned fleet of vehicles. The company has also not been able to include the entirety of Scope 3 in the survey. For example, it is not possible to measure the player's electricity consumption when playing one of Paradox's games on a computer or console."

Paradox Interactive Annual Report 2021, p.33

Here, Scope 3 emissions refer to indirect emissions throughout the value chain, in which the sources are not owned or managed by the company. Measures such as sustainable purchasing, distributing games digitally (now 95 percent), and minimizing travels are implemented to reduce environmental impacts. High-performing team is about ensuring a safe and healthy workplace. The company provides support for employees' health, offers training programs, and works to create an equal, discrimination-free, and harassment-free workplace. Responsible gaming is to mitigate toxicity in the gaming community and forum, harming both players and employees. They also have an IT security expert to secure players' privacy and data. Long-term financial value in the Annual Report is presented in the business model and growth strategy section. It is related to creating intangible assets developed by employees and acquired companies, which can be done by investing in game development and acquisition.

Overall, Paradox Interactive's strategy toward mitigating environmental impact is different from other games companies.

"Our climate impact is not that great (compared with other Swedish business sectors), so we more strive to minimize the externalities and work in conjunction with SDGs to ensure that we minimize our impacts to the degree possible, so we do not have a negative effect on society to work on. This, for me and for Paradox at this point, is achievable. By no means to have an ambitious goal; it is a very much minimum goal, to be frank. […] But that would also look very different from other games companies. Our competitors have a multiplay-dimension of games which means they have bigger server costs. We have games playing locally on the computer, which also affects (the strategy for minimizing externalities). We now minimize our externalities from the purchases, use of electricity, and ensure we minimize travel."

Hallberg (2022), personal communication

They recognize sustainability is a long journey. Being aware of the differences between them and other games companies, Paradox Interactive starts with what they can do at the company level.

5.2.2 Challenges of engaging sustainability

According to Hallberg (2022), the company finds sustainability tricky to work on and the challenges are about dealing with environmental and social impacts.

"Climate is difficult because, for example, how long is the string? Where does it stand and what goes into scope three, and where do you draw a reasonable demarcation which is still operationally significant so you can actually act on it. But it still encompasses enough to handle and offset the majority of your emissions. When it comes to the social areas, it is always about working with people, such as

social well-being. How do you know it is enough and which efforts have the best effect?"

Hallberg (2022), personal communication

Ensuring fair gaming is also challenging because players and digital behaviors are fast-moving with regard to the internet culture and the form of games and gaming experience players' desire. Companies are always one-step behind and not always on top. At the operational level, supporting sustainability becomes slightly more inconvenient operationally because the company has to, for example, cut down flights. However, remote working resulted from the COVID-19 pandemic has helped mitigate the impacts.

"In the long run, I think it is cost-saving, to be honest. If you work with the climate, what that will mean in the short run for us is probably cut down flights and change our plans. We would look through our purchasing and make sure we reduce our footprint for longer. All of those are essentially cost-saving measures because it is climate-smart or climate-friendly. If you look at employees, ensuring that they have good psychosocial health, have a good state, feel well, and developed, it means that we get more motivated employees who feel better and have better condition; They might want to stay longer in the company and recommend the company, making it easier to attract people. It also reduces sick leaves, which means fewer risks of being understaffed. Those are all hard to measure. But, at the end of the day, it defines whether we can produce a good game or not. […] Pushing the suppliers to be more sustainable allows us to have better control over deciding who we want to work with, which is also positive. Having a forum and community which are more inclusive and can handle wild opinions means that we get more customers."

Hallberg (2022), personal communication

Sustainability work requires upfront cost, and all the work related to sustainability is self-financed and carried out by Paradox Interactive themselves. Despite the fact that the benefits are hard to measure, it is an investment and is cost-saving from a long-term perspective.

5.2.3 Communicating sustainability

There are two primary goals in communicating sustainability efforts.

"I think there are two basic goals for us. One is to make sure we can point by point, prove and show that we have good command of operation, good governance, stable structures, and good responsibility. The other goal is to communicate Paradox's sustainability efforts because stakeholders have higher and higher demands."

Hallberg (2022), personal communication

One is to make sure Paradox can step by step prove and show that they have a good command of operations, good governance, stable structure, and good responsibility. The other goal is to communicate Paradox's sustainability efforts because stakeholders have higher and higher demands.

5.2.4 Sustainability elements in the game

Games with sustainability elements can probably influence the players to some degree (Hallberg, 2022, *personal communication*). It has to be integrated into the core mechanics in the games while making the game fun and challenging. For Paradox, it currently works the best for management games – overcoming challenging sustainability-related situations. Post-apocalypse games that present players subtly with the prospect can also be influential. Examples of the company's games are Surviving Mars and Surviving Aftermath, which are management simulation games. The mechanics in the game are related to sustainability. The mission of *Surviving Mars* is that players need to construct a sustainable colony on the Mars that is smart and functional (Paradox Interactive, 2022). Moreover, players also

need to deal with GHG emissions and tackle waste to make Mars habitable.

5.2.5 Stakeholders

Essential stakeholders are shareholders, employees, prospect employees, distribution partners, and players (Hallberg, 2022, *personal communication*; Paradox Interactive, 2021). "There are three most important stakeholders: Players, employees, shareholders/investors" *(*Hallberg, 2022, *personal communication*). Partners are also one of the stakeholders, but the influence of Paradox depends on whether it is an upstream or downstream partner. They have limited power to influence large platforms such as Steam, while they can better influence developers. For Paradox Interactive, except for being pushed by pressing issues related to climate change, current shareholders, prospective investors, and employees also push their sustainability work.

"I would say employees and players are equally important. People who buy our games and people who make our games. Shareholders are hugely important. But we, by definition, have a goal to create shareholder values as a profitable listed company. We reason that the best way of doing that is having employees who feel well and developing and happy players who can get good strategic experience from our game. Then we actually create the profits, grow as a company, and create shareholder values. I would have a problem ranking employees and players because one cannot coexist with the other."

Hallberg (2022), personal communication

To understand better stakeholders' expectations and demands on sustainability, the company has continued dialogue with their critical stakeholders. Also, the company is planning to understand more about what topics in sustainability are prioritized by the stakeholders to have an innovative approach to the sustainability work.

5.3 Embracer Group

Embracer Group, previously known as THQ Nordic AB, was founded in 2011 (Embracer Group, 2022). The company is a parent company of developers, publishers, and distributors. They have ten operative groups with 115 development studios and have business in broad games and film. The parent company developed a general framework of sustainability and related goals, which is used as inspiration and structure in each company. Since Embracer Group is a decentralized company, each operative group makes decisions independently. They believe that the operative groups know how to maximize their values for themselves and meet stakeholders' expectations. As a result, each subsidiary would develop its sustainability program based on the targets and initiatives suggested in the framework. Everyone in the Group is encouraged to engage in sustainability and is aware of the parent company's expectations on this topic.

The start of Embracer Group's sustainability journey was in 2018, when the chairwoman of the board decided to integrate sustainability as part of the business (Edner, 2022, *personal communication*). She initiated the sustainability project, and the group developed a framework to identify the materials, the risks, and the strategies within sustainability. Apart from the efforts of the board, stakeholders' expectations were one of the drivers that Embracer Group integrated sustainability into their business. A materiality assessment was conducted to identify the relevant topics in sustainability as well as stakeholders' expectations (Embracer Group, 2020). Embracer Group's sustainability framework is based on dialogue between stakeholders and risk and impact assessment. Risks are identified in the value chain, while impacts are assessed environmentally and socially. Then the parent company has a materiality workshop within the management team, discussing the prioritization of sustainability focus areas. Three degrees of priority are developed: prioritized areas, develop, and manage and monitor. Subcategories under each focus area in the sustainability framework were distributed into the three degrees.

5.3.1 Sustainability framework

"Embracer Group is not like everyone else, our creativity, business sense and always keeping it real is what makes us stand out. For us, smarter business is all about operating in a sustainable way making sure we run a sound business that helps create value to all our stakeholders while staying true to our way of doing things. Meaning that we are true to ourselves and our values, but more importantly, stand for respectable values shared by the many. Our Smarter Business framework sets a clear ground for the group and will help guide all to work in a sustainable way that will deliver long-term value."

Embracer Group Annual Report 2020, p.58

The Smarter Business framework consists of four pillars: Great people, Solid work, Business Sense, and Greener Planet (Embracer Group, 2020). Great people is about employees, including diversity, inclusion, creativity at the workplace, and work-life balance. Any form of harassment and discrimination is not accepted. Solid work is about products, including responsible gaming content, diversity and accessibility in the games, and healthy gaming. Business sense is about creating long-term values, including transparency, risk management, privacy, and data security. Greener planet is related to the environment, including partnerships to mitigate environmental impacts, reduce carbon emissions, and participate in initiatives that bring positive impacts to the local surroundings. The primary environmental impact at Embracer Group is indirect, which was measured by following the GHG protocol. However, not all the entities are included in the data since the data collection process is still under implementation.

"The partnerships are linked to our smarter business framework. […] We believe that it is very important for us to partner with these organizations because it is not our profession. So, we need them to be able to enhance what we want to do within these areas."

Edner (2022), personal communication.

Embracer Group partners with Safe In Our World to address mental health issues in the industry and raise awareness. They choose carbon offsetting projects focusing on renewable energy. It is because energy use (digital gaming plus energy use at the consumer end) is one of the main emission factors, and this issue is relevant to many companies in the games industry. They support initiatives such as Solvatten. Additionally, they also buy safe water for people who live in low-income countries for every new person joining the Embracer family, by acquisition made or persons hired.

Embracer Group established the Ambassador Group to facilitate the implementation of the Smarter Business framework. Each operative group has an ambassador to help the whole organization understand the framework.

"It is really great to have this group coming up with initiatives that we can do together. So, it's a way for us to learn what's happening in the ambassador group and the different companies, and for them to inspire each other and work in the ambassador group. They discuss questions at a high level. It also makes them do a lot of things at the company level. They're really proud to share with each other. This group is still ongoing, and I report directly to the board. Their voice is very important."

Edner (2022), personal communication.

The Ambassador group is also a place for the representatives to connect, share ideas, and inspire each other. Through having regular meetings with the ambassadors, the parent company can anchor the ideas and initiatives coming up by employees around the world. Apart from developing initiatives associated with the Smarter Business framework, the Ambassadors identified many critical sustainability initiatives. The Ambassador Group is valued by the parent company.

Embracer Group is one of the steering groups of PlayCreateGreen (PlayCreateGreen, 2021). This

initiative was founded in 2019 and is “the result of a joint commitment signed by Embracer Group to the UN's Playing for the Planet.” (Embracer Group, 2020, p.71). The initiative created a green handbook for inspiring and motivating games companies to mitigate their carbon footprint and facilitate climate actions. With examples, it also provides solutions and inspirations on an easy-to-understand level.

5.3.2 Challenges of engaging sustainability

Edner (2022) mentioned two challenges to engage in sustainability are mentioned. One is maturity.

“One challenge has been the maturity, I think, within our different entities with cultural and national differences. We are a very decentralized group, so we do not want to push initiatives that we develop here (at the parent company). We believe they know their business the best and can also do their best to reduce negative impacts. We also have a responsibility to talk about what we believe and what everyone should look at.”

Edner (2022), personal communication

As a result, Embracer Group delivers their values to all the subsidiary companies, ensuring each company is aware of the framework and knows what sustainability aspects are important. The other challenge is data collection in preparing for reporting.

“We have more help regarding the reporting. But we do need to have tools to gather all the data that we need to be transparent about the group. And that is, of course, a cost and a lot of work. It is also quite challenging with having many entities in a decentralized group and gathering the data, so I can understand that (reporting is challenging). I think many new regulations and disclosures also come on a new level. I know that next year we have to report on the taxonomy and, you know, we have to really look into what is it that's required.”

Edner (2022), personal communication

Despite the challenges, engagement in sustainability is an investment. It costs money to engage in sustainability, but it could be costly if not engaging in it. For example, setting targets to reduce carbon emissions can make the company operates efficiently, saving money in the long term.

5.3.3 Communicating sustainability

The goal of communicating sustainability is to build a brand that reflects Embracer Group’s efforts in sustainability.

“I think we have different stakeholders who are interested in that (sustainability). Our employees are very important. That (communicating sustainability) builds a brand that contains what we are doing with sustainability areas. We also make people feel engaged to work for their company. So, I think it is really important that we communicate that. Also, external stakeholders, like investors and analysts. Being a listed company is very important to be transparent about what we are doing. In that case, it is more about managing risks. On the more internal communication side, it is more about doing the right thing, being a good company to work for.”

Edner (2022), personal communication

Internally, they want to make employees feel engaged and happy to work for their company. Externally, they want to be transparent with investors and analysts regarding what Embracer Group is doing with sustainability. Although it can be tricky to communicate with various stakeholders simultaneously, they have quarterly reports and annual reports specifically for shareholders to communicate with investors.

5.3.4 Sustainability elements in the game

Games with sustainability features can encourage sustainable behaviors among players.

"I don't think that's so many of our games are focusing directly on that (sustainability). Like 'we are going to do a sustainability game.' but it's already included in the game somehow."

Edner (2022), personal communication

For example, a planet is destroyed when players win the game. Some other sustainability features in the games are that players can buy vegan food or design their characters from a diverse scale. There are studios at Embracer Group that via research are applying games in healthcare, such as games that help older people keep up their brain activities and learn new knowledge.

Many developers in the group conveyed the difficulty in communicating sustainability in the game. The sustainability features in a game should be delivered smoothly. Some games at Embracer Group used nudging – an image of wind power – to communicate sustainability. Communicating sustainability in the game is tricky because players have different tastes in games. Some might like to see climate-friendly features, and some might not. However, it can still be influential since games can reach millions of people across the world.

5.3.5 Stakeholders

Critical internal stakeholders are employees while investors and analysts are important external stakeholders. The prioritization of stakeholders is built on being a parent company. Gamers are also important, but it is the studios that do the dialogue with them, not Embracer Group. Employees are important because they are the ones who make games and the business is also dependent on them.

5.4 Rovio

Rovio, founded in 2003, is a Finnish games company that develops and publishes mobile games. Their most well-known franchise, *Angry Birds*, was first released in 2009. The success of *Angry Birds* made Rovio one of the largest mobile games companies (Rovio, 2022). The company has seven studios, and one of them is based in Stockholm. Outside of games, they also produce licensed consumer products related to *Angry Birds*, such as toys and T-shirts. Moreover, *Angry Birds* was made into animate and movie. Their values are based on three aspects: Be bold, embrace innovation, and act with integrity, which is connected to their sustainability approaches.

There are two turning points where Rovio decided to be more active in tackling sustainability issues. The first turning point was when Rovio licensed the *Angry Birds* brand (Lappalainen, 2022, *personal communication*). They realized the need to verify the supply chain of licensed products. It was driven by internal pressure from the employees who wanted to make *Angry Birds* products safe and ethical. Therefore, licensing sustainability was established. Rovio pays attention to the working condition at manufacturing location and ensure no violation of human rights. The second turning point was in 2018, when Rovio started to develop a realistic sustainability approach. In the past two years, Rovio has progressed a lot in integrating sustainability into corporate strategy and implementing sustainability strategies in general.

"That (stakeholders' expectation) is one of the main drivers why we are now advancing so fast. One thing is that we became a listed company in 2016, so it creates a lot of mandatory processes, and we are more open to external pressure as well when it comes to sustainability. I would say that when comparing with 2015 and 2020, there is a huge rise in the expectations of all people, whether it is climate change, inclusion, diversity, well-being, and those kinds of topics. The five years from 2015 to 2020 made a huge difference because people expect companies to talk about sustainability."

Lappalainen (2022), personal communication

From Rovio's perspective, games companies have increasing responsibility towards society because this industry has been growing and has become one of mainstream entertainment. As a result, the stories, the content, and the efforts on sustainability are getting increased attention. Social impact is also seen as larger than ecological impact. However, it does not mean that one is more important than the other. As a games company that works mainly with digital products, Rovio has less environmental impact than other games companies and industries.

5.4.1 Sustainability framework

"Acting in a responsible way has always been one of Rovio's overarching principles, and in 2021 we have only strengthened our commitment. Our ambition is to be an industry leader in sustainability and help set standards for continuous improvement. We foster a diverse and inclusive work culture and want to ensure a safe and responsible gaming environment for all players, while respecting the environment. Employees are our greatest asset and being a great workplace where everyone can grow as a professional is the bedrock of Rovio."

Rovio Annual Report 2021, p.36

Rovio's CSR has three key focuses: Safe and responsible gaming, people and society, climate, and environment. The focus areas are identified by combining Rovio's values and the result of the materiality analysis conducted in 2020. Additionally, these areas are connected with related SDGs and presented in the report. Interviews and open surveys are used to understand internal and external stakeholders' expectations and identify focus areas for CSR.

Safe and responsible gaming is to ensure a joyful gaming experience for players. Rovio aims to create a safe environment for every audience of all age levels without experiencing hate speech, harassment, and any activities that may cause harm to the players. Furthermore, they also take data protection seriously. People and society is about employees' well-being and creating a diverse and inclusive working environment that is equal and free of discrimination. The company believes that the diversity in employees' composition can resonate with the global player community, where players are demographically diverse. Moreover, they also consider that "Diversity leads to deeper understanding of markets, players, and us people", which can attract talents and create inclusive games (Rovio, 2021, p.51). Climate and environment is about minimizing environmental impacts and maximizing positive impacts, such as raising awareness. The company's goal is to offset the carbon emissions of operational activities such as air travel and energy use as well as compensate for the indirect carbon emissions from the players' end. They are now working towards carbon neutrality.

Rovio partners with initiatives that can create long-term benefits (Lappalainen, 2022, *personal communication*). Partnerships are chosen based on Rovio's core value. As *Angry Birds* is a popular brand, they use it for education. They engage with UNICEF, an organization that focuses on supporting education for children in developing countries. Apart from UNICEF, they partner with Kahoot on climate change themes for marketing *Angry Birds* and raising awareness on climate issues.

In the next 5 to 10 years, Lappalainen (2022, *personal communication*) believes that having a sustainability agenda is much more common throughout the industry. In the future, gaming companies would actively monitor their carbon footprint. At the same time, the content in games would mature to deliver a better representation of our society with all its possibilities and challenges.

5.4.2 Challenges of engaging sustainability

There are three main challenges for Rovio to engage in sustainability. The first one is related to sustainability features in the games, which take time to implement.

"Change the core product (Angry Birds) to deliver that kind of message (sustainability-related) is not that straightforward. The product needs to be really easy and fun to play, which is something that game is. Of course, games have high responsibility for that, and we serve our players. Adding sustainability features to the games takes time. Nothing can be done overnight because it can ruin the experience. Although there might be good sustainability messages in the game, we might lose all the audience."

Lappalainen (2022), personal communication

Because games are meant to be fun and easy, the sustainability features and messages in the games can only be delivered indirectly; otherwise, players' gaming experience might be ruined and eventually lose the audience. The second challenge is about the accountability of environmental impacts.

"What comes to climate and environment is that there are some challenges about accountability. For example, where do we draw the line? What is Rovio's responsibility? If you are playing our game on iPhone or whatever phone you have. What is the boundary, where does Rovio's responsibility end, and where does Apple's responsibility end? Where to draw the line, especially when talking about carbon emissions. That is why the industry needs to run discussions and drive forward that kind of initiatives that is not said by the regulators. The games industry needs to take a proactive approach."

Lappalainen (2022), personal communication

It can be tricky to know where to draw the lines and understand the responsibility when facing an environmental issue, especially for carbon emissions calculations.

The last challenge is the micro-purchases and in-game transactions. A business needs to be sustainable and profitable, so the company can continuously operate. However, there must be a balance between the two. Lappalainen (2022, *personal communication*) also mentioned that sustainability reporting can be challenging in terms of the amount of data gathered, resources and time. Nevertheless, he considered the workload is the same for other companies.

"We think it (CSR) is an investment. If we invest in employees' wellbeing, it creates huge benefits for us. Our employees are happy to come to work because they feel that they are treated equally and respected. The same goes for climate and the environment. We need to take a stance and fight against climate change. That is not only good for the planet but also something that our employees and possible candidates might like to see at Rovio— 'I want to work with that kind of good company that takes care of the climate change mitigation.' And the same goes for safe and responsible gaming. You need to ensure that games are safe. We are responsible for products, ensuring the game environment we create is fun, enjoyable, and nobody is being bullied. Everybody is having fun instead of having a bad experience in the game."

Lappalainen (2022), personal communication

Rovio believes CSR is an investment. There are costs involved in engaging CSR; however, the company can benefit indirectly in the long-term. It builds a good brand image that attracts and keeps talent and creates an enjoyable and fun gaming experience for every player.

5.4.3 Communicating sustainability

The goal of CSR communication is to deliver messages to the stakeholders. Internally, messages need to reach employees, which is relatively easy to monitor the effectiveness. Externally, messages need to get to investors, analysts, and players, showing them that Rovio is putting efforts into sustainability and doing good things. Talking with players is challenging. As mentioned earlier, the messages need to be delivered in a fun, indirect, and clever way without ruining the gaming experience. Therefore, the company also uses other media channels such as Facebook and TikTok to communicate with players. Players are more interested in playing games than receiving messages from the game's company

regarding sustainability. There are also few requests from players regarding in-game sustainability elements or sustainability efforts of Rovio. The requests are mainly about game content and social media content. Players express their opinions on what they like and dislike about the games and they also actively reacting to social media messages.

5.4.4 Sustainability elements in the game

Rovio is one of the initial members of the P4P alliance. The company participated in Green Game Jam in both 2020 and 2021, in which they raised awareness on environmental topics such as reforestation and ocean conservation by implementing in-game events (Rovio, 2021, 2020). As mentioned, along with the challenges in sustainability, integrating sustainability elements in games is tricky.

5.4.5 Stakeholders

"Internally, of course, our employees are the most important stakeholder, and then players come as equally as important" (Lappalainen, 2022, *personal communication*). Rovio needs to make sure they receive the communication on sustainability. The company also reaches out to them to know their opinions on sustainability. The identification of critical stakeholders is concluded naturally from an industrial context. Employees create core products, and the products serve players. If employees have a decent work-life, they will be able to create games of high quality. As for players, it is vital to listen to them and find out what they like.

5.5 Mojang

Mojang studio created *Minecraft*, and the game's full version was released in 2011 (OCR, 2017). Microsoft later acquired the studio in 2014, and it is a part of the Xbox Games Studios. *Minecraft* is the best-selling game of all time, with a total of 230 million number of download (Microsoft, 2021). Back when *Minecraft* was only a Java version, teachers would use *Minecraft* to teach students using Redstone and command blocks to build things (Bonham, 2022, *personal communication*). Redstone represents electricity in the game, allowing players to build machines. The Microsoft Mojang team saw how teachers use the game in teaching and decided to make it easier for people to access the game and add more in-game educational elements (Bonham, 2022, *personal communication*). In 2016, the full version of *Minecraft Education Edition* was released (Minecraft Education Edition, 2016). The team added many features that improved the learning experience from the feedback of teachers and students during the early access program of the game.

5.5.1 Minecraft Education Edition

The initial idea for creating *Minecraft Education Edition* is to use the popularity and enthusiasm of students for *Minecraft*, making the game a teaching tool (Bonham, 2022, *personal communication*). However, it is hard to draw the line directly between the *Minecraft* world built by the students and the increased test scores. Specifically, the factors that associate with students' scores. It can be tricky to know whether the increased score is related to the effort of teachers, the school, or the social-economic status of the student, which requires a longitudinal study to figure out. One thing that can be certain is that teaching with *Minecraft* keeps students motivated. Students are generally excited about coming to the class and using *Minecraft*.

Minecraft Education Edition touches on a wide variety of subjects, including science, math, computer science, history, art, etc. (Minecraft Education Edition, 2021a). Additionally, there are many resources related to sustainability. For example, the sustainability report of Microsoft was made into a *Minecraft* map called "Sustainable City". It is for youth to understand Microsoft sustainability reports easily. Lessons cover six main topics: sustainable food production, water treatment, waste, responsible forestry, sustainable home, and renewable energy (Tuttle and Chief, 2021). Additionally, Sustainability City is available for *Minecraft* players for free (Playing for The Planet, 2021). The "Climate Future" lesson is

created based on SDGs (Minecraft Education Edition, 2021b). It shows players about the future based on the choices made in the game. The team also partners with World Wildlife Fund and United for Wildlife, creating lessons related to biodiversity and wildlife conservation. The partnership lessons also educate players on the interconnectedness of biodiversity in the world and how it affects people *(Bonham, 2022, personal communication*).

5.5.2 Challenges with sustainability elements and applications at school

Two challenges are identified through user feedback. The first challenge is related to players. Minecraft has a broad audience, and players have different game tastes. For example, the *Climate Future* theme in the game:

"It's mainly players and they complain about things, such as 'climate change is not real.', 'you are pushing an agenda in Minecraft and saying that climate change is real". […] we do get feedback from players like that (negative)."

Bonham (2022), personal communication

The second challenge is related to teachers. It can sometimes be challenging for teachers to use the game in teaching.

"Minecraft is a game, so often students can play better than the teachers. Some teachers are open to it and have a great mindset, while some do not like the feeling that they are not the expert."

Bonham (2022), personal communication

There is a barrier to entry because teachers need to have knowledge about the game before implementing it in the class. Although teachers can take the training on using *Minecraft*, some students use *Minecraft* better than the teachers. Thus, teachers will need to change their mindset slightly. Despite the challenges, the feedback from teachers and students contributes to the improvements in the game. One example of improvement is how multiplayer works in the game.

5.5.3 Sustainability to Mojang and Microsoft

"They (Microsoft) are very mindful of the fact that the senior leadership at Mojang knows what they are doing with Minecraft. A lot of times, you know, they (Microsoft) buy other studios. The studios keep putting out the same high-quality games as they have before. So, they (Microsoft) are not in there managing what they (the studios) should or should not do. As a studio, sustainability is an important priority for Mojang, even before the acquisition. It is important to Microsoft and Mojang. It is something the core of the work that we do."

Bonham (2022), personal communication

Sustainability at Mojang was not necessarily pushed by Microsoft. Instead, the Microsoft Mojang team sees the importance of sustainability throughout the years. In the next five years, the team plans to continuously improve the game and create content that focuses on climate and sustainability. Their goal is to have positive impacts on the youth, be relevant, be exciting for students, and be a resource in schools.

5.6 Toppluva

Toppluva was founded in 2017 by three brothers (Toppluva, 2022). Their first mobile game, *Grand Mountain Adventure*, came out in 2019 on android and in 2020 on iOS. Toppluva is a small studio; they are limited by time and resources and are still figuring out how to pay their own salary.

Sehr (2022, *personal communication*) asserted that games companies do not have any responsibility. This statement is supported by the fact that the industry has light impacts on the environment. The studio ensures social and environmental responsibility by following the norms in Sweden. He thinks that being sustainable is a choice, and it is about the values of a company. Currently, the most critical thing for the studio is to make sure the company is running. They do not know how to engage in sustainability; however, they would engage in it if there were time left to integrate relevant concepts.

5.6.1 Challenges in designing sustainability features in the games

Participating in Green Game Jam was a random choice. The studio was invited to take part in Green Game Jam by a person they admire.

"And the other part was that we did have millions of players that we could affect in some way. and it felt like a fun project to try out. […] Our game is about skiing and snow, so it felt like there should be something related to the climate we can do here."

Sehr (2022) personal communication

However, the studio found in-game sustainability elements tricky to design, and it is challenging to communicate with players. The first reason is the lack of time and resources.

"I think we have a lot of limitations since we have so few people and little time. It takes a long time for us to do big changes in the game, so we had to choose the theme with minimal coding and not too complicated to implement."

Sehr (2022) personal communication

The second reason is that communicating sustainability with players is more complex than expected.

"It was hard to know what questions were relevant. We designed a quiz about how you can reduce climate impact. Writing this quiz for a few friends is very easy but writing for a vast international public becomes way more difficult because you must have sources for everything. And it also has to make sense for everyone. Picking questions that fit the entire world was really hard. Such as using electric cars instead of petrol cars. It does not make sense for some countries because they do not really use cars. It also gets boring easily since everyone in the world has to be taken into account, and it (the question) gets very generalized."

Sehr (2022) personal communication

The studio received help from the environmental specialist of the UN P4P program, brainstorming ideas for the quiz.

"We did not want that (the sustainability feature affects gameplay). We did not want to sound like moralizing, telling players what the right things are to do."

Sehr (2022) personal communication

They did not wish to affect the gaming experience due to the in-game sustainability features. Therefore, they avoid being direct in the messages, teaching players what is right or wrong.

In the game, a splash screen centered an environmental theme comes with a link for players to get a free mountain (Playing for The Planet, 2021c). The link would lead players to a website where there are tasks related to conserving and restoring forests and oceans. The in-game sustainability feature received positive comments from the players. There has been a lot of discussion about the climate-related quiz in the game and new game feature on social media platforms. Currently, the studio has no plan to

participate in the next Green Game Jam.

5.6.2 Effectiveness of sustainability features

Sehr (2022, *personal communication*) is uncertain about the effectiveness of sustainability features in driving sustainable behaviors.

"I do not know (whether sustainability features in the games can encourage sustainable behaviors). It really depends. You cannot expect the result without interfering with players. I mean, you have to be quite blunt and show the messages very clearly and interruptive otherwise, you cannot expect anything without doing that."

He also mentioned that some companies use nudges, such as showing wind turbines in the background, which does not bother the players. However, it may require a more straightforward message that may interfere with the gameplay to make the changes in behaviors happen. He also thinks that in the next five to ten years, "there will be a lot more initiatives like Green Game Jam, and a lot more "social responsibility" demanded by players on games companies".

5.7 Case studies synthesis

Companies' efforts in sustainability are organized into four tables: Measures to engage in sustainability (See Table 9), a list of identified and prioritized stakeholders (See Table 10), strategies to communicate CSR (See Table 11), and in-game elements associated with sustainability (See Table 12). In this case study, the sustainability-related measures are usually documented in the official reports, which are specific to parent companies. For studios that are small or being acquired, there is typically no documentation about their practices on sustainability. Accordingly, the information about their work in sustainability can only be obtained through their partnerships and games. Due to the differences presented above, Toppluva and Mojang are not included in Table 9, Table 10, and Table 11. Instead, their efforts are presented along with their games with sustainability elements in Table 12. Additionally, games with sustainability concepts developed and published by parent companies are also included in Table 12 for further analysis.

Table 9. Overview of focus areas in sustainability and corporate responsibility of the games companies

Company	**Focus areas in sustainability and corporate responsibility**	**Example of company statement and statement of representative**
Stillfront Group	Gaming for all	*"We develop games that are fun, smart, and entertaining, and at the same time have a positive impact on people and society."* Stillfront Group Annual Report 2021, p.13
	Living our values	*"Living our values is about how our culture supports us to conduct a responsible business and how we as a global group and platform can attract and develop the best game talents globally."* Stillfront Group Annual Report 2021, p.13
	Smart resource use	*"For us, smart resource use is a given for the long-term prosperity of gaming and the planet."* Stillfront Group Annual Report 2021, p.13
Paradox Group	Sustainable operation	*"Paradox's impact on society takes place both through the company itself and through the activities carried out by its suppliers, distributors and other stakeholders."* Paradox Interactive Annual Report 2021, p.33
	High-performing teams	*"With 721 employees on several continents, Paradox has a great responsibility and an important task in creating a safe and meaningful workplace where outstanding people feel involved, are healthy and can create and sell fantastic games."* Paradox Interactive Annual Report 2021, p.30
	Responsible gaming	*"For Paradox, gaming and its community are not just a matter of revenue. It is a matter of strengthening the social conditions that surround its games, as well as a human right: everyone should have the opportunity to explore and express their interests, regardless of background."* Paradox Interactive Annual Report 2021, p.32
	Long-term financial value	*"With a wide-spanning game portfolio, nine internal development studios and a global publishing capacity, Paradox has a strong position in many parts of the gaming industry's value chain."* Paradox Interactive Annual Report 2021, p.7
Embracer Group	Great people	*"People truly are our greatest asset, the creative, dedicated and very talented people that work on all levels make all the difference and embody what Embracer is all about."* Embracer Group Annual Report 2020, p.66
	Solid work	*"We want our games to be based on creative expression and rely on common sense as well as joint reflection and understanding of our content."* Embracer Group Annual Report 2020, p.64
	Business sense	*"Our way of doing business is based on honesty and trust. That's how we make acquisitions and build brand value for the long term."* Embracer Group Annual Report 2020, p.60
	Greener planet	*"As part of the growing industry, Embracer Group bears the responsibility to see and understand the environmental impact we contribute to. We want to keep our planet green and be a nice place to live and work."* Embracer Group Annual Report 2020, p.70

Company	Focus areas in sustainability and corporate responsibility	Example of company statement and statement of representative
Rovio	Safe and responsible gaming	*"We aim to create a safe and enjoyable gaming environment for all our players."* Rovio Sustainability Report 2021, p.2
	People and society	*"As games are made from people to people, we see that the importance of diverse and inclusive work culture and our support to the larger society continues to be one of the areas of focus."* Rovio Sustainability Report 2021, p.2
	Climate and environment	*"Climate & environment combines all our efforts to mitigate our negative environmental impacts and to seize the opportunities to raise awareness on important matters everybody can act on."* Rovio Sustainability Report 2021, p.2

There are three main focus areas across the case companies: employees' well-being, responsible and safe gaming community, and environmental impact mitigation. Responsible gaming is sometimes framed as conducting a responsible business and developing reliable products and content.

Table 10. List of stakeholders and identified critical stakeholders

Company	Stakeholders listed in official document	Critical stakeholders mentioned in sustainability reports and in
Stillfront Group	Shareholders and investors, Users or consumers, Professionals (employees) (Stillfront Group, 2021)	Every stakeholder is important.
Paradox Group	Players, employees, third-party studios, owners, distributors, suppliers, media, and society (Paradox Interactive, 2020).	Players, distribution partners, employees, and owners
Embracer Group	Employees, managers, board of directors, shareholders and analysts, investors, industry associations and society (Embracer, 2020)	Investors, analysts, and employees
Rovio	External and internal stakeholders. No detail data.	Employees and players

Due to the lack of official documents, stakeholders of studios and studios acquired were not listed in the table. As a result, Mojang and Toppluva are not included in the analysis and discussion. Note that Rovio does not have a detailed list of stakeholders in the report. There are some names of stakeholders shown in the reports; however, the stakeholder list may not be a complete one.

Table 11. Identified CSR communication strategies in the case companies

CSR communication strategies	Company	Example of activities
The stakeholder information strategy	Stillfront Group	• Communicate on the website and sustainability reports
	Paradox Group	• Communicate on sustainability report
	Embracer Group	• Communicate on the website and sustainability reports
	Rovio	• Communicate on the website and sustainability reports
The stakeholder response strategy	Stillfront Group	• Completed materiality analysis to find out stakeholder's expectations. • Stakeholder dialogue (interview, survey, etc.) with shareholders and investors, users and customers, employees (managers)
	Paradox Group	• Completed materiality analysis to find out stakeholder's expectations. • Stakeholder dialogue (interview, survey, etc.) with employees, the broad, suppliers, analysts, and shareholders
	Embracer Group	• Completed materiality analysis to find out stakeholder's expectations. • Stakeholder dialogue (interview, survey, etc.) with employees, managers, board of directors, shareholders, investors, industry associations and society.
	Rovio	• Completed materiality analysis to find out stakeholder's expectations. • No specific information on how stakeholder can response to the CSR strategy. This part is explained in the following text: *"We want to see sustainability even deeper embedded into our core business and operations, and we ensure that by involving the key stakeholders in defining the strategy and action plan."* Rovio Sustainability Report 2021, p.10
The stakeholder involvement strategy	Stillfront Group	• Stakeholder dialogue • Environmental committee (employees)
	Paradox Group	• Stakeholder dialogue
	Embracer Group	• Ambassador Group (employees)
	Rovio	• No data

In the stakeholder information strategy, Paradox does not have sustainability-related information on their website. The rest of the companies publish information on both websites and annual reports. In the stakeholder response strategy, Rovio's strategies to collect stakeholders' feedback are uncertain. As a result, despite saying stakeholders have been involved in CSR-related decision-making, there is uncertainty in terms of specific measures used to involve stakeholders. The rest of the companies included stakeholders' lists and approaches to them. Stakeholder dialogue is used to obtain feedback and involves stakeholders in designing sustainability frameworks.

Table 12. Overview of games with sustainability concepts. For publishers, games with sustainability elements made by their studios are presented

Studios, parent company	**Name of example game**	**In-game sustainability concept**
GoodGame Studios, Stillfront Group	Big Farm: Mobile Harvest	• Environmental theme. • Links to related information. • Community event to reach goals in the game. • In-game rewards for players.
Haemimont Games, Paradox Group	Surviving Mars	• Sci-fi theme. • Game mechanics centered around the concept of sustainability. • Story telling
Misc Games, Amplifier Game Invest, Embracer Group	Fishing North Atlantic	• Environmental theme. • Game mechanics centered around the concept of sustainability
Rovio	Angry Birds 2	• Environmental theme. • Links to related information. • Community event to reach goals in the game. • In-game rewards for players.
Mojang, Microsoft	Minecraft Education Edition	• Environmental theme. • Interactive educational element. • Story telling
Toppluva, N/A	Grand Mountain Adventure	• Environmental theme. • Link for related information. • In-game rewards for players.

One game is selected from each publisher's game list as an example. All games presented above have sustainability elements. The elements are either within the game mechanics (*Surviving Mars* and *Fishing North Atlantic*), as additional features (*Big Farm: Mobile Harvest*, *Angry Birds 2*, and *Grand Mountain Adventure*), or, more straightforward, the game itself educates sustainability (*Minecraft Educational Edition*).

6 Analysis and Discussion

In this chapter, content analysis is applied to analyze the collected evidence from both secondary documents and interviews. The analysis is built on the conceptual framework. Two research questions and the sub-questions are answered. First, results related to sustainable business measures that are in practice within the Swedish games companies are presented – followed by the motivations and challenges. Second, strategies for communicating CSR with stakeholders are demonstrated. The strategies are further discussed in corporate strategies and sustainability features in game content.

Among the case companies, Toppluva and Mojang are not considered to discuss corporate social responsibility and stakeholders-related topics due to the lack of official documents and data. This is because Toppluva is a small company while Mojang does not involve in CSR decision-making. Instead, their games used in communicating sustainability are analyzed and discussed.

6.1 A competitive industry

Corporate social responsibility measures in the games companies reflected the competitiveness of both the industry and the job market. Games companies' CSR approach follows TBL, covering environmental, social, and economic aspects, referred to as the "win-win-win business strategies" (Elkington, 1994). The case companies share similar focus areas: creating good content for players, building an excellent working culture for employees, and mitigating environmental impacts. As specified in the report and supported by the companies' representatives – it is the nature of the games business; employees create games, and players play games. They are the keys to maintaining the value chain and creating long-term profits for the company. Additionally, the final result of tackling environmental issues increases efficiency and productivity (Porter and Linde, 1995), thus, is seen as cost-effective by some representatives. The general public is familiar with the adverse industry-wide social matters such as employee burnout, sexual harassment, diversity issues, toxic player communities, etc. These are disclosed in news coverage and blog articles. To survive in such a competitive industry, companies must address these problems (Dupire and M'Zali, 2018); they must build a good image and reputation to increase their competitive advantage (Karwowski and Raulinajtys-Grzybek, 2021). Therefore, reputation and competitive advantages can be achieved by engaging in corporate social responsibility and attracting as many talents and players as possible (Ortiz-de-Mandojana and Bansal, 2016; Sánchez-Torné et al., 2020). To sum up, the goal of conducting CSR is to increase competitive advantages, and the driver is the expectations from stakeholders.

Some scholars asserted that CSR could be used as a veil to cover unethical business conduct (Karwowski and Raulinajtys-Grzybek, 2021; Whitehouse, 2006). This is unlikely to be seen in this project, considering that the interview participants are aware of the interview's purpose. On the premise of knowing the interview is about CSR engagement and their names would show up in this thesis, representatives, despite being honest, might avoid discussing negative and sensitive topics. Moreover, the project does not evaluate CSR effectiveness, which makes it trickier to unveil the unethical behaviors of game companies. One thing that can be sure is that the games industry cannot be compared with the tobacco industry (Palazzo and Richter, 2005). Although the general public is aware of the adverse effect caused by playing video games, the effects are specific to particular individuals (Ferguson, 2018). The benefits of playing games are explicitly recognized during the COVID-19 pandemic. Adding up the fact that the later generations are more active in using technology and playing games than the older generations. People's perspectives on games will likely change entirely in the near future.

Every case company views CSR as an investment. Despite an upfront cost that is always required to engage CSR, companies would eventually benefit from it. This reconciles with Hidayati (2011, p.105) "if a company applies CSR programs, then they will have to do this continuously, making them an investment and a part of the company's business strategy." It is also part of creating a long-term economic value, which is embedded in companies' CSR strategies (Miras-Rodríguez *et al.*, 2015). Most companies do not point it out directly; however, it is the final result of good stakeholder management (Freeman *et al.*, 2002). This also indicates that companies use a systematic approach to manage

stakeholders and realize the interconnectedness between them (Crane, 2020; Freeman *et al.*, 2020). In other words, a diverse workplace motivates creativity in employees; They develop fun games that players enjoy; Players then have a great gaming experience in a safe and healthy gaming environment; At the same time, companies' engagement in sustainability increases their reputation and attracts more talented employees; This creates a positive cycle that increases long-term value, which meets the expectations of shareholders and investors.

Challenges identified in engaging CSR vary individually, and the challenges reflect the fact that sustainability is a relatively new concept in the industry. The common one is related to using games to communicate sustainability, which is further discussed in section 6.3. Challenges identified are reporting (Stillfont Group and Embracer Group), accountability of environmental impacts (Rovio), the effectiveness of CSR (Paradox Interactive), and collecting data from entities (Embracer Group). It shows that there are currently no standard procedures and regulations for games companies, especially addressing environmental issues.

Examining the measures used to tackle the social impacts of games associated with players and employees can confirm that companies are familiar with dealing with these issues. In other words, the measures to tackle them are well-developed and mature. These issues happen to belong to the pillar of social sustainability in CSR. Dealing with environmental impacts, on the other hand, measures and levels of development vary in case companies. This can be seen from the published year of the sustainability report, carbon emissions calculations, and carbon offset measures.

Next, strategies in each focus area were analyzed and presented. Each company focuses on creating values focusing on players, employees, and the environment.

6.1.1 Increase competitive advantage – Diversity and inclusion at work

It is very clear that companies realize the connection between games and players. They value diversity considerably because players are a diverse group. First of all, the percentage of women players reaches nearly 50 percent. Second, players are from different age groups, different cultural backgrounds, and different perspectives. Therefore, all companies in the case study believe workplace diversity is essential to bring in creativeness, international perspectives, and skillsets, and, most important, develop games that connect with players. The case companies have internal policies to protect minority groups from unwanted behaviors and have developed or are developing a whistleblower system. The literature also supports this concept. Goswami and Goswami (2018) found that a high level of diversity can increase workplace inclusion and employee engagement. Furthermore, a diverse workplace can also improve the working performance of employees (Arokiasamy, 2013). To sum up, a diverse workplace where women and men have equal rights is seen as attractive for future employees, attracting the right talents and increasing competitive advantage (Greening and Turban, 2000; Sánchez-Torné *et al.*, 2020).

Apart from increasing the number of female employees, the efforts for diversity and inclusion can be seen in the broad members. Three out of four broad managers responsible for sustainability in the case companies are female, which may further encourage commitment on environmental engagement in CSR strategies (Kuzey *et al.*, 2022). The higher proportion of female board members may also imply higher CSR performance (Shahbaz *et al.*, 2020). Even though this project does not measure CSR performance, companies with a female as head of sustainability are generally more active in sustainability. This can be seen from the initiatives participated in and established partnerships.

6.1.2 Increase competitive advantage – Healthy gaming communities

Games are a form of entertainment and expression, and the essential purpose of games is to create joy (Strömbäck, 2022; Wood, 2022). As a result, the role of games companies is to facilitate these values, and all case companies follow this concept. They recognize that toxicity takes away the joy out of players, creating resentment and hate and, further, loss of audience. All game companies specify zero tolerance for toxic behaviors among players, including sexual harassment, discrimination, hate speech,

etc. Games companies are responsible for creating a safe and healthy gaming environment and bringing a great gaming experience to their players. Further, in Embracer Group, Stillfront Group, and Paradox Group, it is the studios that take care of players-related issues. Since the three companies are responsible for drafting sustainability frameworks for the whole group, they further integrated this aspect into their CSR and delivered their values to the subsidiaries. The parent companies are aware of players' significance in affecting their business.

6.1.3 Increase competitive advantage – Addressing environmental impacts

The environmental aspect of sustainability is a relatively new area for the majority of games companies, which can be supported by the published year of sustainability report and the year when companies disclose their carbon footprint. The selected case companies are at different stages, and they have taken different ways to address environmental impacts. In 2020, Embracer Group, Paradox Group, and Stillfront Group published sustainability reports (2019) as the first step to disclosing their thoughts and framework on sustainability. They then conducted and revealed their GHG emissions in the sustainability report (2020). Rovio is a pioneer in this topic. The company's first CSR report was published in 2017 and disclosed the result of carbon emissions in 2018. The name of the CSR report was later changed to a sustainability report in 2021. Supported by empirics, 2019 is a significant year when games companies decided to deal with climate change collectively. The co-founder of GamesForest.Club shared her experience of approaching games companies to engage in natural conservation initiatives, "many find sustainability a new area for them, and they need to discuss it internally before deciding" (Wagner, 2022). Thus, measures associated with tackling environmental issues have not yet had a standard applicable to every games company. This is reflected in the improvement of the sustainability reports published each year. Every case company started by developing a framework, calculating the carbon footprint, conducting materiality analysis to understand stakeholders' expectations, then changing focus areas.

Compensating carbon emissions is one of the primary measures to address companies' environmental impacts. Every case company in the report stresses the small impact of their digital business. Embracer Group, Stillfront Group, and Rovio participate in carbon offset projects to compensate for their direct and indirect carbon emissions, while Paradox focuses more on reducing carbon emissions in their business activities, such as transiting physical products into digital ones. Paradox pointed out that it is unlikely to measure indirect impacts from the players. Additionally, all the case companies use their influence on players, other companies in the industry, and the supply chain. Companies engage and share their experience on platforms such as Playing for the Planet and PlayCreateGreen. Embracer Group, Stillfront Group, and Rovio have set or achieved the target of becoming carbon neutral; however, Strömbäck (2022) addressed his concern that the goal of becoming carbon neutral might not be a long-term solution. Carbon footprint and offsetting are problematic; there are issues with "measuring, accounting and verifying" (Murray and Dey, 2009, p.238). There is no principle for carbon emission calculation, so there is no principle to achieving carbon neutrality. Many offset projects take time before going to the next step because gaps between the project and the local need to be tackled (*ibid.*). Therefore, it is important to engage in reliable and transparent projects. Case companies involved in the carbon credit market pointed out the importance of high-quality projects.

6.2 Communicating with stakeholders

6.2.1 Stakeholders

Among all the case companies, Stillfront Group sees the importance of each stakeholder equally, while stakeholder prioritization is identified in other case companies (Agle *et al.*, 1999; Clarkson, 1995; Mitchell *et al.*, 1997). The way games companies prioritize stakeholders can be explained by Bridoux and Vishwanathan (2020): powerful stakeholders can influence the basic operation of a company. Stillfront Group stated in the Annual Report (2021, p.22), "The stakeholder groups have been identified as the groups that are affected by our operations most and which have a major impact on our ability to

reach our goals." Although Stillfront Group treats stakeholders equally, they still recognize specific stakeholders who are more powerful than others. Ways of prioritization depend on the business model of a company. Despite the differences in stakeholder prioritization, all case companies mentioned the received pressure from internal and external stakeholders is one of the critical drivers for engaging sustainability. Investors, shareholders, analysts, and employees expect companies to contribute to sustainability; however, not players. Unlike other industries where customers request companies to be sustainable, customers (players) in the games industry are not at the stage of buying games that are made sustainably. Players are more interested in playing games than receiving messages from the game's company regarding sustainability. It does not mean that players have lower environmental awareness. All case companies said that players provide positive feedback on related ecological initiatives. However, since players have different game tastes and perspectives, environmental initiatives can still receive criticism.

6.2.2 Strategies for communicating with stakeholders

As described in the theory section, strategies for communicating CSR are built on sensemaking and sense-giving (Matten and Moon, 2008). Communication between companies and stakeholders can create a language environment where the interpretations of meanings are shaped mutually (Taylor and Robichaud, 2004). The stakeholder information strategy is sense-giving. The case companies apply this strategy to provide general background on engaged CSR activities and perceived values of CSR through delivering messages via websites and documents such as sustainability reports and annual reports. The representative of Stillfront Group's emphasis on the goal of the sustainability report is to give stakeholders the information they need. This aligns with Greening and Turban's (2000, p.276) conclusion: "firms may wish to consider signaling to potential workers in brochures and advertisements that they offer a work environment conducive to socially responsible activities and provide a culture and environment that reinforces self-concepts and social identities."

Next, the stakeholder response strategy is implemented to know whether stakeholders receive and understand the information (Morsing and Schultz, 2006). The case companies draft or adjust their sustainability focus areas to reflect on stakeholders' expectations which is the result of materiality analysis. Then, survey and stakeholder dialogue are conducted to follow up on stakeholders' satisfaction with the company's work. Here, stakeholders passively influence games companies' sustainability work (*ibid.*). The stakeholder involvement strategy is also identified in the case companies. The most evident examples are the environmental committee at Stillfront Group and the Ambassador Group at Embracer Group. Employees in the two companies are directly involved in carrying out and following up CSR initiatives throughout the whole group.

Additionally, apart from communicating sustainability efforts, some case companies also integrate strategic green marketing as part of their CSR communication strategies. It is an effective way to communicate with external and internal stakeholders with the indirect benefit of increasing corporate competitive advantages (Papadas *et al.*, 2019). For example, corporates partner with organizations that promote related environmental initiatives and policies or provide employee training to raise environmental awareness within the company (Papadas *et al.*, 2017). This communication can be facilitated through social media, corporate websites, and blogs since these platforms allow companies to have an open and direct discourse with the public (Belz and Peattie, 2012). Green marketing strategy can be seen on games companies' websites and sustainability reports. Embracer Group, Stillfront Group, and Rovio have a sustainability section on their website to communicate their frameworks, values, and partnerships. Together with the discourse on sustainability reports, the companies can ensure stakeholders have various sources to understand their efforts in sustainability. The higher expectations of stakeholders, the higher level of green marketing are implemented (Papadas *et al.*, 2019).

The partnership used as a green marketing strategy is observed in every case company, including Toppluva and Mojang. Games companies can build a partnership with initiatives such as Playing for the Planet and Green Game Jam, addressing environmental issues, raising awareness, and marketing their efforts. Embracer Group and Stillfront Group partner with NGOs that address negative social

impacts and compensate for carbon emissions. Mojang partners with World Wildlife Fund to educate children on the importance of wildlife preservation. Rovio's partnership with *Kahoot!* also reflected the purpose of green marketing, educating about climate issues, and marketing *Angry Birds*. These examples prove that partnership is an effective way of CSR communication and an excellent marketing tool.

6.3 Greener games, greener world?

Here, data collected from Toppluva and Mojang are analyzed and discussed. They are not included in the previous sections due to the large differences in business model and size compared with other games companies in the study. This consideration is to ensure the validity of the findings.

Sustainability elements are surrounded by the purpose of games – to bring joy. As a result, the elements either match the game's theme or are implemented engagingly. It can be challenging for game developers to make to make a fun and serious game (Wood, 2022). Many representatives express their concern about disturbing players' gaming experience, which affects the integrated features in the games. Game developers have to think of a way to make the sustainability features subtle, indirect, and fun. They generally think that games company should consider whether they are entitled to tell players how to tackle climate issues.

The sustainability features in the games can be divided into two categories: game mechanics and information-reward elements. Game mechanics allow players to tackle environmental challenges and experience the consequences based on their choices in the games. It gives players an immersive gaming experience. This type of game mechanic is usually relevant to the storyline, which can be a small part or be integrated throughout the story. Games for educating sustainability follow the same concept, showing players the outcome of their actions and reflecting on complex social issues without specifically pointing out what is right or wrong. As described by Scholz (2022), the representative of Strange Loop Games, the developer of Eco:

"We provide Eco as a framework to do things interactively, see your impact, find solutions, see your impact, reflect and change. Without any opinion from us. What we do not do is preaching. We allow you to see the impact of your actions on the world in a scientific, but abstracted way and empower you to do the things you couldn't in real life easily. Make decisions and see the impact on other people and the world."

Information-reward elements are the easiest way to implement in the game, which do not require much code changing. The theme of the elements does not necessarily relate to the game's themes; however, most elements and games are based on the same theme, which might be relatively easy to design and implement. In order to engage with players, environmental information or initiatives are connected with in-game rewards such as a rare event-only prop. Additionally, players are required to achieve a goal to receive the rewards, encouraging players to spend more time on the game.

Games can visually address serious and complex issues and show the consequences of actions in an easy-to-understand way (Fjællingsdal and Klöckner, 2019; Kelly and Nardi, 2014; Wagner, 2022; Wood, 2008). On the one hand, some games companies and NGO representatives believe games can have a positive impact on people's behaviors. On the other hand, some are uncertain about the effectiveness of games in bringing about sustainable behavioral changes. Before discussing whether games can encourage sustainable behaviors in the players, knowing how game content and mechanics can be designed for sustainability is essential.

To reflect on sustainability issues, the design of game mechanics should also be based on the sustainability concept. Kelly and Nardi (2014) analyzed four genres of games and concluded that games should integrate more sustainability concepts into designing mechanics. They proposed four strategies: in a civilization simulation game, "growth" should not be the ultimate goal; in a post-apocalypse shooting game, players should interact more with the environment instead of shooting targets; in

multiplayer survival games, social interaction among players should be the main focus; finally, in historical games, the players should be presented long-term outcome in the game scenario. These mechanics simulate real-life situations, allowing players to learn the consequences and trade-offs of their decisions.

An in-game sustainability feature is a tool that is referred to as "nudging." Nudging is “altering the social and physical environment or changing the way options are presented to people may increase the chances that a particular option will become more attractive, a preferred or even default choice” (Mont *et al.*, 2014, p.12). This tool is used for boosting changes in behaviors that are “automatic, intuitive and non-deliberative” (Mont *et al.*, 2014, p.70). Therefore, it can be applied in various forms; for example, in workout games, players are reminded to not over-exercise (Schneider and Graham, 2017); Moreover, players acknowledge the positive effect of nudging, and they think the feature blends naturally into the game (*ibid.*). This points to one critical characteristic of successful nudging, which is to be accepted by the audience (Lehner *et al.*, 2016). Most game developers consider players’ acceptance of nudging to be tricky, especially when it is about a controversial environmental topic (Strömbäck, 2022; Wood, 2022).

To conclude, behavioral changes among players are possible when sustainability features are applied. Still, they might only be applicable to a particular group of players who are already interested in this topic. The mechanism behind changing human behaviors is complex and depends on various factors (Mont *et al.*, 2014). Especially since the audience of games is spread on a global scale, sociocultural differences can make the potential to change more difficult. Behavioral change is driven by mindset changing – one of the most challenging issues in sustainable development. It is a slow process that can take years. Undoubtedly, integrating sustainability elements in the game is a novel approach beneficial to the industry. It can raise sustainability awareness among games companies and encourage them to engage in sustainability.

7 Conclusions

This chapter summarizes the answers to the research questions. The contribution of this project and suggestions for future research are also included here.

This project aims to identify what CSR strategies are used to address sustainability-related issues in Swedish games companies and how the companies communicate sustainability with stakeholders. Sub-questions are developed to guide research design. Method applied in this project is a case study, and content analysis is used to analyze collected data. The findings align with the theoretical framework that stakeholder expectations are the driver of engaging sustainability and the ultimate goal is to increase competitive advantage. In terms of CSR strategies, it can be concluded that many companies have standard measures to deal with social sustainability issues because these issues have existed in the industry for a long time; it is their responsibility toward the environment that is new to them. Therefore, there are no standard measures and processes for mitigating environmental impacts. Currently, the measures for addressing environmental impacts are evolving and developing.

Games companies mainly communicate their sustainability through documentation, website, and games. All strategies of CSR communication are identified in the parent companies. Their goal in communicating sustainability is to make sure stakeholders receive the information and understand companies' values. Further, to eventually increase brand image and competitive advantage. Games can also be a form of sustainability communication, a particular and unique way of communication in the creative industry. Adding sustainability elements in game content helps effectively raise awareness among the general public since games have a broad audience without geographical limits. Nudging and game mechanics are the two main approaches used in addressing sustainability.

7.1 Implications and limitations

There were three two when conducting the research. The first limitation was the short timeframe of a large and ambitious project. Since sustainability is relatively new to the industry, designing and collecting data was tricky. The majority of large games companies publish their first sustainability report in 2020; thus, data related to strategies can only be obtained via documentation. However, not many companies have a specific role in charge of sustainability. It took weeks to find the right person willing to do an interview. After approaching approximately 85 people through email or LinkedIn, there were eleven interviews. Moreover, many representatives who participated in the project were redirected by people approached.

The second one was related to the complexity of the games industry, which was underestimated. Acquisitions make the relationships between companies complicated because both a studio and a publisher can be a subsidiary of a parent company. Even though all companies are registered under the Swedish games industry, their business is done on a global scale with studios and players worldwide. Additionally, most games companies address their social and environmental impacts by engaging in initiatives; however, the initiatives have a wide range of differences, and many of them are carried out outside Sweden. Therefore, the project's scope may exceed the set boundaries within the Swedish games industry. Two interviews were conducted with representatives from the parent company outside Sweden. It is because parent companies draft the sustainability framework and make the main decisions, not subsidiaries. Additionally, there are significant differences between the case companies, so there is no comparison in CSR strategies.

7.2 Contributions

There is a research gap in how CSR is implemented in the games industry. Many research addresses a single issue that is either associated with social responsibilities, such as toxic player communities (Kowert, 2020), or environmental responsibilities, such as energy use (Mills et al., 2019). This project contributes to an overview of how both issues are addressed in the form of CSR strategies as well as

proves the potential of games companies in contributing to sustainable development. It is found that the complicated relationship between subsidiaries and parent companies is beneficial to transit the industry to become greener on a global scale. One characteristic of games companies is decentralization. Namely, a parent company may own studios and publishers worldwide, and the sustainability strategies in subsidiaries are facilitated by their parent company. Accordingly, the effect of sustainability efforts is not restricted by geographical factors, which can create an industry-wide green movement. Here, each games company is a green player who is significant in transforming the industry.

7.3 Suggestions for future research

For future research, the effectiveness of CSR strategies and in-game sustainability elements can be explored further. These two can be standalone research topics. For the effectiveness of CSR strategies, the following aspects can be investigated: the factors in determining the success of CSR approaches to improve CSR strategies; what makes companies decide to adjust their sustainability framework. As for in-game sustainability elements, large game sample groups could be analyzed with sustainability and environmental content. It could be made into a database that may provide game developers with ideas on how sustainability in games is integrated. Alternatively, evaluating how the games may influence the players' behaviors is also a potential research topic. Another one is in-game communication, which can indicate the sustainable engagement of small studios. A topic focusing on how small studios understand and engage in sustainability can also be explored.

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Appendices

Appendix 1. Case-study protocol

Case study

Sustainable business measures and CSR communication strategies used in six Swedish games companies.

Case study background

See chapter 3&4

Research questions

See chapter 1.

Data collection methods

Semi-structured interviews in person digitally and physically

Topic related documents, sustainability reports, and code of conduct found at companies' website.

Data collection procedure

February 7, 2022 – Approached Karin Edner, Corporate Governance and Sustainability Coordinator at Embracer Group and Sofia Wretman, Head of IR, Communication and Sustainability at Stillfront group.

February 8, 2022 – Approached Heini Kaihu, Chief Sustainability Officer at Rovio; Hamish Bode, Communications Manager at Ubisoft Stockholm; Emma von Horn Franzén, CSR & Event Coordinator at Ubisoft Stockholm; Johan Bolin, Chief Marketing Officer at Paradox Interactive; Stefan Wikstrand, Group CFO at G5 Entertainment, and Aleksandr Bezobrazov, Vice President of Marketing at G5 Entertainment.

February 15, 2022 – Arranged interview date, time, and places with Karin Edner, Corporate Governance and Sustainability Coordinator at Embracer Group and Sofia Wretman, Head of IR, Communication and Sustainability at Stillfront group.

February 25, 2022 – Approached Jakob Longer, Head of Corporate Development at Rovio; Alexandre Pelletier-Normand, CEO of Rovio; Emma Farrow, Senior Manager of Corporate Development at Rovio; Christoffer Ring, Product Marketing Manager at Paradox Interactive; Harlis Öunapuu, Business Developer at Paradox Interactive, and Fredrik Wester, Chief Executive Officer at Paradox Interactive.

February 25, 2022 – Changed of research direction due to the difficulty in finding interview participants. This goal of the project is to study CSR communication of games companies and sustainability elements in games (as a form of communication).

February 26-27, 2022 – Revised unit of analysis and chosen companies, adding Mojang studio, Toppluva studio, and MAG Interactive. Creating 3 types of question list to engage with product developers, sustainability managers, and marketing managers.

February 28-March 6, 2022 – Gathered information on corporate websites and examined sustainability report and associated documents.

March 1, 2022 – Approached Fredrika Wessman, Senior Manager for Social Impact at Mojang Studios; Helen Chiang, Corporate Vice President, Minecraft Franchise; Neo Chan, Senior Game Designer at Rovio; Yigit Ustundag, Senior Product Manager at Rovio; Jonathan Zabel, Production Director at Rovio; Rosalind Schaub, Director of Product Marketing at Rovio; Aslı Karabulut, Product Marketing Manager at Rovio; Otilia Lazar, Senior Product Marketing Manager, Team Lead at Rovio; Matthew Stone, Game Lead - Angry Birds 2 at Rovio; Tove Bengtsson, Marketing Communications Manager at MAG Interactive; Daniel Hasselberg, CEO at MAG Interactive; Daniel Gustafsson, Product Lead at MAG Interactive; Magnus Holmström, Head Of Production at MAG Interactive; Louise Carell, Product Lead at MAG Interactive; Chris Peters, QA Coordinator and Customer Support Manager at MAG Interactive; Christoph Knauz, Producer at Ubisoft Mainz; Jean-François Capizzi, Senior Producer at Ubisoft; Emiliano Cordoba, Live Producer at Ubisoft; Roxana Muntean, Associate Product Manager at Ubisoft Future Games of London; Boris Maniora, Associate Game Director at Ubisoft.

March 2, 2022 – Approached Karolina Lundin, CSR & Communications Manager at Massive Entertainment - A Ubisoft Studio; Tommi Lappalainen, Corporate Responsibility Manager at Rovio.

March 2-March 9, 2022 – Finished interview guide.

March 9, 2022 – Approached Sebastian Sehr, the founder of Toppluva; John Krajewski, CEO of Strange Loop.

March 10, 2022 – Approached Ukie (the UK's interactive entertainment); Ina Berntsson, Talent Partner at Star Stable Entertainment AB.

March 11, 2022 – Approached Veronica Camaj Ericson, Talent Acquisition at Mojang Studios; Ludwig Moberg Edenbäck, HR & Talent acquisition Business Partner at Mojang; Sofia Lindquist, Talent Acquisition Consultant at Mojang; Mimmi Boman-Börjesson, QA Specialist at Mojang; Jonas Mårtensson, Executive Strategy Advisor at Mojang; Lisa Kempe, Brand Experience Producer at Mojang; Ulrika Höjgård, Head of Studio at Mojang.

March 14, 2022 – Approached Marcus Hallberg, Financial Communications and Sustainability at Paradox.

March 14, 2022 – Arranged interview date, time, and places with Tommi Lappalainen, Corporate Responsibility Manager at Rovio and Sebastian Sehr, the founder of Toppluva.

March 15, 2022 – Arranged interview date, time, and places with Marcus Hallberg, Financial Communications and Sustainability at Paradox. Rescheduled interview date and time with Karin Edner, Corporate Governance and Sustainability Coordinator at Embracer Group.

March 15, 2022 – Approached Sofie Filt Læntver, Director of Partnerships at Nordisk Games; Simon Andrews, Head of Studio at Goodgame Studios; Nina Mueller, Head of Publishing at Goodgame Studios; Maria Wagner, Initiator & GM of the GamesForest.Club;

March 16, 2022 – Approached Deborah Mensah-Bonsu, Founder of Games for Good; Nicolas Hunsinger, Director of Corporate Environmental Sustainability at Ubisoft Paris; Denis Bled, Co-Founder of Ender Ocean; Michael Angst, Co-Founder and CEO at E-Line Media; Dr Jo Twist OBE, CEO at Ukie; Colm Seeley, Industry Analyst at Ukie; Sophia Aker, Programme Coordinator, Digital Schoolhouse at Ukie; Nordisk Games; Alex, CTO at Strange Loop; Dennis Scholz, Associate Producer at Strange Loop; Kirill, QA Engineer (Squad Leader) at Strange Loop; Todd, Producer at Strange Loop; Elisabet Gretarsdottir, Head of Strategy at DICE; Malin Höltzermann, Associate Workplace Specialist at DICE; Oskar Gabrielson, VP, General Manager & Chief Executive Officer EA DICE at Electronic Arts (EA); Roger Collum, Head of Studio Development at DICE; Michael Shenk, RPM Service Manager at Dice; Martin Krigh, Office Manager at DICE; Anna Norrevik, Development Director at DICE;

March 16, 2022 – Arranged interview date, time, and places with Maria Wagner, Initiator & GM of the GamesForest.Club.

March 17, 2022 –Dennis Scholz, Associate Producer at Strange Loop, offered to do text interview due to lack of time.

March 18, 2022 – Arranged interview date, time, and places with Daniel Wood, Special Projects Lead at Ukie; Per Strömbäck, Spokesperson at Swedish Games Industry.

March 18, 2022 – Approached David Lau, Product Manager at Mojang Studios, Microsoft; Marc Watson, Producer at Mojang Studios; Hampus Nilsson, Producer in the Creative Team at Mojang Studios; Tim Mardell, Lead Producer, Games Experience at Mojang Studios; Anna Lundgren, Producer at Mojang Studios; Fredrik Telenius, Executive Producer, Games Foundation at Mojang Studios.

March 20, 2022 – Approached Iris Arzur, Producer at DICE; Ben Walke, Narrative & World Producer at DICE; Ryan McArthur, Senior Producer overseeing Battlefield Live Services at DICE; Oliver Jansson, User Acquisition/Growth at MAG Interactive; Patric Blixt, CMO at MAG Interactive.

March 22, 2022 – Approached Allison Matthews, Head of Minecraft Education.

March 28, 2022 – Arranged interview date, time, and places with Allison Matthews, Head of Minecraft Education.

April 4, 2022 – Changed of representative of Mojang to Bryan Bonham.

April 25-May 1, 2022 – Content analysis on the collected data (interview) and sustainability reports.

Ethical considerations

Interviewees are aware that the interview is recorded.

Interviewees are informed the purpose of the project and the usage of their personal and interview data.

Interviewees are provided informed consent to participate the interview.

Interview guide

See Appendix 2

Interviewees

See chapter 2 for a full list.

Appendix 2. Interview guide

Large games companies **Sustainability/CSR managers** **45 minutes interview**		
Themes	**Questions**	**Connection to the conceptual framework.**
Before the interview	The aim of the study is explained. Information about recording is given. Question of informed consent is asked. Validation of summary is offered.	Ensure project validation and reliability
Preliminary questions	Tell me about your background. What are your responsibilities at work? How long have you been in your position?	Background of the interviewee
Sustainability	Was there a turning point where your companies decided to become more active in tackling sustainability issues? When? Drivers? (Expectations of society and stakeholders/Increase competitive advantage/A genuine concern of the environmental and social issues)	Sustainable development in games company
	What do you see as the main challenges for sustainable development related to your company's services?	
	Could you share your experience of working with the Playing for the planet alliance? Could you tell me about your partnership with Green Game Jam? Thoughts? (Attitude toward the program) Benefits? (Strengthen CSR engagement, reputation, attract more players, mutual learning).	UN – playing for the planet program
	For non-alliance members: What do you think about the UN program – playing for the planet? Does your company plan to become a member?	
The role in sustainability	What is your opinion on the role/responsibility of games companies to society? Goals and activities related to sustainability shaped under the games industry context. Enable sustainable behaviors among players through games?	Institutional theory (Matten and Moon, 2008)
CSR activities	Could you share the challenging part for your company to engage with CSR? Cost? Affected by COVID-19? Any particular issues that are hard to address (perhaps indirect impact from the players side)? What type of support is needed (partnership with other initiatives)?	CSR (Elkington, 1994) (Reinhardt *et al.*, 2008) (Bae *et al.*, 2021)

Specific CSR projects	How do you choose name of specific sustainability activities or projects? Stillfront group: partnership for climate compensation. Embracer group: Rovio:	CSR (Elkington, 1994)
CSR communication	What goal do you want to achieve by communicating your company's sustainability efforts? Reach a certain stakeholder? Provide an example for other companies? Challenges? How to evaluate effectiveness?	CSR communications strategies (Morsing & Schultz 2006)
CSR communication through game content	What is your opinion on using games to communicate sustainability-related issues? Examples? Reaction/engagement from players? Effectiveness? Challenges in communicating with studios?	
SDG	How do you communicate SDGs? What is the main focus of SDGs? In game content?	SDGs
Stakeholders	Who are your most important stakeholders? How are they chosen? Can they influence your work with sustainability? How?	Stakeholder theory (Mitchell *et al.*, 1997)
Communicating with stakeholders	How do you involve stakeholders' opinions in the communication?	CSR communication strategies (Morsing & Schultz 2006)
Closing	Would you like to add anything that I have not thought about asking? Offer interview summary for validation. Provide interviewer's contact information. Get permission to contact interviewee when there are more questions.	

Studios
Game development team members or CEOs
45 minutes interview

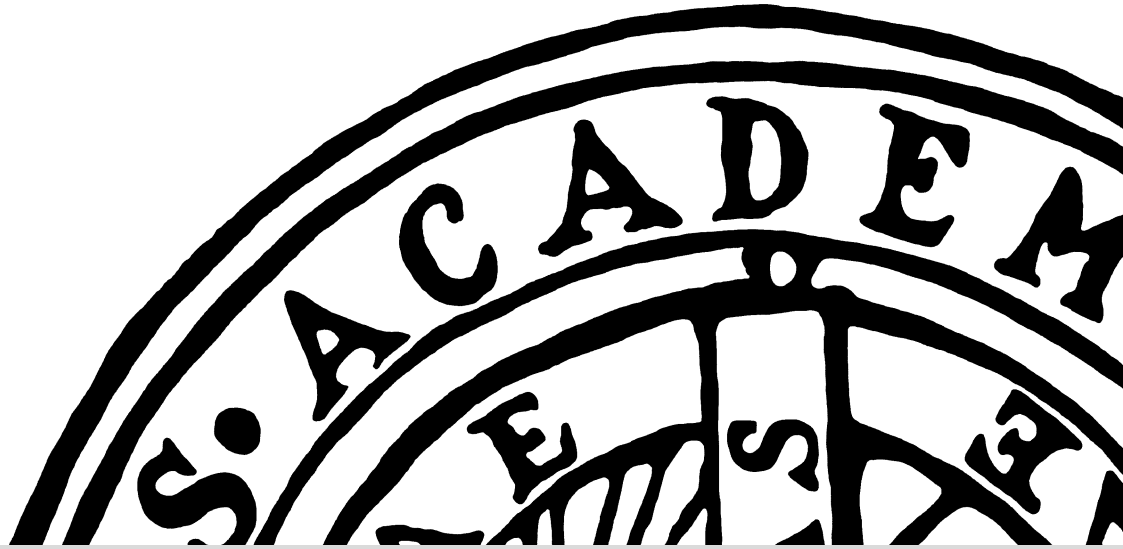
Themes	**Questions**	**Connection to the conceptual framework.**
Before the interview	The aim of the study is explained. Information about recording is given. Question of informed consent is asked. Validation of summary is offered.	Ensure project validation and reliability
Preliminary questions	Tell me about your background. What are your responsibilities at work? How long have you been in your position?	Background of the interviewee
Sustainability	Was there a turning point where your companies decided to become more active in tackling sustainability issues?	Sustainable development in games company

	When? Drivers? (Expectations of society and stakeholders/Increase competitive advantage/A genuine concern of the environmental and social issues)	
	What do you see as the main challenges for sustainable development related to your company's services?	
	Could you share your experience of working with Playing for the planet alliance? Could you tell me about your partnership with Green Game Jam? Thoughts? (Attitude toward the program) Benefits? (Strengthen CSR engagement, reputation, attract more players, mutual learning).	UN – playing for the planet program
	For non-alliance members: What do you think about the UN program – playing for the planet? Does your company plan to become a member?	
The role in sustainability	What is your opinion on the role/responsibility of games companies to society? Goals and activities related to sustainability shaped under the games industry context. Partnership? Enable sustainable behaviors among players through games?	Institutional theory (Matten and Moon, 2008)
Sustainability efforts and activities	Could you share the challenging part for your company to engage with sustainability? Cost? Affected by COVID-19? Any particular issues that are hard to address (perhaps indirect impact from the players side)? What type of support is needed (partnership with other initiatives)?	CSR (Elkington, 1994) (Reinhardt *et al.*, 2008) (Bae *et al.*, 2021)
Specific projects	How do you choose name of specific sustainability activities or projects?	CSR (Elkington, 1994)
Sustainability communication in games	Could you share your thoughts on integrating sustainability elements in the games? Reflection? Educating players? Provide an example for other companies? Evaluation for effectiveness (reaction/engagement from players)? Challenges? Future plan	CSR communications strategies (Morsing & Schultz 2006)
SDG	How do you communicate SDGs? What is the main focus of SDGs? In game content? In document and publication?	SDGs
Stakeholders	Who are your most important stakeholders? How are they chosen? Can they influence your work with sustainability? How?	Stakeholder theory (Mitchell *et al.*, 1997)
Communicating	How do you involve stakeholders' opinions in	CSR communication

with stakeholders	the communication?	strategies (Morsing & Schultz 2006)
Closing	Would you like to add anything that I have not thought about asking? Offer interview summary for validation. Provide interviewer's contact information. Get permission to contact interviewee when there are more questions.	

Trade associations **Members of the organization** **30 minutes interview**		
Themes	**Questions**	**Connection to the conceptual framework.**
Before the interview	The aim of the study is explained. Information about recording is given. Question of informed consent is asked. Validation of summary is offered.	Ensure project validation and reliability
Preliminary questions	Tell me about your background. What are your responsibilities at work? How long have you been in your position?	Background of the interviewee
The organization	Ukie: How would you describe the sustainability efforts in UK compared with other countries?	
The role in sustainability	What is your opinion on the role/responsibility of games companies to society? Goals and activities related to sustainability shaped under the games industry context. Enable sustainable behaviors among players through games?	Institutional theory (Matten and Moon, 2008)
Sustainability	What do you see as the main challenges for sustainable development related to the games industry? Social impacts (diversity, gender equality)? Environmental impacts? What can be done better?	Sustainable development in games company.
	Could you tell me about your partnership with Playing for the planet alliance? Thoughts? (Attitude toward the program) Benefits? (Strengthen CSR engagement, reputation, attract more players, mutual learning).	UN – playing for the planet program
Sustainability efforts and activities	What do you see as challenging for most games companies to engage with sustainability? Size? Cost? Affected by COVID-19? Any particular issues that are hard to address (perhaps indirect impact from the players side)? What type of support is needed (partnership with other initiatives)?	CSR (Elkington, 1994) (Reinhardt *et al.*, 2008) (Bae *et al.*, 2021)
Sustainability communication	What is your thought on Green Game Jam? What do you think about the influence of those	CSR communications strategies

in games	games? What can they do better?	(Morsing & Schultz 2006)
Closing	Would you like to add anything that I have not thought about asking? Offer interview summary for validation. Provide interviewer's contact information. Get permission to contact interviewee when there are more questions.	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