



The Role of Dark Design Patterns in Online Consumer Manipulation

A Critical Study with Emphasis on Video Game Monetisation.

Polina Kuklenko

Degree Thesis

Online Media

2024

Degree Thesis

(Author) Polina Kuklenko

The Role of Dark Design Patterns in Online Consumer Manipulation: A Critical Study with Emphasis on Video Game Monetisation.

Arcada University of Applied Sciences: Online Media, 2024

Identification number:

9270

Abstract:

This thesis explores the gaming industry's manipulative practices and their contribution to its financial success. Through secondary data analysis, it unveils prevalent dark UI/UX patterns and examines Cialdini's principles of persuasion as a basis for understanding these deceptive designs. The study employs case studies, particularly focusing on "Diablo Immortal" and "Coin Master" due to their high in-game revenue generation, to demonstrate how these patterns and psychological tactics are customized for specific player demographics. The findings emphasize the industry's need to balance ethical game design with profitability, advocating for a player-focused approach that promotes fair, creative, and respectful gaming experiences.

Keywords:

Video games, Mobile Gaming, UI/UX Design, Dark Design Patterns, Monetisation

Lärdomsprov

(Författare) Polina Kuklenko

Mörka designmönsters roll i manipulering av online konsumenter: En kritisk studie med betoning på intäktsgenerering av videospel.

Yrkehögskolan Arcada: Online Media, 2024.

Identifikationsnummer:

9270

Sammandrag:

Denna uppsats undersöker de manipulativa metoder inom spelindustrin och deras bidrag till dess ekonomiska framgång. Genom sekundär dataanalys avslöjar den förekomsten av mörka UI/UX-mönster och granskar Cialdinis påverkan principer som grund för att förstå dessa vilseledande designmetoder. Studien använder fallstudier, särskilt "Diablo Immortal" och "Coin Master" på grund av deras höga in-game inkomstgenerering, för att visa hur dessa mönster och psykologiska taktiker anpassas för specifika spelardemografier. Resultaten betonar industrins behov av att balansera etisk speldesign med lönsamhet och förespråkar en spelarcentrerad ansats som främjar rättvisa, kreativa och respektfulla spelupplevelser.

Nyckelord:

Videospel, mobilspel, UI/UX-design, mörka designmönster, intäktsgenerering

Contents

1	Introduction	7
1.1	Problem Statement	9
1.2	Structure and Aim of the Research	10
1.3	Personal Motivation	11
1.4	Limitations	12
1.5	Terminology	13
2	Methodology	16
2.1	Data Collection Type and Resource Selection Criteria	16
2.2	Resource Quality Control	18
2.3	Guidebook Selection to Build A Strong Foundation	19
3	Psychological Influence: The Seven Principles of Persuasion	21
3.1	Reciprocation: The Common Principle	21
3.1.1	Reciprocation on The Web	22
3.2	Liking: The Common Principle	25
3.2.1	Liking on The Web	25
3.3	Social Proof: The Common Principle	27
3.3.1	Social Proof on The Web	27
3.4	Authority: The Common Principle	28
3.4.1	Authority on The Web	29
3.5	3.5 Scarcity: The Common principle	30
3.5.1	Scarcity: On The Web	30
3.6	Commitment and Consistency: The Common Principle	32
3.6.1	Commitment and Consistency on The Web	32
3.7	Unity: The Universal Principle	34
3.7.1	Unity on The Web	34
3.8	Conclusion	35
4	Introduction to The Gaming Industry	37
4.1	The Rise of Video Games	37
4.2	The Different Types of Games and Their Business Models	38
4.2.1	Paid-to-Download	39
4.2.2	Free-to-Play (F2P)	41
4.3	Conclusion	43
5	Video Games and Design Patterns	44
5.1	Design Patterns and Their Role in Shaping User Experiences	44
5.2	Shifting Towards Manipulative Design	45
5.3	The Need for Manipulation	47
5.3.1	The Social Phenomena	47
5.3.2	The Market Growth	49
5.4	Conclusion	50

6	Mobile Games. The Corruption of F2P	51
6.1	What Makes Mobile Gaming Popular	51
6.2	The Dark Side of Mobile Games.....	52
6.2.1	Examples of Dark Design Patterns in Mobile Games	52
6.3	The Varied Impact of Mobile Games	54
7	Case Studies. Applying Findings to Reality	56
7.1	Coin Master	56
7.1.1	The Objective	56
7.1.2	Celebrity Influencer Campaigns	57
7.1.3	Social Engagement Strategies	58
7.1.4	Applying the Rule of Reciprocation.....	60
7.1.5	A Peek at the Core Loop.....	61
7.1.6	Establishing the Dark Patterns	62
7.1.7	Conclusion.....	64
7.2	Diablo Immortal	65
7.2.1	The Objective	66
7.2.2	Social Engagement Strategies: the Core of Massively Multiplayer Online Games	67
7.2.3	Pay-to-win Dynamics and Premium Currency.....	69
7.2.4	Understanding the Basis of the Loot System	71
7.2.5	Gems as a Loot Upgrade System and the Primary Way of monetisation	73
7.2.6	Establishing the Dark Patterns	76
7.2.7	Conclusion.....	78
7.3	Case Studies Results	79
8	Discussion: Addressing the Problem Statement.....	82
8.1	Discussion of Results.....	82
8.2	Future Research.....	84
9	Conclusion.....	86
10	Summary in Swedish	87
10.1	Introduktion.....	87
10.2	Metodologi	88
10.3	Psykologisk påverkan: De sju principerna.....	89
10.4	Introduktion till spelindustrin	91
10.5	Videospel och designmönster.....	91
10.6	F2P Mobilspel: från innovation till korrupcion.....	92
10.7	Fallstudier: Från teori till praktik.....	93
10.7.1	Coin Master.....	93
10.7.2	Diablo Immortal	94
10.7.3	Slutsats	95
10.8	Diskussion av frågeställningen.....	95
11	References	98

Tables

Table 1 Resource quality control criteria.....	17
Table 2 Dark pattern comparison in Diablo Immortal and Coin Master	80

Figures

Figure 3-3-1 A screenshot of a registration prompting screen (duolingo.com).....	23
Figure 3-2 A screenshot of a "free delivery" products (Notino.com).....	24
Figure 3-3 A screenshot of an ebook download requirements (SoundHound).....	24
Figure 3-3-4 Percentage of comments related to design look by category. Source: How Do People Evaluate a Web Site's Credibility?; p. 25 (2002)	26
Figure 3-3-5 A screenshot from BeautyBay Instagram account showcasing consumer flattery	27
Figure 3-3-6 Website sections showcasing the usage of logo strips.....	30
Figure 3-3-7 A limited quantity indicator (Booking.com).....	31
Figure 3-8 Benefits of a registered user. Screenshot taken from Bestsecret.com.....	32
Figure 3-9 Review publishing user journey (Yelp)	33
Figure 3-10 A learning time selector (Duolingo)	34
Figure 4-1 Cyberpunk 2077 pre order bonus (ign.com)	40
Figure 4-2 Overcooked 2 Season Pass (nintendo.com)	40
Figure 7-1 Core loop of the Coin Master game	57
Figure 7-2 Celebrity Endorsements. Coin Master ad campaigns	58
Figure 7-3 Social media account linking (Coin Master).....	59
Figure 7-4 Coin Master offering free rewards	61
Figure 7-5 Comparison between the different selling techniques (Coin Master).....	64
Figure 7-6 Premium currency purchase process (Diablo Immortal)	70
Figure 7-7 Premium currency spending process breakdown (Diablo Immortal)	70
Figure 7-8 Loot System Breakdown (Diablo Immortal).....	72
Figure 7-9 Gem System Breakdown (Diablo Immortal)	74

1 Introduction

Effective product design and selling techniques are essential for creating positive consumer experiences and achieving market success. A successful product design combines creativity with functionality, which requires a thorough understanding of consumer psychology and persuasion. Product design can promote brand loyalty by utilising techniques such as storytelling, influencer collaborations, and customer-centric strategies. Nowadays, capturing and retaining consumers' attention is becoming increasingly difficult, especially with the rise of competition. Thus, more than having a great product or service is needed to succeed in the market. As a result, many businesses rely on psychology and user behaviour insights to create products that resonate with their target audience. While there are various products to research on the market, this thesis will concentrate on the entertainment sector, specifically video games.

The video game industry has existed since the 1950s and 1960s when computer scientists created basic games and simulations using minicomputers and mainframes. It has been steadily growing and incorporating technological advancements while engaging more players, resulting in it becoming the highest-grossing entertainment industry with a global revenue of \$193.7B in 2021 (Richter, 2022). A more recent statistics (Statista, 2024) reports that the global games revenue stood at 406.2 billion U.S. dollars. The video game industry has grown from its humble beginnings to become a dominant force, thanks to its resilience and adaptability. It has utilised technological innovations to provide immersive experiences, interactive storytelling, and thrilling competition that satisfy our innate desires. It has gone beyond being just a pastime and is now a cultural phenomenon that shapes how we interact, socialise, and enjoy entertainment in the digital age.

The appeal of video games extends far beyond the boundaries of entertainment. It serves as a platform for artistic expression, a medium for social interaction, and a space for an individual and collective sense of achievement. Players are no longer passive consumers but active participants who have the power to dictate what they want to see on their screens. However, it is crucial to remember that the gaming industry, just like any other commerce niche, relies heavily on revenue generation. Just as any business must secure income to sustain itself, gaming companies require a reliable financial inflow to support their operations, invest in innovation, and cater to the insatiable appetite of their player base. However, what sets the

gaming industry apart is not its need for revenue but rather its approach to attaining it. Rather than understanding consumers' pain points and their urges, some segments of the gaming industry have found remarkable success in abusing these very vulnerabilities. To better understand the gaming industry's success in user manipulation, it is vital to understand the processes involved in game creation. It is not merely art or a business plan, but a complex combination of different modalities. Figure 1.1 presents the Krebs Cycle of Creativity (KCC), a redesigned model introduced by Oxman (2016) that illustrates human creativity's four modes and their interdependence. Oxman employs the Krebs Cycle 1 analogy to depict how science, engineering, design, and art mutually stimulate one another.

In this analogy, the four modalities of human creativity—Science, Engineering, Design and Art—replace the Krebs Cycle’s carbon compounds. Each of the modalities (or ‘compounds’) produces ‘currency’ by transforming into another:

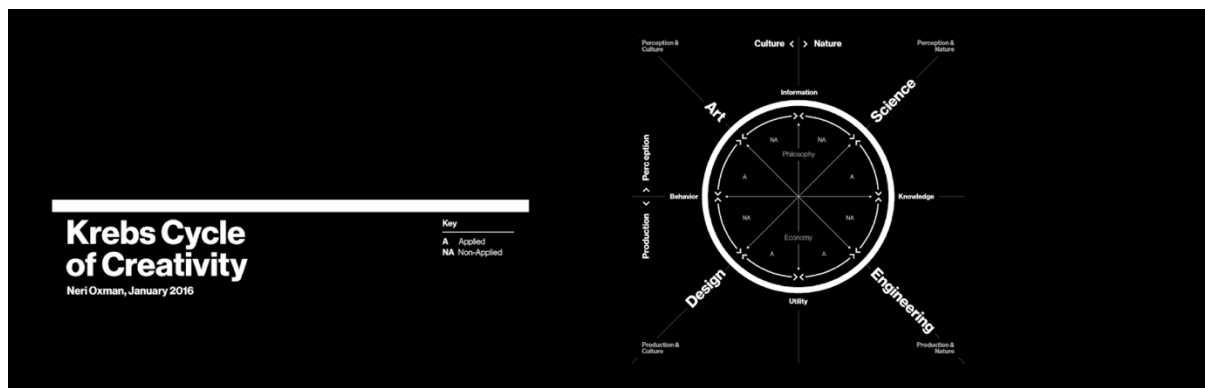


Figure 1-1 The Krebs Cycle of Creativity (Oxman, 2016)

The purpose of Science is to provide explanations and predictions about the world we live in. It takes raw information and turns it into knowledge. On the other hand, engineering utilises scientific knowledge to develop solutions for real-world problems. It takes knowledge and turns it into utility. Design's role is to create solutions that enhance human experience and maximise function. It takes utility and turns it into behaviour. Finally, Art questions human behaviour, raises awareness about the world around us and creates new perceptions of information. It transforms behaviour into new ways of understanding the data that initiated the KCC in Science (Oxman, 2016). While this circle can be used for great decisions that will benefit both the player and the company without crossing any ethical lines, it can also merge into something parasitic that will benefit only one - abuse of dark UI/UX design patterns.

Deceptive design practices, known as dark UI/UX patterns, use various manipulative techniques to influence user behaviour in ways that may not align with their best interests.

These patterns can take different forms, such as misleading notifications, hidden costs, forced opt-ins, and addictive loops. What sets them apart is their intent to steer users towards actions they might not otherwise choose willingly. The ethical concern arises from the deceptive nature of these practices. Designers can exploit users' vulnerabilities using psychological triggers, cognitive biases, behavioural economics principles, and cultural traditions to manipulate their choices. This manipulation shatters trust and raises significant moral questions about the responsibilities of designers and businesses in creating user experiences. It challenges transparency, autonomy, and informed consent, highlighting the need for a more ethical design approach that prioritises users' well-being and respect for their choices. It also fosters genuine trust between users and the products or services they engage with. Despite all of the negative feedback and online discussions, the number of players continues to grow yearly, estimated to reach 1.47 billion people worldwide by 2027 (Statista, 2024). As the gaming industry experiences continuous growth, more individuals fall prey to dark design patterns' influence. Therefore, I want to contribute to the research and discuss the different manipulative design tactics implemented in the gaming industry.

1.1 Problem Statement

The research on UI/UX patterns in gaming has been extensive. However, a significant gap exists in the practical analysis of how these patterns are employed in games to sustain consumer engagement and enhance profitability. While the central objective of game developers is to engage players, their ultimate goal for many is to generate revenue. Against this backdrop, this study seeks to explore whether the gaming industry's unparalleled success is intricately linked to the strategic use of dark design patterns. By exploring the nexus between design strategies, player engagement, and financial success, this research aims to shed light on the multifaceted dynamics driving the gaming industry's ascendancy. Rather than providing a singular answer, the research takes an investigative approach to inform both the gaming community and industry professionals.

The research questions that this paper focuses on are as follows:

1. How do manipulative practices within the gaming industry contribute to its status as the most profitable entertainment sector?
2. Which areas, within the gaming ecosystem, see the application of manipulative practices?

A minor research question that guides this study is:

3. What are the manipulative tactics within the gaming industry, and which ones are the main strategies employed?

1.2 Structure and Aim of the Research

This thesis focuses on conducting a comprehensive analysis of the intricate interplay between dark UI/UX patterns, manipulation of consumer behaviour, and their impact on players within the gaming industry. The research employs an investigative approach to inform both the gaming community and industry professionals rather than offering a singular answer. The thesis consists of five interconnected parts, each contributing to a comprehensive understanding of manipulative practices used by product designers.

The research of this thesis lays the foundation by examining the psychological principles that govern persuasion. This foundational section draws insights from the work of Robert B. Cialdini, "Influence, New and Expanded: The Psychology of Persuasion,". The book explores the psychology behind people's affirmative responses and ethical ways to apply these insights to business and everyday situations. Real-world examples that follow each of Cialdini's principles demonstrate how the digital world has adapted traditional human interactions to build trust and encourage users to take specific actions.

The following chapter of this thesis focuses on understanding the evolution of the gaming industry: when it appeared and what factors contributed to the success of video games and the different business models. Among other things this part of the study will explore the different types of video games and how the different principles of persuasion are applied there. The aim of this chapter is to determine whether there is a specific area within the video gaming industry that capitalises on people the most.

The research further expands its scope to the practical implementation of the psychological and technical insights discovered in parts one and two, particularly within the gaming industry. Central to this exploration is the examination of various dark design patterns, and how the consumers are affected by such practices. This section of the study will focus solely on the gaming industry and examine real-life examples to understand better how certain products

employ manipulative technologies to generate revenue. Some of the most played games on the market will be carefully analysed, evaluating the design patterns these products use through an ethical framework that considers the insights gained from exploring dark design patterns earlier in the study. With this examination, a deeper understanding of how design can impact user behaviour by leveraging an understanding of player psychology and behaviour can be gained. This section presents a series of case studies, each covering one game.

The final section synthesises the key findings from the preceding chapters. This concluding section offers a comprehensive overview of manipulative tactics within the gaming industry, highlighting the main strategies employed. Moreover, it explores potential solutions, aiming to contribute to the ethical development of UI/UX design in the gaming domain. By fostering awareness and constructive dialogue, the research aspires to benefit both the industry and the gaming community.

1.3 Personal Motivation

Manipulative design and its ethical implications have long fascinated me. Where does the boundary lie between ethical and deceptive design? Can design serve both company and consumer interests, or does proper commercial success hinge on manipulating users into specific actions, extracting money from players, and existing in a parasitic relationship? Therefore, my interest in the subject combines intellectual curiosity and personal observation, while the gaming industry presents a broad context for the investigation. I am intrigued to investigate the impact of gaming industry tactics on players and their contribution to the industry's immense profit in the entertainment sector. While I am not an avid gamer, I occasionally indulge in video games during my leisure time. However, observing how manipulative design elements affect the emotions and behaviours of those in my social circle who are deeply immersed in the gaming culture has spurred my interest in exploring deceptive design patterns further.

The gaming industry employs various techniques to manipulate players, ranging from overt methods like "loot boxes" to subtler strategies such as in-app purchases and complex levelling systems. The tactics employed in gaming are aimed at prolonging user engagement and increasing player investment in the game, with the added benefit of augmenting their spending habits. The secondary goal is turning players into digital advocates, amplifying a game's reach

and influence. Financially, the gaming sector surpasses the film industry and other entertainment branches in revenue generation. This disparity makes it a compelling subject for inquiry: How do games generate revenue? Is it stellar marketing and the fervour of the gaming community that drives annual earnings? While some games have upfront costs, others adopt a free-to-play model, albeit with hidden costs like ads, in-game purchases, or paid upgrades to overcome challenging levels. This disparity in revenue models adds complexity to ethical concerns surrounding manipulative game design.

By delving into these issues, I aim to illuminate the gaming industry's darker facets and contribute to an ethical discourse that demands attention. My objective isn't solely criticism but to advocate for a more transparent and equitable gaming experience for all stakeholders as well as gain a more expanded understanding of the manipulative practices as a designer myself.

1.4 Limitations

It is important to acknowledge that this research has certain limitations. Firstly, the study is not a psychology-focused investigation. Instead, the research on psychological effects is primarily based on existing literature, scholarly papers, and publications in the field. Although these sources provide valuable insights, the study refrains from making authoritative psychological claims.

Additionally, this research has a limited scope. It does not encompass an exhaustive analysis of all video games, nor does it explore lesser-known titles. Instead, the focus is predominantly placed on some of the most widely played games produced by industry giants. Therefore, the findings may not encompass the entirety of the gaming landscape.

Furthermore, it is essential to note that the perspective from which this thesis is constructed may differ from that of avid gamers. The author does not identify as a gamer in the traditional sense and may not provide insights reflective of the gaming community's extensive experience and perspective. However, this paper presents research on the gaming community to provide insight into its current state and the scale of the issue.

Lastly, it is important to recognise that the subject matter of dark patterns within UI/UX design is inherently complex and multifaceted. This research seeks to present the topic in a comprehensible and accessible manner, avoiding overly technical terminology. Instead, the

primary aim is to make the subject matter as accessible as possible to a broad audience while maintaining academic rigour. Moreover, the principles from the book "Influence: New and Expanded" discussed in chapter 3 of this paper are laid out in a short manner, leaving it up to the reader to explore the psychological patterns further.

1.5 Terminology

In order to facilitate a comprehensive understanding of the content discussed in this paper, it is fundamental to familiarise oneself with the specific vocabulary commonly used in the design and gaming industries. Some of the terminology required a non-traditional approach of definition as the connotation behind some words has shifted over time. As such, presented is a comprehensive list of terminologies used throughout this thesis:

UI design: or User Interface design focuses on interaction design, the visual elements of a website or application, and ensuring a navigation path is visually attractive and effortless to use (Coursera, 2023). Some of the common UI elements include (UXPin, 2023):

- **Input Elements:** Interact with dropdowns, combo boxes, buttons, toggles, text fields, date pickers, checkboxes, radio buttons, and confirmation dialogues.
- **Output Elements:** Show alerts, warnings, success, and error messages.
- **Helper Elements:** Include notifications, breadcrumbs, icons, sliders, progress bars, and tooltips for navigation and information.

UX design: or User Experience design is a process design teams use to create products that offer users meaningful and relevant experiences. This process involves designing the entire process of acquiring and integrating the product, including aspects of branding, design, usability, and function (Interaction Design Foundation - IxDF, 2016). Their work spans both digital and non-digital products, such as software applications and everyday objects. Key activities include (Coursera, 2023):

- Conducting user research to uncover needs and pain points.
- Developing user personas to represent target customers.
- Creating user journey maps to detail interactions with the product.
- Building wireframes and prototypes for visualising the final product.
- Performing user testing to refine designs and solve issues.

- Collaborating with stakeholders, UI designers, and developers.

Gamer: The term gamer is more complex than it might look at first. While there is a concrete definition of a gamer - someone who likes playing computer games (Cambridge Dictionary) - the term has different connotations for different people, even those playing games themselves. There are no concrete lines that separate gamers from people who play games. How many hours are they playing? How invested are they in the industry? How much money does a "gamer" spend on games, and does someone automatically fall out of the "gamers" category if they are only playing free games?

To better understand the community, a small bit of research was conducted combining thread-based platforms like Reddit and Quora and a few regular publications discussing the matter. Here are the replies that were either unique and or interesting:

- Candice 'ItzCandyRox' King (2020) published a list of factors defining *someone* as a gamer. The most interesting one was, "You've made some great friends online". In essence, it means that a person played a good amount of gaming to befriend someone and bond over gaming. While one meets people when playing online games, they do not become friends instantly.
- Mariah Halsey (Quora, 2017) suggests that a gamer is a person who plays consistently, has general knowledge of the gaming industry/history, and is accustomed to video games enough that they are not required to watch tutorials for new games but rather understand the process intuitively. This is a unique perspective, and while different games might have different controls or core tasks, someone who has spent a certain amount of time on gaming would be able to understand the mechanics faster.
- Eric Elswick (Quora, 2017) does not consider people "who plays candy crush for a minute or two to pass time" as real gamers and implies that a true gamer is someone who cares about the community, is passionate about gaming and is purposely investing time into it, be it 30 minutes or 6 hours.
- Ryu Shun Hayashi (Quora, 2017) suggests that anyone who plays games as a hobby can be considered a gamer, no matter their skill level and the amount of time they spend on gaming.

It is interesting how contradictory the gaming community is. While someone is considered a gamer by one person, they may not be by another. By analysing this small fraction of findings, it is easy to point out that dedication and passion are two of the most important metrics for the gaming community to determine whether one truly is a gamer. For a better understanding, I would like to draw an analogy with the term "foodie". A foodie is a person who loves food and is very interested in different types of food (Cambridge Dictionary). Most people can eat food, but not everyone is considered a foodie. If the term foodie is applied to playing games, then the result would be *that a gamer is someone who loves games and is very interested in different types of games.*

FOMO: according to Cambridge Dictionary, abbreviation for "fear of missing out": a worried feeling that individuals may miss exciting events that other people are going to, especially caused by things one can see on social media.

Design patterns: Design patterns are reusable solutions to common problems in the design or development process. They offer versatility, streamline workflows, and ensure consistency in creations. Successful implementation simplifies future projects (Rouse, 2011).

Dark design patterns: A dark pattern, a term coined by UX designer Harry Brignull, refers to design elements deliberately crafted to mislead, deceive, or trick users into unintended actions. Also referred to as 'Deceptive Patterns,' these are subtle tactics employed on websites and apps to prompt users to click on items or subscribe to services they had not intended to. They often make it challenging to cancel subscriptions or opt out of email lists, leading to user frustration. There are multiple types of dark design patterns, and they are discussed in chapter 5.2 of this paper (Gunnell, 2024).

CTA or a Call to Action: something such as a speech, piece of writing, or act that asks or encourages people to act about a problem (Cambridge Dictionary). Webflow Academy addresses CTA as a feature that prompts visitors to perform a specific action. This action could involve subscribing to a newsletter, sharing content on social media, making a purchase, or any other desired end result. Some examples of common CTAs, "Add to cart", "Buy now", "Register now".

2 Methodology

The research will utilise existing data and case studies to support the findings discovered during the research phase. A comprehensive literature study, including scholarly publications and articles from experts in the field, will form the basis of the research. The aim is to determine how much dark design patterns are utilised in our lives, particularly in the video game industry. I will leverage less authoritative sources, such as blog channels and social media platforms (such as Reddit), to gain insight into how users perceive the issue. Given the vast and constantly expanding landscape of available games on the market, social media platforms will also be used to identify which video games to include in the case study.

2.1 Data Collection Type and Resource Selection Criteria

The collection of data can be conducted in a few different methods, Indeed's editorial team (2023) points out four main data collection types:

- 1 **Qualitative data collection** - involves gathering non-numerical insights such as opinions and experiences of people / users. Common methods include observations, surveys, focus groups, and interviews.
- 2 **Quantitative data collection** - focuses on numerical and statistical information, such as counts, percentages, or time. Key methods include observations and surveys.
- 3 **Primary data collection** - obtains data from original sources, like interviewees with experts. Primary data collection sources can also include market or academic research.
- 4 **Secondary data collection** - comes from existing research, like studies, research papers or publications by organisations. This pre-analysed data can be found in books, scholarly journals, newspapers, websites, and podcasts.

I opted for the secondary data collection method in my research as I intended to analyse existing data. For the research to yield objective results, I made sure to use authentic, trustworthy, and high-quality resources for secondary data collection. However, the field I am studying often involves material that can be easily classified as "unreliable." I evaluated the sources for my study by using a set of guidelines and restrictions that I had developed. Table 1 shows the guidelines I set for myself and followed throughout my research.

Table 1 Resource quality control criteria

Inclusion criteria	Exclusion criteria
Articles, books and scholarly publications in English language.	Articles, books and scholarly publications in any other language other than English.
Articles (non-academic resources) are published by people who work in the respective niche.	Articles (non-academic resources) are published by people who have no relation to the respective niche - copywriters.
Articles (non-academic resources) and statistics posted between the years of 2018-2023.	Articles (non-academic resources) and statistics posted prior to the year of 2018.
Forum comments, social media channels, personal blogs and YouTube channels that are operated by people from the gaming community and help get insights into how the community sees the issue.	Forum comments, social media channels, personal blogs and YouTube channels that either are irrelevant to the research or are operated by people who have no relation to the community.
Articles of companies/individuals that use their own research to create statistics and other trusted statistics hubs (such as Statista).	Articles that rely on third party data and unreliable statistics resources and hubs.
The articles, academic research and books are relevant to the subject of manipulative design, dark UI/UX patterns and their usage in the gaming industry.	The articles, academic research and books are not relevant to the subject and do not help to answer the main question.
The articles, academic research and books do not cover the aspect of human behaviour but rather the basis of it.	The articles, academic research and books were published for other purposes rather than generic understanding of the subject.

In order to successfully build case studies, the information used in this research had to be of high quality - not only to answer the main question but also to identify the most repetitive practices used in the dark arts that manipulate users. The second section of this paper comprises a series of case studies on specific games that demonstrate how actual physical products employ these practices. I conducted a thorough analysis of the gaming community's opinions and game reviews to select the games featured in this section.

2.2 Resource Quality Control

The articles and other non-academic materials will have to go through a quality control for the research result to be as objective as possible when relying on digital resources. While there is no set definition of resource quality control for academic research, there are certain guides that I will be using for this research.

- **Author Qualifications:** To guarantee the accuracy of the information, additional research was carried out on the publication's author. This method helped separate the copywriters who write about anything from industry experts.
- **Game Development Company Blogs:** Another reliable source of information is the game development companies themselves. Many of these companies maintain blogs sharing insights about game engagement and profit generation.
- **Utilising Older, Relevant Publications:** The research foundation was built upon relevant previous publications. These established works provide context and allow for better analysis of new material.
- **Websites for Gamers:** Websites dedicated to educating gamers provide valuable insights, especially regarding manipulative practices in games. These platforms often offer firsthand information and practical advice, making them indispensable for understanding the gamer's perspective.
- **Cross-Referencing and Fact-Checking:** Cross-referencing information across multiple sources was critical to ensure that the conclusions drawn were based on credible sources, not isolated reports.
- **Avoiding Single Source Reliance:** To avoid single-source bias, information was collected from diverse sources to ensure a well-rounded and multi-perspective approach to the research.
- **Academic Databases and Journals:** Recognised academic databases and peer-reviewed journals were primary sources for scholarly information. These platforms offer vetted and high-quality research articles, providing a reliable foundation for academic research. Additionally, they served as an excellent basis for cross-referencing and fact-checking for other online resources used in this work.

To sum up, this research follows a comprehensive quality control process that involves verifying authors' qualifications, carefully selecting sources and cross-referencing information.

These measures are essential to ensure that the research on gaming practices and their effects is accurate, reliable, and academically sound.

2.3 Guidebook Selection to Build A Strong Foundation

The field of psychology, particularly the study of human behaviour, is a vast domain that comprises hundreds of books and thousands of articles and research papers. Despite the myriad of factors that can be considered when discussing design and manipulation, such as shapes and colours, it is essential to acknowledge that many other factors, including culture, age, and personal experiences, can influence these elements. Given the limitations of my expertise, it was critical to remain mindful of my research's scope without over-focusing on data that falls outside my area of qualification.

To determine the most crucial criteria for my research, I considered what factors contribute to the highest-ranked entertainment industry's success. With these considerations in mind, I started a search for a book that could serve as a solid foundation for my understanding of persuasion and whether universal factors underpin it.

In this research, I thoroughly analysed Robert Cialdini's book "Influence, New and Expanded: The Psychology of Persuasion" a widely popular text that expounds on human behaviour when influenced by various social factors. The author employs straightforward language that leaves little room for misinterpretation and does not delve excessively into the psychological aspects of the subject matter. In this work, Cialdini presents seven fundamental principles often utilised in marketing and sales, which will serve as the bedrock of my comprehension of human psychology and behaviour.

Having read "Influence, New and Expanded: The Psychology of Persuasion," I gained a better understanding of various aspects of persuading individuals and honed my critical thinking skills in preparation for subsequent research. Given that manipulative patterns existed long before the term "dark design patterns" was coined, preliminary research was necessary to establish a strong foundation for my research.

The present study aims to examine Cialdini's publication and to provide real-life examples of persuasion principles to illuminate their employment in everyday settings. This technique is

expected to enhance readers' understanding of the prevalence of these principles in various domains of social life. Notably, the study deliberately refrains from focusing on the gaming sector to underscore that such practices are ubiquitous and that they manifest in various forms across industries. The examples provided are relatable and comprehensible, as they aim to simplify readers' comprehension of the evaluation of gaming industry practices discussed further in the research.

3 Psychological Influence: The Seven Principles of Persuasion

Design and psychology are closely connected. To create compelling designs, designers need to understand the human psyche. They must navigate the complexities of how the human mind works to craft and market exceptional products. UXPin, a community of designers, developers and marketers, believes that being aware of psychological principles is essential for user experience designers. This awareness empowers designers to create interfaces and experiences that truly resonate with users, catering to their cognitive processes and emotional needs (UXPin Studio, 2023). Therefore, the book "Influence, New and Expanded: The Psychology of Persuasion" by Dr. Robert Cialdini was chosen for a detailed study. Persuasion is crucial for the success of any product in the real world, and it is also one of the fundamental aspects that a designer needs to consider when creating a product. Cialdini delineated seven core principles that underpin the art and science of persuading individuals. The principles of reciprocity, commitment and consistency, social proof, authority, liking, scarcity, and unity can be intentionally or inadvertently pulled through design choices. However, it is essential to approach them with a dual perspective: recognising their potential for both ethical engagement and manipulative practices.

This section will be presented in a flow that includes an initial chapter explaining a principle based on "Influence, New and Expanded: The Psychology of Persuasion" by Robert Cialdini in a short form, allowing the reader to explore the subject in more detail from the book. After that, a chapter will discuss how this principle is applied online. The second chapter aims to demonstrate that the seven principles are still relevant and can be applied to the modern and digital world. This section is an introduction to understanding how knowledge of psychological response can influence design decisions. Moreover, this selection serves as a practical demonstration of the connection between psychology and the implementation of design patterns.

3.1 Reciprocation: The Common Principle

Reciprocation plays a vital role in human behaviour, a concept Robert Cialdini emphasises in "Influence, New and Expanded: The Psychology of Persuasion". The essence of reciprocity lies in the discomfort of owing someone, a feeling that underpins societal function by fostering trust and social exchange. As the saying goes, "There is nothing more expensive than that which

comes for free," highlighting reciprocity's importance in society. Cialdini points out the social risks of not reciprocating, with non-reciprocators often seen as freeloaders. To escape such labels, individuals may participate in imbalanced exchanges. He illustrates this with the "rejection-then-retreat technique," where a larger request that is declined leads to agreement on a smaller one, showing how combining reciprocity with perceptual contrast enhances compliance. In essence, Cialdini shows that reciprocation significantly influences our interactions, reminding us to be cautious of manipulation disguised as generosity.

3.1.1 Reciprocation on The Web

Reciprocity, a principle rooted in face-to-face interactions, remains relevant in the digital age. Online businesses often use it to boost user engagement, sales, and loyalty.

Web Tactics: Reciprocity in Action

- 1 **Free Trials and Content:** Many online platforms, especially software services and streaming platforms, offer users a free trial. Often a 'no strings attached' proposition, this trial banks on the reciprocity principle, hoping users will feel indebted to subscribe or purchase once the trial ends. For instance, platforms like Netflix and Spotify offer month-long free trials in anticipation of gaining long-term subscribers (Budi, 2021).
- 2 **Gifts with Purchases:** Cherry (2023), in her article for Verywell Mind, mentions the concept of giving out freebies to coax customers into buying something. E-commerce sites often use similar techniques, providing gifts, discounts, and cashback to foster customer loyalty and encourage more purchases or referrals. This strategy taps into customers' feeling of indebtedness. Have you ever bought something unnecessary just to reach the "free shipping" threshold, or chosen a retailer known for including freebies?
- 3 **Gated Content:** Websites, especially those in the B2B sector, often provide valuable content like eBooks, whitepapers, or webinars in exchange for user information. Here, the 'give and take' is evident – the user feels compelled to provide their details in return for the valuable content (Cherry, 2023).

The NNGroup article explains how modern interfaces use reciprocity to build user trust. By offering valuable advice, recommendations, or rewards upfront, websites or services can motivate users to engage further.

Awasthi (2017), in his article for UXDesign.cc, emphasises that combining reciprocity with a persuasive user experience is a powerful way to create a positive impression without overwhelming or pressuring the user and maintaining customer loyalty. The author uses Duolingo as an example of subtle persuasion, where the user is given free knowledge and asked to register to maintain the progress later (Figure 3-1).

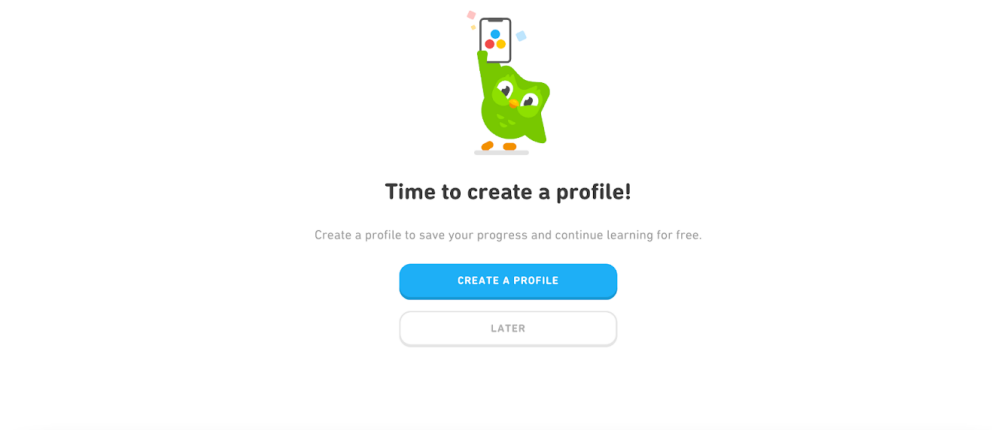


Figure 3-3-1 A screenshot of a registration prompting screen (duolingo.com)

Notino, a well-known website for the resale of cosmetics, provides an array of products eligible for free delivery (Figure 3-2). This subtle manipulation technique is designed to appear as a valuable benefit to the user.

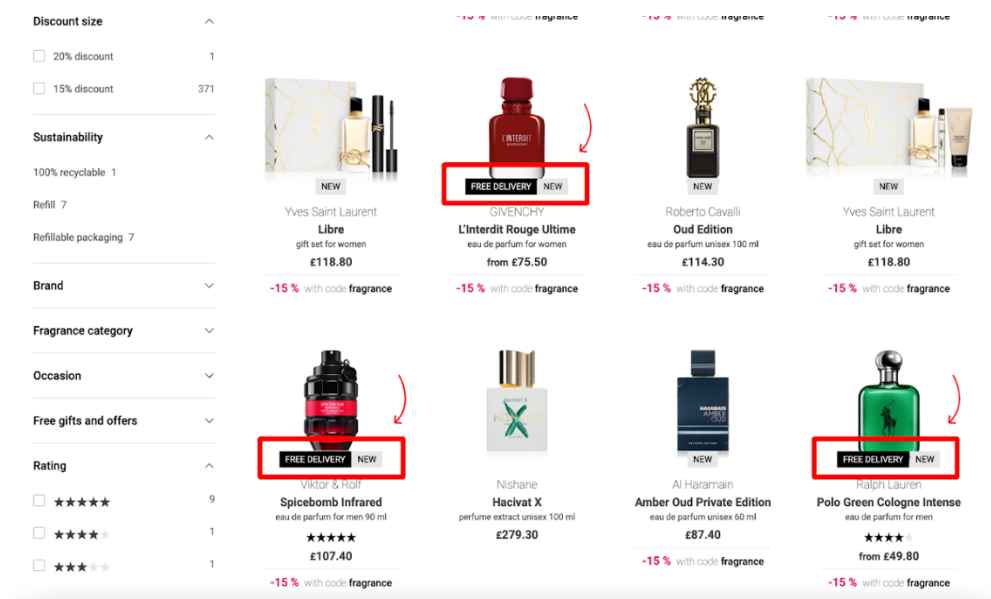


Figure 3-2 A screenshot of a "free delivery" products (Notino.com)

In this example (Figure 3-3), a tech startup asks users to provide their personal information in exchange for accessing company resources. The user must also enter their company and the type of product they work with. However, the website does not warn the user about the "cost" of accessing the resources until the end of the journey, with no prior warning on the homepage or other pages. This approach can be confusing and may lead to a negative user experience.

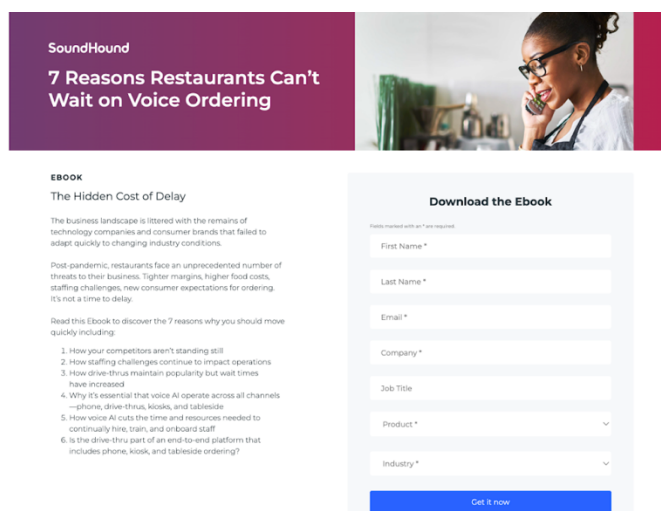


Figure 3-3 A screenshot of an ebook download requirements (SoundHound)

In conclusion, the principle of reciprocity, while traditional at its core, finds renewed importance in the digital sphere. Its subtle incorporation in various online strategies is a testament to its enduring power to influence human behaviour.

3.2 Liking: The Common Principle

Cialdini's analysis of the "liking" principle uncovers critical aspects of human behaviour that shape our interactions. These include:

- 1 **Physical Attractiveness:** People often unconsciously let their biases towards physically attractive individuals influence their preferences. We tend to associate beauty with qualities like kindness and honesty, providing advantages in social and professional settings.
- 2 **Similarity:** We naturally connect with people with similar beliefs, values, and interests. Emphasising shared characteristics fosters a sense of connection and understanding.
- 3 **Compliments:** The power of praise, even when insincere, can sway opinions in digital and historical contexts. Positive feedback has an impactful nature.
- 4 **Contact and Cooperation:** Positive and cooperative interactions foster mutual respect under the principle of repeated exposure. Effective interactions rather than sheer repetition shape our perceptions.
- 5 **Conditioning and Association:** Our life experiences shape our emotional associations, influencing our reactions to unrelated stimuli. This psychological phenomenon is often exploited in commercial strategies that link products to famous personalities, manipulating consumer perceptions.

In conclusion, Cialdini's insights into the principle of liking provide a profound understanding of the intricate patterns of human behaviour. Recognising these strategies can provide valuable insights into the dynamics of human relationships and the forces that shape them.

3.2.1 Liking on The Web

In the digital world, "liking" takes on a unique significance across social media, e-commerce, forums, and other online spaces. The principle of liking has evolved along with the web. This section explores the ways of utilising the principle of liking across digital platforms.

Web Tactics: Liking in Action

- 1 **Sharing brand values:** Lisa Furze (n.d.), a brand consultant and designer, shares that brands that communicate and act on their values connect better with consumers who

prioritise ethical considerations. Taking a stand on significant issues can enhance a brand's authenticity and appeal to its ideal customer base, fostering trust and lasting relationships.

- 2 **Good-looking products:** Attractiveness matters significantly in people, animals, and products. (Fogg et al., 2002) revealed that 46.1% (Figure 3.4) of feedback focused on a website's visual appeal, underlining the significance of design elements like layout, typography, and colour in fostering customer trust.
- 3 **Para-social relationships: Using celebrities to build positive connections:** A para-social relationship is a one-sided bond formed by a media user with a media figure, including celebrities, influencers, and characters across movies, TV shows, and social media (Vinney, 2022). According to Escalas and Bettman (2017), these relationships amplify the influence of celebrity endorsements, as consumers perceive advice from such figures akin to recommendations from trusted friends.
- 4 **Compliments and praise:** Jeffrey Schrank (1974) defines the "Compliment the consumer claim" as a part of marketing strategies that make consumers feel good about themselves. While the publication was released 50 years ago, and much has changed since then - the technique is still present in modern-day marketing. It comes in different forms: a line on the email praising you, the company's slogan, or campaign, reposts and compliments on social media (Figure 3-5).

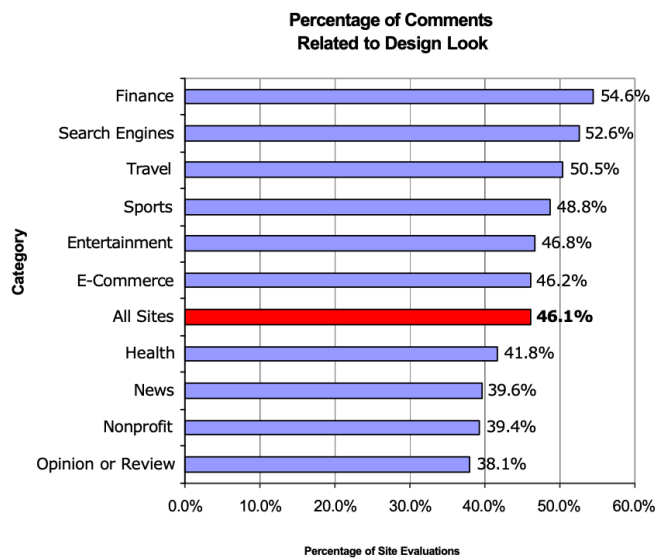


Figure 3-3-4 Percentage of comments related to design look by category. Source: *How Do People Evaluate a Web Site's Credibility?*; p. 25 (2002)

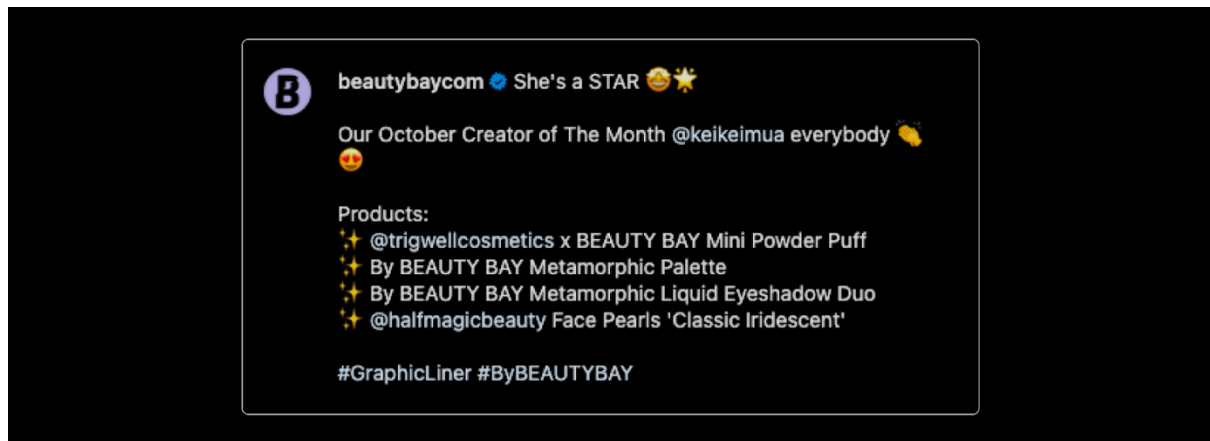


Figure 3-3-5 A screenshot from BeautyBay Instagram account showcasing consumer flattery

The digital realm has successfully adopted the "liking" principle and continues using it in different forms. These tactics significantly influence online user behaviour, from shared brand values and aesthetic appeal to leveraging para-social relationships and complimenting consumers. They usually make consumers feel good about themselves or their choices. However, it is never one-sided - companies benefit from building positive associations and being nice to their consumers.

3.3 Social Proof: The Common Principle

Social proof plays a vital role in shaping human behaviour and decisions. It suggests that people look to others' actions to guide their own, especially when unsure. This concept is critical across various fields like business and sales, underscoring the group's influence on the individual. The effectiveness of social proof increases under three conditions: uncertainty, the prevalence of behaviour, and the perceived similarity of others. Recognising and utilising social proof can significantly enhance efforts to influence decisions and behaviours, offering a strategic advantage in achieving objectives.

3.3.1 Social Proof on The Web

Social proof is a powerful force in the online world due to the vastness of the digital realm and its strong networking capabilities. With more people relying on web-based platforms, collective online behaviour can become a driving force in decision-making. Therefore, it is crucial to understand how social proof manifests itself on the web. Below are some ways that e-commerce companies use to boost social proof:

- **Testimonials** - When shopping online, customers rely heavily on reviews and testimonials as they cannot physically see or touch the products, they are interested in. Statista (2023) finds that 34% of U.S. consumers trust customer reviews, while eMarketer (2018) reports that 69% value them on smartphones. However, the rise of fake reviews, with businesses paying for positive feedback, challenges authenticity. Companies like Scopecompany offer paid actor testimonials, complicating the distinction between real and fake reviews.
- **Celebrity Endorsements** - according to Marnewick (2023), 20% of advertising features celebrities, and those campaigns influence 28% of consumers aged 18-34. These endorsements significantly sway consumer preferences, as seen with HiSmile's campaign involving Kim Kardashian. Her endorsement video garnered 20 million views, transforming perceptions of the product based on her approval. Celebrity-driven advertising can enhance brand visibility but also has the potential to manipulate consumer choices.
- **User-generated content (UGC)** encompasses various forms like text, videos, and images created by users, not brands. UGC is authentic social proof, influencing purchasing decisions (Beveridge, 2022). Despite its benefits, UGC can lead to manipulative content, such as fake reviews and FOMO. Additionally, controlling UGC poses challenges.

The influence of social proof has significantly increased in the digital age, becoming a crucial factor in online decision-making. While online reviews are often relied upon, they may not always be genuine. Similarly, celebrity endorsements hold great power, and user-generated content has both authenticity and potential pitfalls. Navigating the online landscape requires a discerning eye and critical thinking to distinguish between genuine recommendations and manipulations. The internet is a valuable resource, but it is also a minefield of deception and manipulation.

3.4 Authority: The Common Principle

The concept of authority holds significant power in our society and can lead people to follow those who possess symbols of status and influence unquestioningly. These symbols can easily sway opinions and actions, whether it is designer clothes, luxury items, or impressive titles. Unfortunately, some individuals may adopt titles without earning them, leading to a lack of

genuine substance behind their authority. Therefore, it is important to recognise the genuine substance behind symbols of authority rather than simply relying on them as shortcuts to establish credibility. By doing so, we can avoid being misled by false authority and instead focus on those who truly possess the knowledge and experience needed to lead us forward.

3.4.1 Authority on The Web

The internet has changed how authority is perceived and utilised in the digital age. Designers must understand how to establish and maintain authority on the web. This section will analyse how the principle of authority is used to influence user experience online. According to Harrison (2018), the principle of authority is similar to "social proof" but with more credible and valuable sources of information.

- **Logos and Brand Associations:** Websites in the B2B (Business to business) sector often display logos of their prominent clients or partners to show that they have established entities that trust and work with them, thereby increasing their online authority. Among companies that utilise such content blocks are: Synthesia, Slack, Slush (Figure 3-6).
- **Photos of People in Authority Positions:** According to Fessenden (2018), displaying images of people dressed appropriately for various authority positions can enhance a website's credibility. For instance, a law firm can use pictures of lawyers, while a medical institution can use photos of doctors or lab assistants - all these can impact how users perceive the brand.
- **Expert opinion:** Online endorsements from experts, celebrities, and industry leaders carry weight. Their testimonials instantly elevate a brand's credibility, serving as powerful stamps of approval that solidify trustworthiness in the digital realm. (Fessenden, 2018).

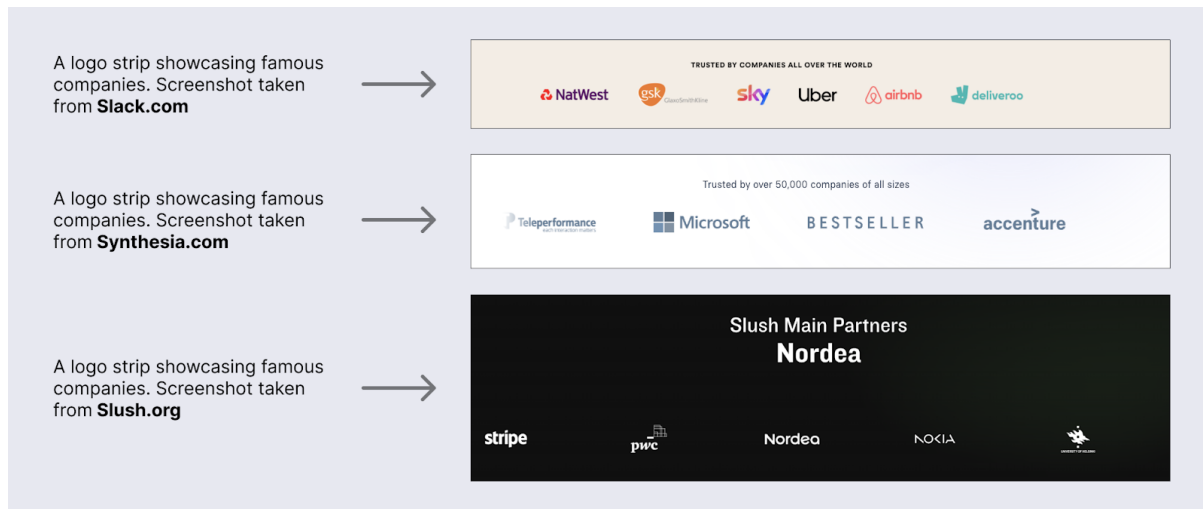


Figure 3-3-6 Website sections showcasing the usage of logo strips

3.5 3.5 Scarcity: The Common principle

Cialdini highlights scarcity's impact on consumer behaviour, notably in gaming, where "limited number" and "deadline" strategies exploit loss aversion. Scarcity makes items seem more valuable and desirable, partly because it is seen as a quality indicator and partly because it triggers a reaction against restricted freedoms. This principle is deeply ingrained, with information scarcity increasing its perceived value, especially under censorship. For scarcity to have its most potent effect, items must have recently become scarce, and competition amplifies this effect. Recognising the emotional influence of scarcity can help in evaluating opportunities more rationally. Cialdini's insights into scarcity reveal how it shapes consumer behaviour and underscores the complex interplay between psychology and market strategies in the gaming industry.

3.5.1 Scarcity: On The Web

Scarcity is a well-known social psychology concept that has been adapted to the digital world. Online, scarcity can be created by making products or services appear exclusive or limited time only. This digital form of scarcity offers a range of applications, such as exclusive online sales or limited-time access to digital content. Mahesh V V (2019), in his article, defines five types of scarcity. Here are three of them that are applied the most in the digital world:

- **Time-limited scarcity.** Time-limited offers create urgency in decision-making, as users must decide before a set deadline. This approach is widely used in marketing and

sales to increase the chances of conversion. The usage of "flash sales" sections is another common technique. The section is updated regularly and urges customers to purchase discounted products within a limited time.

- **Quantity-limited scarcity.** This method of scarcity is more effective as it depends on supply and demand, and it is also linked to social proof, as the shortage of a product indicates that some people have already bought it. Booking has been successfully using such a strategy to boost their sales. The website indicates the amount of rooms left to turn viewers into buyers (Figure 3.7).
- **Access-limited scarcity.** Restricted access to information can increase perceived value, as seen in invite-only strategies like Best Secret (Figure 3.8). This exclusive shopping platform offers designer goods at reduced prices but requires an invitation or referral code for registration.

The online world has found a powerful application of the scarcity principle. Strategies such as time-limited offers, quantity-limited availability, and access-limited exclusivity make use of this principle, and most companies, from AAA to small businesses, have effectively employed these tactics to benefit them through subtle user manipulation. By incorporating the scarcity principle, UI/UX designers can create more engaging and responsible online experiences. However, the overuse of this principle may raise ethical problems.

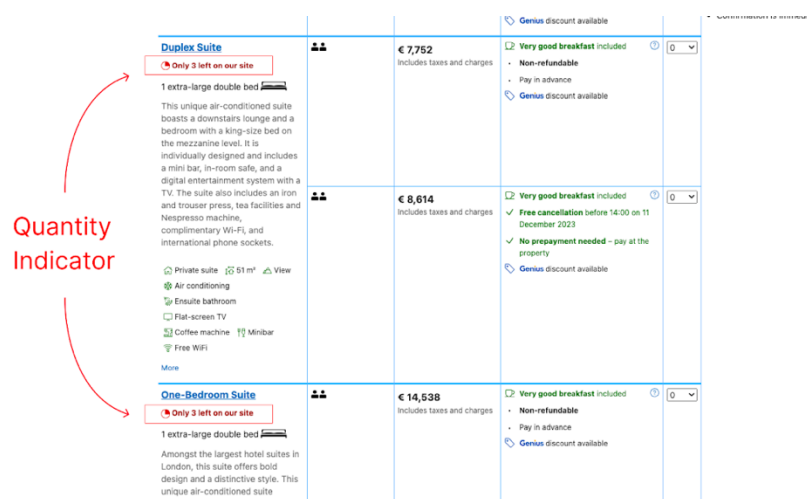


Figure 3-3-7 A limited quantity indicator (Booking.com)



Figure 3-8 Benefits of a registered user. Screenshot taken from Bestsecret.com

3.6 Commitment and Consistency: The Common Principle

Commitment and consistency heavily shape decision-making and compliance. People tend to stick to their self-image and past choices, valuing consistency. Societal norms, ease of decision-making, and cognitive shortcuts fuel this drive. Initial agreements are crucial for rule adherence, leading to further agreement. Designers align initial commitments with desired behaviours for better effectiveness. Active, public, effortful commitments with internal motivation drive long-term decision-making. Cialdini emphasises the impact of these tactics, especially on those over fifty and in individualistic societies. Awareness of these principles is crucial in navigating modern online influences on decision-making. Cialdini's insights into commitment and consistency offer valuable understanding for achieving compliance.

3.6.1 Commitment and Consistency on The Web

This chapter discusses how designers and marketers use psychological principles to shape user behaviour and decision-making. The internet is a great platform to build user commitment by leveraging human desire for consistency. The chapter outlines strategies to encourage consistent behaviour, utilising personalisation and adaptability based on user data for greater effectiveness.

- Fessenden (2018) suggests: to leverage behavioural consistency, users should first commit to a low-stakes action. The author presents an example of how Yelp encourages users to leave reviews by making the process easy and low commitment. Users can start writing reviews without creating an account or sharing personal data. Once they reach a certain amount of text, a message appears that motivates them to keep writing. Only when the user clicks the "post review" button are they prompted to create an account. This prompts the user to commit to creating an account since they have already invested time in writing the review. Once the review is posted, the user is motivated to continue writing more reviews. The whole user journey is demonstrated in Figure 3.9.

- Duolingo is another excellent example of how the rule of consistency and commitment can be applied online. The service allows the users to set a goal for the day (Figure 3.10) and uses UX writing to make the commitment more valuable. After that, the user is told about a streak, and after that, a screen comes that offers to set up a streak goal with Duo (the mascot), motivating the user even further. What happens after that? Duo's onslaught of notifications or emails sometimes gets personal.

This section demonstrates how businesses can strategically use the principles of commitment and consistency to influence user behaviour in the digital world. Examples like Yelp and Duolingo show how initial low-stakes commitments can evolve into more substantial user engagement. These tactics underscore the fine balance between guiding and manipulating user behaviour, emphasising the need for ethical application in digital design and marketing. Understanding and responsibly leveraging these principles is crucial for creating positive and engaging online experiences.

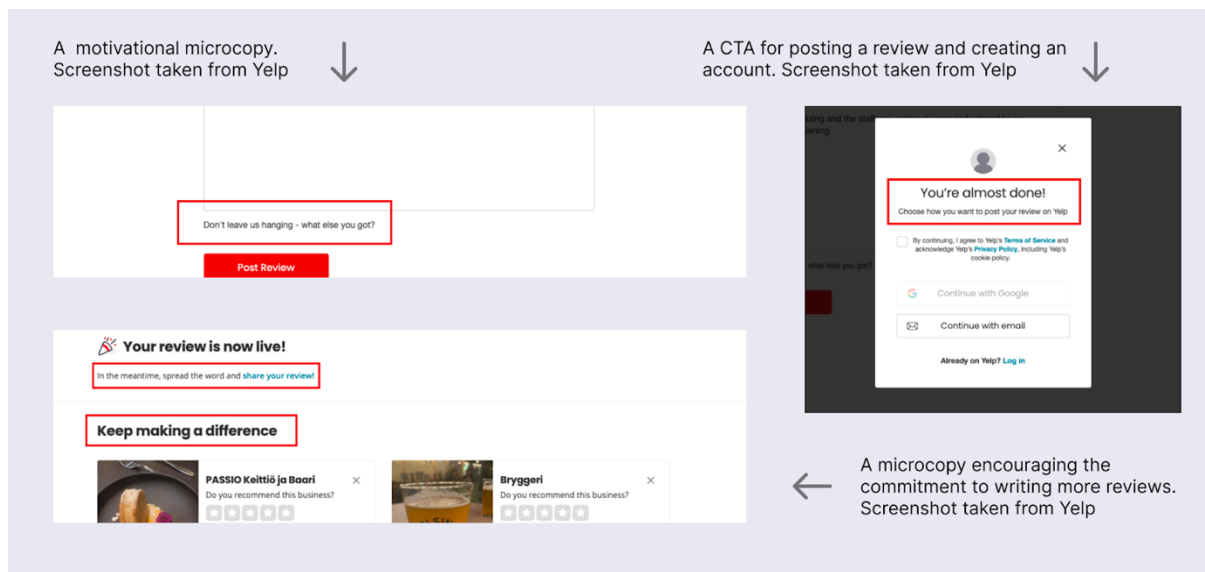


Figure 3-9 Review publishing user journey (Yelp)

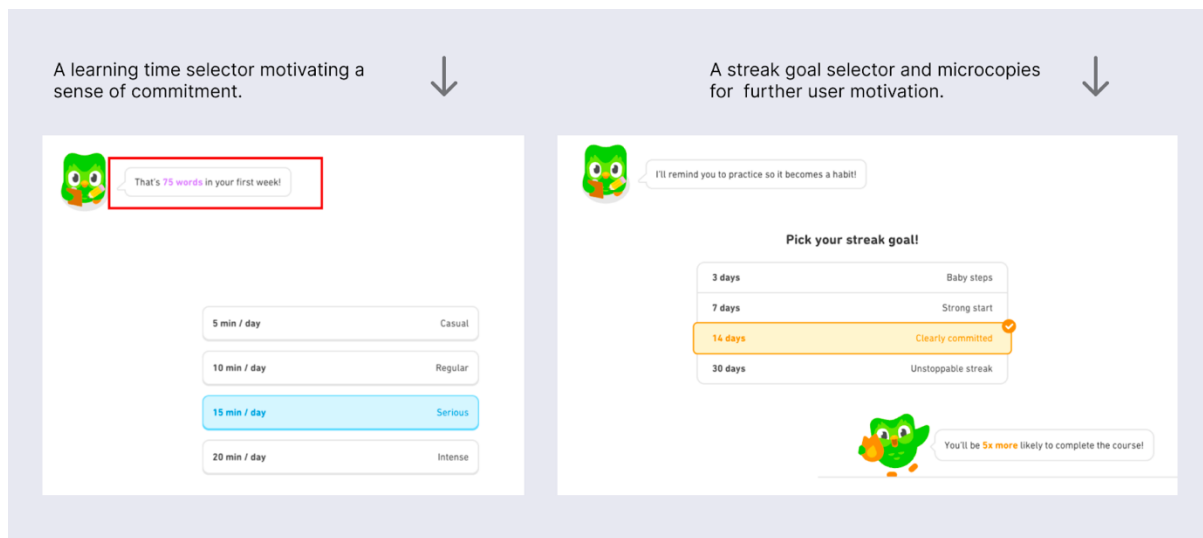


Figure 3-10 A learning time selector (Duolingo)

3.7 Unity: The Universal Principle

Lastly, there is the principle of unity, which is crucial in understanding social interaction and persuasion. People tend to agree with those they perceive as part of their group. People tend to associate with others who share their identities, such as race, ethnicity, nationality, family, or political and religious affiliations. Here are three key insights from Cialdini's study of "we-groups":

- 1 Group members prioritise their welfare over that of outsiders.
- 2 Individuals observe peers' preferences and actions, reinforcing solidarity and cohesion.
- 3 Group-centric biases evolved to benefit "we-groups," ultimately benefiting individual members.

Shared identity and coordinated activities foster unity. Activities like shared music experiences strengthen this unity. The principle of union is a powerful tool to influence social behaviour. Ethically leveraging this principle can lead to a more cooperative global society.

3.7.1 Unity on The Web

In the digital world, the ideas of unity have taken on new meanings and uses. As we navigate through the complex network of online interactions, the concept of "we-ness" becomes increasingly important, impacting social dynamics, decision-making processes, and the very structure of virtual communities. Fitness apps are a great example of the unity principle used

online. These kinds of apps allow users to track their calorie intake and workouts and take control of their overall health. In addition to these features, these apps often have a "community recipes" tab. Fatsecret, for example, has a homepage that resembles an Instagram feed, but instead of curated pictures, the user can view the meals of other app users. Users can even check out other people's accounts to learn about their goals and progress, which can help build a sense of community, especially for those with similar goals.

3.8 Conclusion

Having studied all the seven principles presented by Robert Cialdini, it is evident that some of them are interlinked and dependent on each other. For instance, the principle of social proof can become a more effective tool when paired with liking or authority, as humans tend to trust those who they like or respect more. It is also noticeable that some companies take advantage of multiple principles of persuasion - Duolingo is a great example as they successfully incorporate a few persuasion techniques into their app and marketing materials. Some of the principles are used more frequently than others. Presently, the principle of social proof prevails, which involves following what others around are doing. Thanks to the internet, people can access information about people who have tried different products, services or ideas fast and easy. It is as simple as going to a specific website, finding reviews on TikTok or Instagram, or simply checking the comment section of a product. The rise of social media only gave more space for the principle of social proof to settle in and drive forward the other seven principles, making their influence more powerful.

However great, this access to information also made it easier for companies to influence the consumer and harvest the fear of missing out (FOMO) to drive sales and KPIs (Key Performance Indicators). FOMO is the opposite of being socially connected, the importance of which was previously covered in chapter 3.7, Unity: The Universal Principle. The principles of scarcity, authority, commitment, and consistency can make the feeling even stronger, resulting in impulsive actions that would not have been done otherwise. The ever-changing trends and influencer recommendations or paid ads also push users further towards impulsive purchases. Bruijn et al. (n.d.) collaborated on research to establish that:

- **64%** of digital buyers discover brands and/or products via social media.

- **1 in 3 consumers** like to discover things categorised by what is trending in their social circle.
- **43%** of Gen Z are looking for trending topics on social media.
- **67%** of Social Media users would consider a brand/product if promoted by their favourite influencer.
- **41%** of the global shoppers (and 28% in Europe) want to be able to purchase directly and easily from influencers.

These statistics are a great indicator of how social media affects the consumer buying behaviour and further prove that the concept of social proof is, indeed, widely used and that social media only drives it further.

But when do these influence practices shift towards being manipulative? Are users actually in control because they are well aware of what tricks are used on them? While there is no defined guide that designers get to follow it is all based on human's feeling of ethics. The following chapters look at the manipulative tactics in the video gaming industry - the most profitable entertainment industry.

4 Introduction to The Gaming Industry

The video game industry dates back to the 1950s and 1960s when computer scientists designed basic games and simulations using minicomputers and mainframes. It has been growing continuously, integrating technological advancements while engaging more players, making it the highest-grossing entertainment industry, with a global revenue of \$193.7 billion in 2021 (Richter, 2022). The video games industry is a relatively new phenomenon, only existing for less than 70 years, yet its relationship to the well-established concept of games as a form of entertainment helped it to develop into the giant it is now. Video gaming has become a popular hobby that people of different ages, cultures and countries enjoy. DFC Intelligence (2021) reports that the number of video gamers for the year of 2021 stands at 3.24 billion gamers globally. The Asian market is leading with almost 1.48 billion gamers and Europe comes in second place with a gaming audience of 715 million.

4.1 The Rise of Video Games

Video games have become an essential part of our culture, and it's worth studying why. The reason for their immense popularity can be attributed to a combination of technological advancement, social and cultural factors, and the inherent appeal of interactive entertainment. Video games were created by drawing inspiration from their predecessors such as board games and early computer programs. They emerged as a new form of electronic play. The interactive nature of video games offers a unique experiential dimension for players, enabling them to engage and immerse themselves into an experience. Scholars like Sutton-Smith (1997) argue that this appeal stems from our inherent inclination towards play and exploration, which is significant in human evolution. Cultural factors are a great contributor to the popularity of video games. Video games serve as cultural artefacts, integrating elements of storytelling, aesthetics, and shared experiences to create an immersive experience (Gee, 2003). These factors also contributed to growing a sense of community among players.

One of the critical factors that contributed to the popularity of video games is the introduction of casual games, which broke down traditional boundaries in the gaming industry. These games have simple mechanics and are more accessible, making them appealing to a broader audience. According to Gee (2003), casual games serve as entry points into the gaming world for individuals who may not otherwise consider themselves traditional gamers. This has contributed to the widespread cultural adoption of video games, making them more acceptable

and accessible to everyone. Gee (2003) argues that video games, even casual ones, serve as complex learning environments that enhance critical thinking and problem-solving skills, which further explains the widespread popularity of video games in contemporary society.

Over the years, the gaming industry has undergone a significant transformation, expanding its appeal and diversifying its player base. A study conducted by Williams et al. (2009) challenged the stereotypes surrounding women in gaming. The study, conducted through surveys and interviews revealed that women actively participate across diverse genres and constitute a significant and engaged segment of the online gaming community. While the research was published in 2009, it remains relevant as Statista (2023) statistics show that 74% of male respondents worldwide play video games, compared to around 64% of female respondents who fall into this category.

The gaming industry's growth is closely tied to the diversification of platforms and devices for game delivery. The availability of gaming consoles, PCs, mobile devices, and online platforms has significantly increased the industry's outreach. Thanks to these advancements, developers can cater to diverse audiences with varied preferences and access. The ubiquity of smartphones and tablets, combined with the progress made in cloud gaming technology, has ushered in a new era where gaming is not confined to specific hardware.

The video games industry is projected to grow and reach a new peak of 626.78 billion U.S. dollars by 2028, attracting new audiences along the way. Starting from 64 games released just on Steam (a major gaming platform) in 2004, to 10,644 games in 2022, the industry continues to grow at an astonishing speed.

4.2 The Different Types of Games and Their Business Models

The gaming world is rapidly changing, and game developers have to constantly adapt to keep up with the latest trends. Game Developers Conference (2023) outlines the most common gaming business models used by game developers worldwide in 2023, among which are:

- Pay to download
- Free to download
- Paid DLC / updates

- Paid in-game items
- Free DLC / updates
- Paid in-game currency
- Ad supported
- Paid subscription as part of a monthly offering (e.g. Apple Arcade, Xbox Game Pass)
- Premium tier subscriptions
- Blockchain driven monetisation

Essentially, these are all the different ways of making money, as the game production is not cheap and there are many expenses, especially if we are talking about the premium segment of games and AAA companies. This chapter takes a closer look at two leading models, Paid-to-Download and Free-to-Play (F2P) and provides a brief overview on where the revenue comes from for each one of them.

4.2.1 Paid-to-Download

Paid download games operate on a traditional resale model that requires players to make a one-time purchase to access the entire game. This differs from free-to-play models that allow players to download the game for free but charge for in-app purchases and access to additional levels or content. Popular titles such as "The Witcher 3: Wild Hunt" and "Minecraft" follow this business model and provide a complete gaming experience from the beginning. Once the game is purchased, players can enjoy all the levels and content without additional charges. Paid games offer a fair and straightforward approach to gaming, ensuring that players receive a complete and fulfilling gaming experience. Here is the list of the key characteristics that define this type of games:

- 1 **Upfront Payment:** Players make a one-time payment to access the entire game upfront, and the initial download includes the complete core game without needing further purchases.
- 2 **Quality Focus:** Developers are motivated to deliver a comprehensive and polished product from the beginning, eliminating the need for frequent updates.
- 3 **Revenue:** Successful games can maintain consistent sales over a long period of time. This type of games usually does not use the microtransaction model to generate revenue post-

launch revenue is often generated through optional downloadable content (DLC) or expansions.

By looking at these characteristics it almost looks like these games were created to benefit the user only and there is no place for manipulation. While it might be less prominent than in the other types of video games revenue models, it is still there. Here are a few examples of how paid-to-download games use persuasion practices to boost their sales:

- 1 Pre-Order Bonuses:** Offering exclusive content to encourage early purchases creates a fear of missing out (FOMO), which usually triggers people into action. An example of such tactics used for Cyberpunk 2077 is shown in Figure 4-1. It might also feel as if the company is giving the player a gift for being a loyal customer.
- 2 DLC:** It is common for game developers to release additional paid content at the same time as the game's launch. This can create the impression that players must purchase more than just the base game to have the full experience. Such additional content may also be dedicated to a specific season, like Overcooked 2 (Figure 4-2), which offers downloadable content and a season pass that provides players access to more levels.

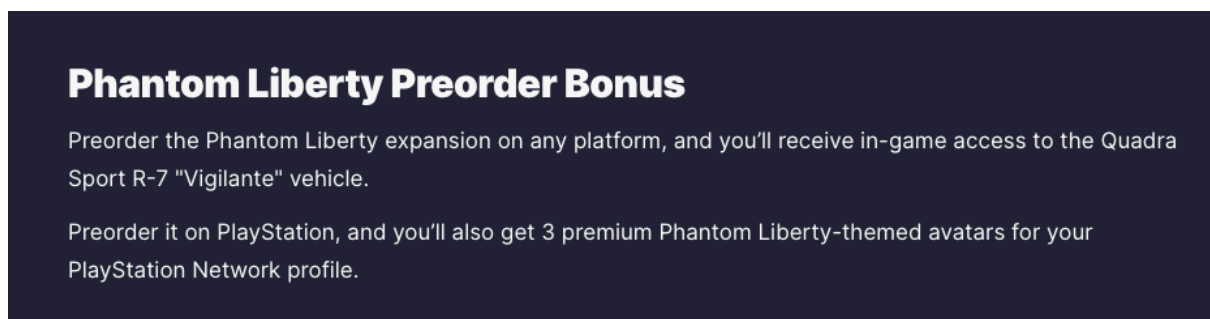


Figure 4-1 Cyberpunk 2077 pre order bonus (ign.com)

Satisfy your hunger for Overcooked! 2's chaotic cooking action with the Season Pass!

The Season pass will deliver 3 extra portions of content, featuring more meals, more mechanics and more mayhem!

Figure 4-2 Overcooked 2 Season Pass (nintendo.com)

While not as manipulative, this business model also likes to capitalise on trends. Pureza (2023) states that Hogwarts Legacy has generated \$1 billion in revenue, making it the most successful launch of 2023 so far. Pay to download games may use some manipulative tactics to drive their sales, but they still balance offering a complete user experience and generating revenue for developers. Despite the emergence of alternative models, this traditional approach remains popular, particularly for games that prioritise narrative and immersive gameplay experiences.

4.2.2 Free-to-Play (F2P)

Free-to-play (F2P) is a gaming model that lets the player download and play a game without paying upfront or having an active subscription. In contrast to paid games, free games are available to download and play without making any purchases to access most of the features and levels. However, free-to-play games use the "freemium" model, which means that while the game designers do not charge you anything to join the game, they earn revenue from advertisements or in-game sales. The users can make in-game purchases using a credit or debit card or a digital wallet. (Willing, 2023) Here is the list of the key characteristics that define this type of games (Costes & Bonnaire, 2022):

- 1 **Accessibility:** Free-to-play games are typically easy to access and start playing. They can be downloaded and played without any initial cost.
- 2 **Microtransactions:** While the base game is free, these games often include optional in-game purchases, known as microtransactions. Players can buy additional items or services inside the game.
- 3 **Variety of Genres:** Free-to-play games span across many different genres, from life simulations to MMORPGs and much more.
- 4 **In-Game Currency:** Many of these games have their own in-game currency, which can be earned through gameplay or purchased with real money.
- 5 **Risk of Internet Gaming Disorder (IGD):** Spending in the game is strongly associated with Internet Gaming Disorder (IGD). Flow (gaming experience) and escape (motivation) were strongly associated with spending in the game and IGD. It's important to be aware of this risk and to be mindful of one's own gaming habits to avoid any negative consequences.

According to Statista (2023), the F2P, or free to download, games make up 36% of the market. According to recent estimates, the global free-to-play (F2P) gaming market generated around 111.37 billion U.S. dollars in 2023. This figure is expected to rise to 117.7 billion U.S. dollars in 2024. In terms of F2P gaming platforms, PC stands as the second-largest platform, just behind mobile and ahead of console gaming. (Statista, 2023). But how is it generating so much revenue and keeps the players engaged? Here are a few manipulative practices explored in chapter 3 that can be applied in the F2P game business model:

- 1 **Artificial scarcity** is a tactic used in many online games to create a sense of rarity for certain items, thus increasing their perceived value among players. This can lead to players feeling the need to purchase these items right away out of fear that they may become unavailable in the future or FOMO.
- 2 **Pay-to-Win Elements:** In certain games, players can purchase in-game content that gives them an unfair advantage over other players who do not spend money. This creates a pay-to-win dynamic, discouraging players who do not want to spend money from continuing to play. On the contrary, if a player is committed to the game or feels a sense of community, they may feel a stronger urge to invest into the in-game content.
- 3 **Loot Boxes** refer to virtual items that players can purchase, but the contents of which are randomised. The allure of potentially rare and unique items can create an incentive for players to spend more money. However, the uncertainty of the items included in these randomised purchases has been the subject of controversy and debate within the gaming community.
- 4 **Exclusive Content or Events:** Offering exclusive content or time-limited events that can only be accessed or completed using premium currency or direct purchases. It also includes time-limited events dedicated to an upcoming holiday, where the players can win special prizes and season passes.
- 5 **Celebrity endorsement:** It has become increasingly popular to leverage the power of celebrities to promote video games, or even have them participate in the game itself. A good example of this would be Kim Kardashian: Hollywood, where players could "meet" the celebrity and "become" a part of the celebrity society.

This is just an overview and there are many more practices that product designers and game development companies use to create more revenue and keep the player engaged. There also are guides on the internet that are supposed to help the new companies to make their way in

the competitive industry of video games. For instance, Turbine Games Consulting (2020) has released their list of six patterns for successful F2P games, where the subject of making the player spend more time and money in the game is prominent.

4.3 Conclusion

Both above-mentioned revenue models fill their own niche and cater to their own audience. While pay to download games might be less affordable, they are definitely winning when it comes primarily creating value for the player. Of course, one can play the F2P games without acquiring any additional content or items, but the chances of the product designers and marketers choosing to manipulate the users into spending money are quite high. As a user, it is important to remember that the gaming industry operates as any other B2C commerce model and that holding the consumer engaged and interested is the only way they can keep the revenue coming in. And as in any other retail industry, the principles suggested by Dr. Cialdini can be applied to drive conversion rates to achieve a desired result.

The following chapter takes a closer look at the dark design and manipulation practices to gain a better understanding of how exactly they are applicable in the gaming landscape.

5 Video Games and Design Patterns

As the market grows, the consumer becomes more critical and selective with the variety of options to choose from. The final product needs not only to have an interesting theme and beautiful graphics, it also has to work well as a software, e.g. be free of bugs, run well, etc. For instance, "Cyberpunk 2077" by CD Projekt Red was a highly anticipated game, but it faced significant issues upon release in December 2020. The game was plagued by bugs and performance problems, especially on older consoles, leading to unsatisfied players, and the game's temporary removal from the PlayStation Store, and multiple class-action lawsuits against CD Projekt Red. (Hendelmann, n.d.) This is a prime instance of how much the standards have changed and how the gaming community will not hesitate to express their dissatisfaction. However, certain things can help resolve many of the issues encountered before - design patterns.

5.1 Design Patterns and Their Role in Shaping User Experiences

Video game design is a complex process that requires careful consideration of user experience (UX) design patterns. These patterns offer solutions to common design challenges that optimise player interactions and overall game enjoyment. While they are derived from general UX principles, UX design patterns in video games are tailored to address the unique needs and dynamics of gaming environments. In this context, the 10 Usability Heuristics for User Interface Design by Jakob Nielsen are a foundational guide for UX designers. These heuristics offer a comprehensive framework for enhancing usability and player satisfaction, which are critical factors in creating an enjoyable gaming experience.

- 1 **Visibility of System Status:** Keep users informed about what is happening through timely feedback.
- 2 **Match Between System and the Real World:** Use familiar language and real-world conventions in the design.
- 3 **User Control and Freedom:** Provide easy ways to undo actions and navigate freely.
- 4 **Consistency and Standards:** Maintain consistency in design and adhere to industry standards.
- 5 **Error Prevention:** Design to prevent errors from occurring, not just to report them.
- 6 **Recognition Rather Than Recall:** Make information visible to minimise the user's memory load.

- 7 **Flexibility and Efficiency of Use:** Offer shortcuts and customisation for novice and experienced users.
- 8 **Aesthetic and Minimalist Design:** Avoid irrelevant information in the design.
- 9 **Help Users Recognise, Diagnose, and Recover from Errors:** Use clear, plain language for error messages and suggest solutions.
- 10 **Help and Documentation:** Provide easy-to-search help and documentation when necessary.

By applying these heuristics, game designers can develop effective UX design patterns that meet the needs of players and improve the overall quality of their games (Nielsen, 1994). The usage of UI/UX design patterns offers a variety of benefits among which are:

- 1 **Enhancing Player Engagement:** Well-implemented UX design patterns contribute to a more engaging and immersive gaming experience. By simplifying navigation, streamlining interfaces, and ensuring consistency, players can focus more on the gameplay and less on figuring out the mechanics of the game interface.
- 2 **Improving Accessibility:** These patterns also play a critical role in making games more accessible to a diverse audience. By considering various player needs and preferences, designers can create more inclusive games catering to a broader range of abilities and experiences.
- 3 **Streamlining Game Development:** From a development perspective, using established UX design patterns speeds up the design process, reduces errors, and ensures a more consistent player experience across different parts of the game.

5.2 Shifting Towards Manipulative Design

However, alongside these beneficial patterns, there has been a concerning rise in the use of dark design (manipulative) patterns. These patterns intentionally create manipulative, confusing, or deceitful interfaces to exploit players for commercial gain. While some of these patterns may start as standard UX/UI practices, they can gradually become manipulative tactics that prey on players' psychological vulnerabilities, such as the fear of missing out (FOMO), to push them towards making unintended decisions, like spending more time or money than initially planned. Some examples of such dark patterns in gaming include:

- **Misdirection**, where design elements distract players from specific options or consequences, such as hiding the actual cost of in-game purchases.
- **Forced action**, where players are required to perform specific actions, such as sharing personal data or making a purchase, to progress in the game. Think of any mobile game where there are two types of currency: one is easily gained and the other is rare, which runs out fast and then costs real money to refill.
- **Bait and switch**, often observed with loot boxes, promises players valuable rewards but typically delivers common items instead. The chance to obtain a rare item is usually extremely low, leading players to spend significantly, hoping for a win that seldom comes. This tactic preys on poor human intuition regarding probabilities, with children being especially susceptible.

There are many dark patterns to explore but, in general, when a designer chooses to ignore the rules that benefit the user and promote business outcomes instead - they create deceptive patterns (Rosala, 2023). For instance, by reversing the 10 usability heuristics discussed in the previous chapter the designer creates a product aimed to capitalise on the user.

In 2010, Harry Brignull came up with the term "deceptive pattern" (also known as "dark patterns") as a wordplay on "design pattern." The latter refers to a conventional user-interface design for a particular component or experience. Deceptive patterns (n.d.) offers a list of 16 deceptive patterns that are commonly used on the web:

- **Comparison Prevention**: It makes it hard for users to compare products by complexly combining features and prices.
- **Confirmshaming**: Emotionally manipulates users into actions they would not usually take.
- **Disguised Ads**: Ads are mistaken for interface elements or native content.
- **Fake Scarcity**: Creates a false sense of limited supply or popularity to pressure actions.
- **Fake Social Proof**: Uses fake reviews or testimonials to mislead about popularity or credibility.
- **Fake Urgency**: Falsely indicates time limitation to pressure actions.
- **Forced Action**: Requires users to perform an undesirable action to proceed.
- **Hard to Cancel**: Subscriptions or sign-ups are easy to start but challenging to cancel.
- **Hidden Costs**: Advertises a low price, then reveals additional fees at checkout.

- **Hidden Subscription:** Enrol users in subscriptions without clear consent.
- **Nagging:** Interrupts users with persistent, unwanted requests.
- **Obstruction:** Places barriers to completing tasks or accessing information.
- **Preselection:** Default options are preselected to influence decision-making.
- **Sneaking:** Hides or delays important information in transactions.
- **Trick Wording:** Uses confusing language to mislead actions.
- **Visual Interference:** Obscures or disguises expected information presentation.

These patterns serve as a guide in this research that will help to establish how the gaming industry is manipulating and capitalising on their consumers.

5.3 The Need for Manipulation

Like any other B2C industry, the gaming industry is focused on understanding and influencing consumer behaviour. Gaming companies strive to comprehend and impact buyer decisions, which becomes even more crucial in gaming because of its unique immersive experiences and engagement mechanics. These persuasive techniques are driven by the same fundamental marketing principles used in broader B2C contexts, such as attracting, engaging, and retaining customers to maximise profitability. However, some manipulative or 'dark' design patterns are employed in gaming to achieve these objectives. This research section will examine why and how these techniques are used in the gaming industry in more detail.

5.3.1 The Social Phenomena

The Newzoo Global Games Market Report (2020) emphasises the growing social aspect of gaming. It points out how gaming has transformed from a specialised hobby to a popular pastime, particularly among younger age groups. Platforms such as Steam and Twitch have transformed into social networks in their own way, with many people replacing traditional social media with gaming. The COVID-19 pandemic further accelerated this trend, with games becoming social hubs. Consequently, this gave space to more manipulative practices to slip in. As of October 2023, the video streaming platform Twitch had around 6.89 million active streamers (TwitchTracker, 2024). Once content creators reach the Affiliate or Partner level on Twitch, they become eligible to receive revenue from running ads on their channel. These ads appear as pre-roll before streams or mid-roll during streams. The decision to run mid-roll ads rests entirely with the streamer. Twitch has a vast global audience with users from over 230

countries. The Twitch community primarily comprises adult Gen Z-ers and Millennials. Sixty-four percent of Twitch users purchase products influencers recommend, making them an excellent ad target audience. Additionally, 56% of Twitch viewers tend to buy brands they see advertised, indicating that they are open to advertising. (Amazon ads, n.d)

Gamers often buy games and related items they see on Twitch because of the influence of the streamers. Streamers are highly respected and trusted figures who are considered authoritative in the gaming community, and they can significantly affect viewer preferences and purchasing decisions. They make the game more relatable and appealing by showcasing gameplay in a real-world context. Additionally, watching a game being enjoyed live can create a sense of excitement, urgency, and FOMO which can lead to impulse purchases. This phenomenon also reflects the broader impact of influencer marketing in shaping consumer behaviour. Apart from that, the feeling of unity is a significant trigger for those gamers, who feel stronger connections to the gaming community.

This social phenomenon has also driven the popularity of online multiplayer games. The online gaming industry thrives with a global revenue generation of approximately \$26.14 billion in 2023. This marks a significant growth of 9.8% from the previous year. The COVID-19 pandemic of 2020 has had a massive impact on the industry, with people staying at home and turning to online gaming for entertainment and socialising. COVID-19 increased the industry from \$17.49 billion in revenue in 2019 to \$21.33 billion in 2020 (Statista, 2024). While the growth trend has stabilised, online gaming is popular, with an estimated 1.1 billion gamers worldwide (Statista, 2024). The industry's growth is set to continue, driven by the increasing accessibility of high-speed internet and the rise of mobile gaming platforms. The online games include multiple categories among which are: first-person shooter game (FPS), real-time strategy game (RTS), massive multiplayer online game (MMO), multiplayer online battle arena game (MOBA). But how do these games generate revenue?

The online gaming industry has demonstrated its ability to adapt to changing consumer behaviours by diversifying its revenue streams and implementing innovative monetisation models, resulting in a surge in profitability. Microtransactions have been a significant driver of this growth, allowing players to purchase virtual items, character upgrades, or cosmetic enhancements within the game for a small fee. This freemium model, popularised by successful games such as Fortnite and Apex Legends, offers players free initial gameplay while enticing

them with additional paid content. The result is a "win-win" situation for both players and game developers, as it allows players to customise their gaming experience while generating revenue for the developers. This trend shows no sign of slowing down as the online gaming industry continues to evolve and adapt to meet its players' changing needs and preferences. Personalisation and competitiveness are the two main drivers of generating revenue for online games. Understandably, game developers need to make money, but some in-game items and gear can be costly. Additionally, there are different levels of items, such as common, unusual, rare, and legendary, with the latter two falling under a "scarcity" business model. Players are aware of their rarity and, as a result, desire to obtain them. The social factor of other players being able to see these items only adds to their appeal.

5.3.2 The Market Growth

The rapid expansion of the video gaming industry has resulted in diverse gaming options across different genres, platforms, and revenue models. As a result, players have become more selective in their game choices due to the plethora of alternatives available to them. The emergence of different gaming platforms, such as consoles, personal computers, and mobile devices has broadened the accessibility of games and has increased competition among developers and publishers. As players navigate this expansive gaming landscape, they exhibit a more refined set of preferences, considering game mechanics, narrative quality, graphics, and community features. The abundance of alternatives has empowered players to demand higher quality and innovation, prompting game developers to continuously refine their offerings to meet the evolving expectations of the consumer base. The game designers and producers now not only need to catch the attention of the player but also to retain it. This can be achieved by multiple factors, one of the popular ones are:

- **Streak** - if the player is consistent with opening the game they receive a bonus, the more days the gamer scores, the higher the prize is. It is also applicable to the daily missions' mechanics; small tasks that change daily and that bring some known (in-game currency) or unknown bonus (a chest).
- **Special events & rare items** - as mentioned in the previous chapter, special events are great drivers of FOMO, and when a person fears to miss something, be it an item or an experience, they are more likely to pursue it.

- **Complex missions** - this type of missions usually requires more than one round of game (or more time) to accomplish and keeps the player spending more time on the game.

Therefore, in order to excel in most games, players must be actively engaged and give their best effort. These games do not reward players for just showing up or observing from the sidelines. Commercial video games have become similar to older "coin-ops" (coin operated) games which were initially created as machines that consume all the quarters in one's pocket. The goal was to lead users to failure but in an enjoyable way that would keep them coming back for more. Modern casual games similarly have to be challenging, not too difficult, but brief enough to keep players engaged enough to keep spending. For example, a game like coin-operated chess might be thrilling but not profitable, as a quarter would only provide an hour of playtime.

Given the highly competitive nature of the gaming industry, companies are increasingly focused on implementing strategies that can keep players engaged and loyal. This requires providing high-quality gaming experiences and utilising psychological tactics to enhance player retention. According to Deterding et al. (2011), persuasive design elements, including social reinforcement mechanisms and personalised content, are incorporated to foster a sense of attachment and loyalty among players.

5.4 Conclusion

The video gaming industry is skyrocketing with thousands of games available to millions of players around the world. To game safely, without causing any financial or emotional harm to oneself, it is vital to understand the monetisation and selling practices that the industry is using. Just like other retail businesses that aim to earn revenue from consumers, gaming companies are similarly engaged in generating profits. Even the one-time purchase games, the most "honest" and transparent games use small psychological tricks to drive sales and engagement.

Player engagement and in-game time spent are important drivers of financial success for many video gaming companies and they will do their best to achieve those financial goals. Some, of course will be bolder with it and capitalise on everything they can get their hands on, while others will be more subtle and use tactics similar to other retail businesses.

6 Mobile Games. The Corruption of F2P

Mobile games are a form of digital entertainment that has become increasingly popular in recent years. These games are specifically designed for mobile devices, including smartphones, feature phones, pocket PCs, tablet PCs, personal digital assistants (PDA), and portable media players. While some mobile games are relatively simple, such as classic games like Snake that were popular on older Nokia phones, others are highly sophisticated and incorporate advanced technologies like 3D graphics and augmented reality (Rouse, 2012). It is interesting to note that the digital mobile game has two roots. One comes from the early arcade video games, which were miniaturised into handheld electronic games and eventually became precursors for the handheld video gaming consoles. The other growth factor is closely linked with mobile phones as a gaming platform (Mäyrä, 2015). The mobile gaming industry has grown to the point that in 2022, it became the biggest gaming segment worldwide, with approximately \$103.5 billion in annual revenues (gamesindustry.biz 2022).

6.1 What Makes Mobile Gaming Popular

With 1.9 players billion worldwide (Games - Worldwide, n.d.), the mobile game segment is leading the global gaming industry. This subchapter dives into the key characteristics of mobile gaming to understand the success of the niche.

- **Accessibility.** The widespread ownership of mobile devices like smartphones and tablets has made gaming more accessible than ever before. Almost everyone with a smartphone has the potential to be a gamer, which significantly broadens the audience beyond traditional gaming demographics (Orlean, 2023). This flexibility allows users to engage in gaming during commutes, breaks, or other downtime, fitting gaming into their daily routines seamlessly.
- **Easy controls.** Mobile games mostly have simple user interfaces, making them easy to learn and play. This is important for attracting a broad range of users, including those who are not familiar with complex gaming systems. (Softity, 2022).
- **Wide Selection.** The mobile gaming industry offers various games for all interests and skill levels. There is something for everyone, from simple puzzle games to complex strategy games (Softity, 2022). By the third quarter of 2022, there were around 490,000 mobile gaming apps available for download on the Google Play Store (Appfigures, 2022) and approximately 208,000 mobile gaming apps in AppStore (Appfigures, 2022).

- **Free to play model.** Many mobile games are free to download, lowering the entry barrier for users. While these games often include in-app purchases and advertisements for revenue generation, the initial free access attracts a wider audience (Softity, 2022).

In essence, the accessibility of mobile games refers to a comprehensive array of factors encompassing affordability, ease of use, portability, and diversity of available games. This concept has played a pivotal role in expanding the gaming industry, ultimately making it inclusive for a broad spectrum of audiences, ranging from various age groups, economic backgrounds, and gaming preferences. The importance of accessibility in mobile gaming has significantly contributed to the industry's growth and has provided ample opportunities for new gamers to join the gaming community. Mobile gaming has successfully created a more inclusive environment where gamers from all walks of life can enjoy their favourite games easily and conveniently.

6.2 The Dark Side of Mobile Games

The rise in popularity of mobile games has led to an overcrowded market, prompting many game developers to utilise manipulative strategies known as dark design patterns to stay competitive. These patterns enhance player engagement and spending, often at the expense of their well-being. The widespread use of smartphones has made it easier for these patterns to thrive. Game developers increasingly rely on these tactics to capture and retain players' attention while maximising revenue to stand out in a competitive market (Outrun Games, n.d).

6.2.1 Examples of Dark Design Patterns in Mobile Games

Different researchers and publishers define different dark design patterns. This chapter takes a closer look at the four categories offered by "Dark Pattern Games"- a website that helps users find games without manipulative psychological tricks that encourage addiction.

- **Temporal Tactics** aim to extend playtime by introducing artificial delays or offering rewards for extended gameplay, effectively keeping players engaged for longer periods. Specific tactics are commonly used in games to encourage players to spend more time playing and potentially form addictive habits. These tactics include:
 - "Playing by Appointment", where the game requires to play at specific times
 - "Daily Rewards", which encourage daily logins

- "Grinding" with repetitive tasks
 - Intrusive "Advertisements"
 - The "Infinite Treadmill" with endless gameplay
 - The inability to "Pause or Save" at will
 - "Wait to Play" mechanisms using in-game timers.
 - These patterns can result in excessive time spent in the game, which benefits the developers through increased ad views or in-app purchases.
- **"Monetary Dark Patterns"** are sneaky tactics often used in mobile games to trick players into spending more money than intended. These techniques include microtransactions, downloadable content (DLC), monthly fees in Massively Multiplayer Online (MMO) games, and premium in-game currency that the players buy with real money. Game developers may also use psychological manipulation techniques like anchoring (Figure 7.5) and artificial scarcity to further encourage spending and employ gambling mechanisms such as loot boxes. As a result, players may find it difficult to determine the actual cost of items, leading to excessive spending.
 - **"Social Dark Patterns"** are manipulative tactics that mobile games sometimes use to increase player engagement. These tactics exploit social relationships to create a sense of obligation to play. For example, players might keep playing to avoid letting their friends down or reciprocate in-game actions like trading. In some cases, competition fosters negative emotions or encourages players to spend money to gain an advantage. Some games also use the fear of missing out (FOMO) to pressure players into staying engaged. These games may even use players' social networks for promotion, which can resemble a pyramid scheme.
 - **"Psychological Dark Patterns"** tactics that influence players' decisions. These tactics create a sense of investment in the game, making it difficult for players to stop playing. Games set artificial goals such as collecting badges or items to keep players coming back. They may also give players an illusion of control or skill, encouraging further play. Game developers incorporate variable rewards into their products to trigger the consumer's brain reward system, pushing for more gameplay in hopes of bigger and better rewards. Additionally, game developers may use aesthetic manipulations and biases in human perception to influence players' behaviour and decision-making.

In conclusion, mobile games employ four categories of dark patterns, temporal, monetary, social, and psychological, aimed at manipulating players. These strategies closely align with

Dr. Cialdini's seven principles of persuasion, which are discussed earlier in this thesis. Temporal tactics manipulate the player by adapting commitment and consistency principles, while monetary tactics exploit scarcity and authority. Social patterns leverage the principles of liking and social proof, and psychological tactics capitalise on the principle of reciprocity. These dark patterns and principles of persuasion reveal a deliberate design approach that aims to maximise player engagement to increase the games' revenue, often at the expense of ethical considerations.

6.3 The Varied Impact of Mobile Games

Mobile games have become essential to our daily routine, providing us with entertainment, social interaction, and cognitive challenges. However, the potential for addiction is a significant concern. Although some games may encourage addictive behaviours, it is essential to note that not all mobile games are equal in this perspective. Some "healthy games" use strategies to minimise the risk of addiction, promoting a more balanced and positive gaming experience. The gaming industry is a profitable sector that seeks to generate revenue to cover its expenses and make a profit. However, the means by which this is achieved should not involve manipulative tactics that exploit players. Instead, game developers should concentrate on creating engaging plots and graphics that captivate players and keep them coming back for more. By providing stimulating content, players will be motivated to continue playing the game and the industry can achieve its financial objectives without resorting to unethical practices.

A study conducted by Aagaard et al. (2022) delves into the concept of developing mobile games that are engaging and promote players' mental and social health. The research emphasises the significance of balancing captivating gameplay and ethical design practices. To this end, the authors elucidate that healthy mobile games use responsible engagement strategies that do not exploit players' psychological vulnerabilities. The design of healthy mobile games entails certain elements such as fair and transparent monetisation methods, intrinsically enjoyable and rewarding gameplay, and respect for players' time and autonomy. This approach is particularly relevant given the research by Wang et al. (2019), which draws a link between mobile game addiction and mental health issues such as depression, social anxiety, and loneliness. This connection underscores game developers' responsibilities to consider the potential impact of their products on players' mental health. The balance of creating engaging yet non-exploitative games is crucial in ensuring that mobile gaming remains a positive influence in players' lives.

This responsibility becomes more significant in light of the potential negative consequences associated with addictive gaming behaviours.

In conclusion, although the risk of addiction cannot be entirely eliminated, healthy mobile games are designed responsibly to engage players while prioritising their satisfaction and well-being. These games offer an alternative to the addictive game design model that dominates the industry, providing enjoyable experiences that respect the player's time, autonomy, and mental health.

7 Case Studies. Applying Findings to Reality

Sales techniques and strategies have existed for centuries and evolved into sophisticated methods customised to suit consumer behaviour and preferences. These techniques have been adapted and refined in mobile gaming to create compelling digital experiences that drive player engagement and generate revenue. This chapter explores the complex web of manipulative practices employed in mobile games through a series of case studies that will apply all the previous theoretical findings from this research.

Each case study in this chapter has been selected to demonstrate the diversity and complexity of manipulative practices within the mobile gaming industry. These analyses delve into games' mechanics, user experience, and marketing tactics, revealing how they effectively employ psychological principles to foster player engagement and maximise revenue generation. The focus of this chapter is not merely to outline these practices but to critically assess their implications on player behaviour and the broader gaming landscape.

7.1 Coin Master

Coin Master, a single-player, social casino mobile game developed by Moon Active, has gained global popularity due to its innovative combination of adventure and slot machine mechanics. Since its initial release in 2015, this game has amassed over 194.8 million downloads (Chapple, 2019) to date and has consistently ranked as a top-grossing mobile game in various countries. The game has been able to generate a revenue of 59.15 million U.S. dollars globally in July 2023 through in-app purchases and microtransactions. Furthermore, it has successfully exceeded the lifetime player spending benchmark of 3.5 billion U.S. dollars. (AppMagic, 2023). Coin Master is also sixth place in the highest grossing mobile games worldwide in 2023 list by AppMagic (2023), with over 447 million U.S dollars in player spendings.

7.1.1 The Objective

In order to obtain a more comprehensive understanding of the game, this section provides a detailed explanation of its underlying mechanics and ultimate objectives. Through the elucidation of these fundamental components, a more nuanced comprehension of the game's success may be achieved.

Shreyas (2019) explains the core game loop with an infographic for better understanding (Figure, 7.1). The game's primary goal is to spin the machine, win coins, and use them to build a village and level up. Although it might seem simple, the game has two additional layers that give players more reasons to play. The first layer is PvP gameplay, where players can raid others' villages and steal coins. To protect a village, the player must collect shields which are obtained by spinning the slot machines. So, the player must keep spinning the machines to keep their village safe. The second layer is the pet collection. Having a pet can help progress faster in the game and earn more coins from raids. There are different types of pets, each requiring a specific collection of cards. To get these cards, the player needs to raid other villages. This encourages players to engage in pet collection.

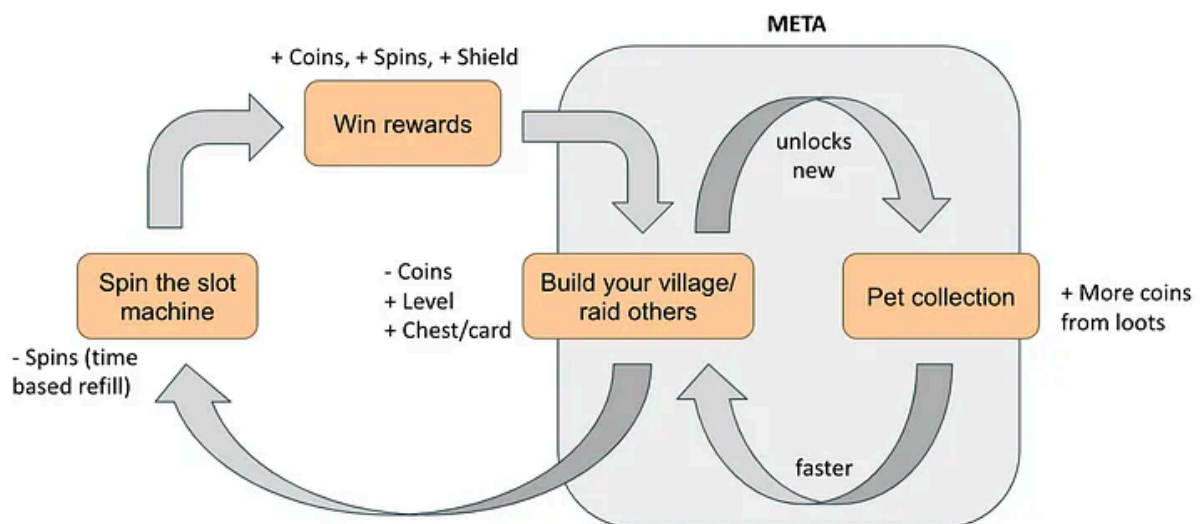


Figure 7-1 Core loop of the Coin Master game

While the core loop seems straightforward and simple, it is the engaging game mechanics that keep the users playing. Or, might there be other factors contributing to the success of the game and resulting in a 4.7 star rating in App Store and Google Play. The following sub-chapters take a closer look at the manipulative practices that are incorporated in the game mechanics and keep the user engaged.

7.1.2 Celebrity Influencer Campaigns

Coin Master uses celebrity influencers in their marketing campaigns as a means to apply Cialdini's principle of social proof. This principle suggests that endorsements from well-known figures can significantly influence consumer behaviour. It has effectively taken advantage of this strategy by featuring a range of celebrities, such as the Kardashians, Jennifer Lopez, and

Cardi B (Figure 7.2) in their campaigns. The presence of these celebrities not only captures attention but also adds credibility and allure to the game. The ads are designed to showcase these celebrities as genuinely engaged and enjoying the game, which can make it more appealing to their fans and followers. For instance, Jennifer Lopez mentions that her village got attacked by Tabitha, her choreographer, which makes the viewer assume that it is not only the performer that is playing but also her social circle. Another great example to show how Coin Master builds relatability is by including a few members of the Kardashians family to show that it is a game played by the whole family. Kourtney even uses a phrase "Okay it's not just a game" (Figure 7.3) as a reply to Kris raiding her village. Overall, the campaign is focused on showing that the game is a competitive but fun environment.

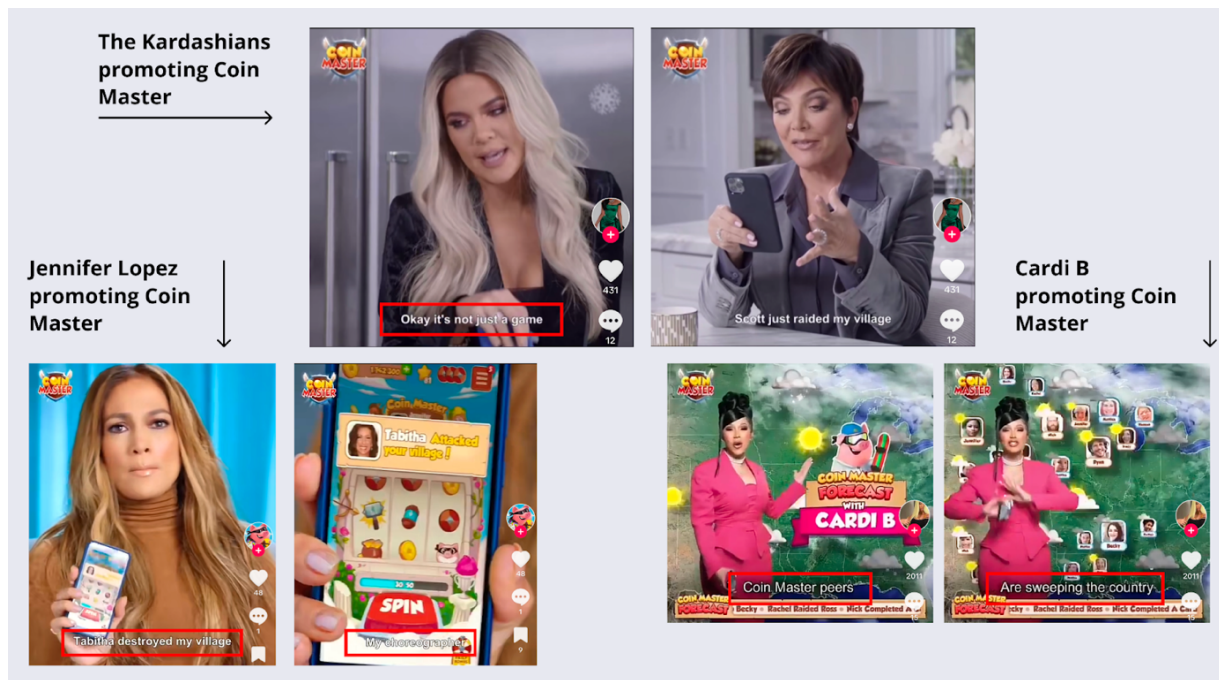


Figure 7-2 Celebrity Endorsements. Coin Master ad campaigns

These strategies utilise the popularity and influence of celebrities to endorse the game, encouraging potential players to download and engage with it. This is consistent with the principle of social proof.

7.1.3 Social Engagement Strategies

Coin Master's social engagement strategies are a practical example of how network-based promotion and player retention can be implemented in mobile games. By incentivising players to connect with friends and share their gaming experiences on social media platforms, Coin

Master leverages the principle of social proof as outlined in Cialdini's theory of persuasion. This social engagement activity contributes significantly to organic growth and potential future income.

When players connect their game to social media platforms such as Facebook, they gain rewards and become ambassadors for the game. This acts as a powerful marketing tool as friends and family members see their engagement and are potentially interested in downloading the game. The rewards for social sharing and connecting with friends are carefully balanced to encourage these actions without overshadowing the core gameplay experience. After opening the game, the user is prompted several times to log in and play with friends. One of the prompts even uses a tactic called "confirmshaming", which is discussed by Brignull. Interestingly, the login with an Apple account is labelled "Sign in with Apple," a regular call-to-action. However, the Facebook login is labelled "play with friends", which provides an extra incentive to choose it. The button for logging in as a guest is the smallest of the three buttons, being three times shorter in width than the other two. If the player chooses not to connect to Facebook, the game will continue to send "Connect with Facebook" CTAs here and there throughout the gaming experience.

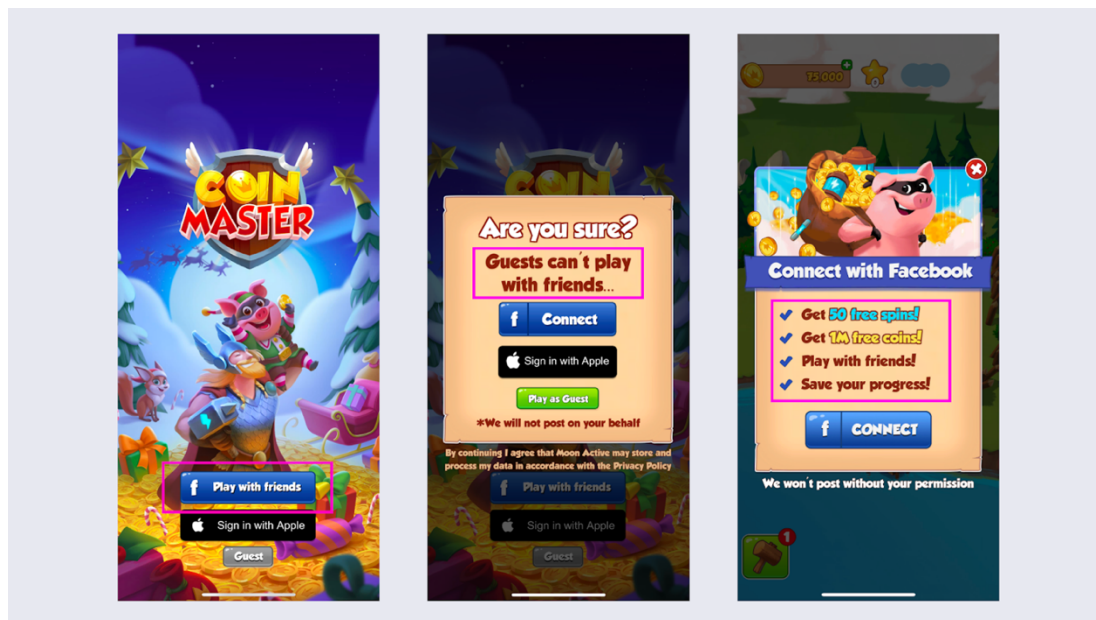


Figure 7-3 Social media account linking (Coin Master)

Social media integration allows players to connect their game account with Facebook, which facilitates social interaction and enables them to invite friends, send gifts, and attack or raid their villages. Friend challenges and clubs foster a community aspect of the gameplay, another

principle discussed by Cialdini (2021), which can also trigger the competitive nature of humans or develop FOMO - fear of missing out.

These strategies contribute to Coin Master's success by creating a highly social and interactive gaming experience that encourages players to stay engaged and invite others to join the fun. The game's design cleverly integrates social elements that align with its monetisation goals, ensuring a steady stream of new player activity and revenue.

7.1.4 Applying the Rule of Reciprocation

Coin Master offers free spins and coins to its players to motivate them to engage more deeply with the game or make in-app purchases. This strategy is based on the psychological principle of reciprocation, which suggests that people feel obliged to return a favour when they receive something for free. By providing these freebies, Coin Master creates a sense of obligation in players, which can encourage them to make purchases or spend more time in the game. The game frequently offers these free rewards (Figure 7.4) through social media links, special events, and daily bonuses. For instance, players can claim free spins and coins by following the links posted on Coin Master's social media pages. This encourages players to check the game's social media frequently and reciprocate the gesture by spending more time in the game or making purchases. Moreover, Coin Master's social features such as the ability to send and receive gifts from friends, further enhance the feeling of reciprocation. Players are more likely to return the favour by sending gifts back, thus maintaining an active and engaged community around the game.

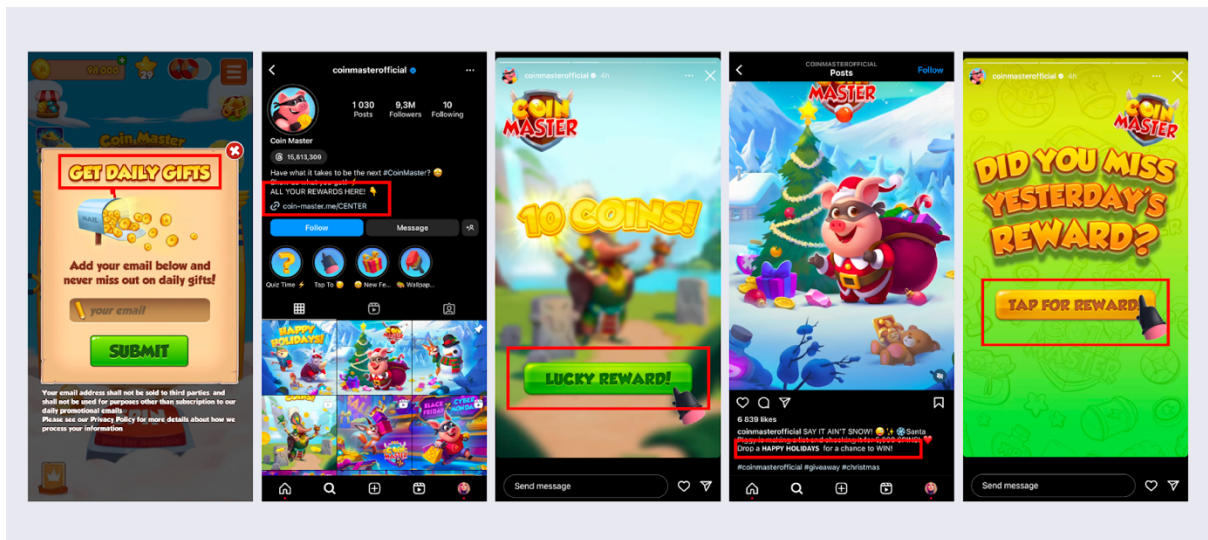


Figure 7-4 Coin Master offering free rewards

Overall, Coin Master's use of free items as part of its engagement strategy is a clever application of the reciprocity principle, encouraging players to remain active and potentially spend money within the game environment.

7.1.5 A Peek at the Core Loop

In mobile gaming, specific mechanics are designed to captivate players and encourage continuous engagement and spending. Coin Master utilises spins, raids, and pet collections as a part of their core game mechanics. These patterns closely align with the psychological principles of scarcity identified by Robert Cialdini. Here is a closer look at the core mechanics and how they can affect the player:

- **Spins:** The slot machine mechanic used for spins in Coin Master is a classic example of a variable ratio schedule, a concept from operant conditioning. This schedule rewards players after an unpredictable number of actions, making it highly addictive as it creates a strong, consistent behavioural response. This mechanic aligns with Cialdini's principle of scarcity, as the unpredictability of rewards makes them seem more valuable when obtained. This approach is particularly controversial as it introduces young adults, and possibly children, to gambling-like mechanics, raising ethical concerns.
- **Raids:** Raids in Coin Master allow players to attack other players' villages to steal coins, leveraging Cialdini's principle of authority. Players often feel a sense of power and control over others when successfully raiding. Furthermore, this mechanic taps into the principle of commitment and consistency, as players who invest time in

spinning/spending money on spins and upgrades and executing raids are likely to continue playing to see the results of their efforts.

- **Pet Collections:** Players in Coin Master can collect pets in the game, which provides bonuses and advantages, ultimately encouraging players to complete their collections. This mechanic taps into the principle of liking, as players can develop an attachment to their pets. Additionally, the principle of reciprocity is at play, as the game rewards players with a pet, creating an obligation for the player to reciprocate by investing more time and resources into the game to care for and utilise their pets.

Although these mechanics enhance the game's engagement, they can also lead to compulsive playing behaviours, exploiting psychological vulnerabilities in players. Understanding these principles can assist players in recognising the manipulative strategies employed and potentially mitigating their effects.

7.1.6 Establishing the Dark Patterns

The analysis of the game presented in the previous subsections makes it clear that game developers have successfully used the persuasion principles for effective sales generation and player retention. This subchapter uses the findings on dark design patterns for mobile games described in chapter 5 and 6 of this research to establish how many of them Coin Master breaches. Here is the complete list of the dark design practices used in this game:

- **Comparison Prevention:** While there is a shop where the user can look at the different options of in game items, there also are CTA popups that prompt the user to buy an item and there is only one item presented on the screen, which makes it impossible to compare it to other options. Figure 7.5 demonstrates a clear difference between the two mechanics.
- **Confirmshaming and trick wording:** the CTAs are written in such a way to raise emotional feedback within the player. "Guests can't play with their friends..." - the three dots at the end of the sentence, an ellipsis, shows an omission of words, represents a pause, or suggests there's something left unsaid (Ellis, 2022). Thus triggering the player to double-think their decisions.
- **Nagging:** The pop-ups come one after another, bombarding the player. Sometimes the game sends 3 consecutive CTA pop-ups in a row.

- **Temporal Dark Patterns:** While not so bad, Coin Master still implements a few temporal dark patterns both in the game and in their social media advertisement. The game has 523 villages to build as of January 2024, with every single one getting more and more expensive. Apart from that, new villages are created all the time. The villages also need to be constantly fixed and the longer the player doesn't play, the worse the destruction, which essentially creates an infinite treadmill. The game also makes players wait until their spin attempts restock over time or purchase them from the shop.
- **Match between system and real world:** the game uses in-game tokens (currency) which does not have a 1/1 rate with real money therefore making it difficult to calculate the real price of the in-game currency. According to Nodder (2021) using tokens, such as diamonds, that don't translate to real-world money is a great way to break coherence.
- **Monetary dark patterns:** apart from the in-game currency issues there also are other practices such as loot boxes, add-ons which essentially create a pay to win strategy. For instance if the player has zero shields, their village can be raided and damaged, which results in spending in-game money for repairs. But they can mitigate this by purchasing a shield.
- **Social dark patterns:** the game forces players to log into their Facebook or Apple account so that they can play with their friends and get bonuses. Not only is this applied during the login stage, but the game also constantly sends out intrusive CTAs that come in as multiple pop ups and show all the missed bonuses to encourage playing with friends (Figure 7.6). Apart from that, there is a strong competition factor - to become the coin master.
- **Reciprocity:** Coin Master gives out free gifts and loot both in-game and on their social media as a means of building likability within the player towards the game.
- **Psychological:** Apart from free gifts and influencing the players by using more emotional language the game also provides rewards and badges as a way to stimulate the player and to encourage continued gaming. Coin Master also effectively reversed Nielsen's "visibility of system status" by hiding the rank information from the player's screen; it is mostly accessible through the menu.

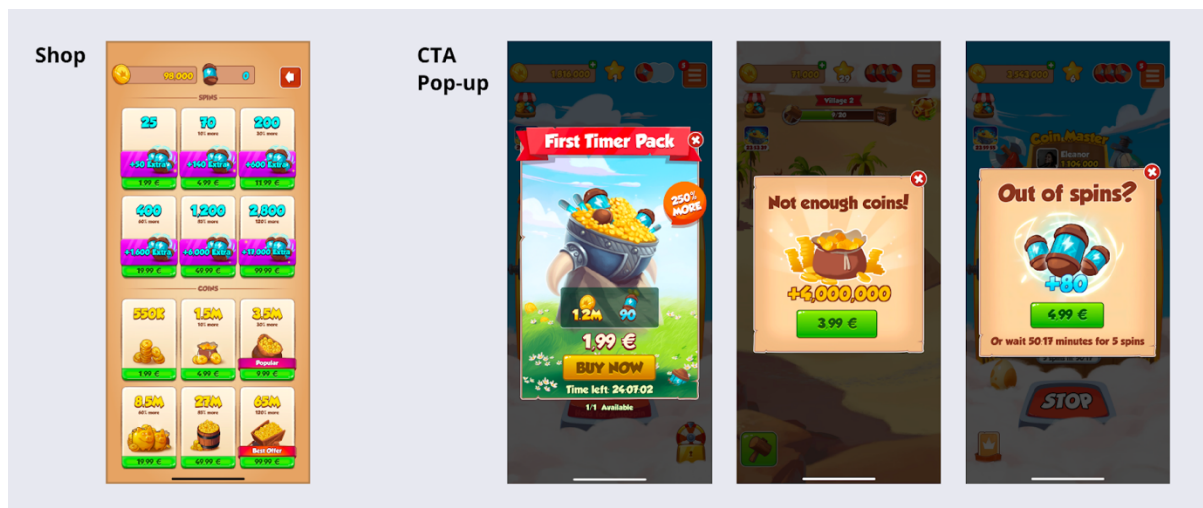


Figure 7-5 Comparison between the different selling techniques (Coin Master)

With the list above in mind it becomes undeniable that Coin Master utilises many manipulative approaches towards their users and that they are actually working, as the game’s revenue continues to grow over the years. The game developers successfully implement multiple methods to affect user behaviour while gaming; from taking advantage of Cialdini’s principles, to using deceptive UI.

7.1.7 Conclusion

This case study sheds light on the widespread use of dark patterns in Coin Master, a strategy that has a significant impact on player behaviour and revenue generation. Coin Master's heavy reliance on gambling-like features and compulsion loops that encourage repetitive play and spending has sparked controversy regarding its game mechanics. The game is a prime example of how celebrity endorsements are used to enhance its appeal and credibility to potential players. Although these tactics have effectively driven the game's financial success, they also raise ethical concerns about exploiting psychological vulnerabilities for profit.

Summary of Key Findings

- **Manipulative Design Practices:** Coin Master incorporates manipulative design patterns to entice continued engagement and spending, including comparison prevention, confirmshaming, nagging, and temporal dark patterns.
- **Psychological Implications:** The game utilises psychological tactics such as commitment, scarcity, social proof, and reciprocity to increase player engagement and

spending. These tactics raise concerns about the potential long-term effects on players' well-being and financial health.

- **Economic Impact:** Coin Master's financial success, boosted by these manipulative practices, highlights a concerning trend in the gaming industry. However, this success raises ethical concerns regarding the morality of profiting from potentially harmful gaming mechanics.

7.2 Diablo Immortal

In June 2022, Blizzard Entertainment and NetEase released *Diablo Immortal*, a new addition to the *Diablo* franchise that introduced the game to mobile gaming. This free-to-play MMOARPG (massively multiplayer online action role-playing) is set in the established *Diablo* universe and has been a massive hit, with 23.5 million downloads since its launch. In June 2022, the game peaked with 9.13 million downloads (AppMagic, 2024).

The gaming community had mixed reactions even before the release of this game. While some appreciated its fidelity to the core *Diablo* gameplay and fun social features, others criticised its free-to-play model and microtransactions. After the release, it became clear that the game heavily depends on its monetisation strategy. It boasts a diverse array of microtransactions, each serving a unique purpose. Nevertheless, *Diablo Immortal* has carved out a niche in video gaming, enjoying high player engagement and financial success.

According to Nelson (2023), *Diablo Immortal*, the game co-developed by Activision-Blizzard and NetEase, has emerged as one of the fastest games to cross the \$500 million revenue mark, joining the ranks of illustrious titles such as *Pokémon GO*, *Candy Crush Saga*, and *Genshin Impact*. During its first year of availability, the game has attracted close to 22 million downloads globally and generated over \$525 million in player spending. It is worth noting that these figures exclude downloads and revenue from third-party Android marketplaces in China and other regions, as well as the PC port of the title. Despite this, *Diablo Immortal* ranks as the 24th largest mobile game globally in terms of worldwide revenue since its launch, having amassed more than half a billion dollars in revenue. The game is available for both mobile devices and PCs. However, this case study does not study PC version and only focuses on the mobile one. It is important to note that *Diablo Immortal* differs drastically from *Coin Master*

as it is not a casual game. Thus, the manipulative practices were not as visible and required some more in-depth research.

7.2.1 The Objective

In order to obtain a more comprehensive understanding of the game, this section provides a detailed explanation of its underlying mechanics and ultimate objectives. A more nuanced comprehension of the game's success may be achieved by elucidating these fundamental components.

Diablo Immortal adeptly preserves the franchise's iconic isometric action RPG combat, reputed for its fast-paced and skill-based attacks. This iteration caters to a diverse gaming audience by offering mobile-friendly controls while retaining the depth that fans have come to expect. The game's mechanics are deeply entrenched in the rich tradition of RPG design, emphasising loot acquisition and character progression as central elements of the gameplay loop. Through gear drops, quest rewards, and crafting systems, players experience tangible character development, a historically incentivised player investment strategy. Diablo Immortal demonstrates a keen understanding of the genre's fundamentals to appeal to a wider audience.

The core loop of Diablo Immortal is a meticulously crafted cycle that fuels ongoing player engagement. This loop is characterised by:

- **Play & Progress:** Players engage in various activities such as quests, dungeons, and open-world exploration to acquire loot and experience.
- **Loot & Upgrade:** The focus is on optimising characters by equipping superior gear, unlocking new skills, and upgrading legendary gems.
- **Challenge & Conquer:** Gamers can test their character's strength in progressively difficult content, such as Challenge Rifts and group activities.
- **Repeat and Refine:** Based on their performance and the loot obtained, players refine their builds and strategize for even greater power.

This cyclical progression motivates players to continuously seek improvement and confront new challenges, a dynamic that is central to the game's design philosophy.

The subjective nature of "success" in Diablo Immortal is defined by several key metrics that denote player progress and achievement:

- **Character Power:** The primary goal is to enhance character power through strategically acquiring gear, skill selection, and gem utilisation.
- **Challenge Rifts:** These offer progressively difficult solo dungeons that test player skill and build efficiency, complete with rewards and leader boards.
- **Elder Rifts & Challenge Rifts:** These group activities necessitate cooperation to overcome challenging levels and secure high-tier loot, fostering a spirit of teamwork.
- **PvP Battlegrounds & Cycle of Strife:** Catering to competitive players, these modes provide a venue for player-versus-player combat and reward skilful and strategic gameplay.
- **MMORPG Features:** Integrating MMORPG features, such as persistent online environments, guilds, raids, and asynchronous leader boards, promotes community interaction and competition, encouraging players to collaborate or vie for valuable rewards.

In conclusion, Diablo Immortal showcases expertise in action RPG elements that are specifically designed to entice a diverse mobile gaming audience. The game's core loop, which revolves around progression, loot optimisation, and increasingly challenging levels, serves as the foundation for player engagement and is a testament to the game's ingenious design. However, the addictive nature of this loop requires closer investigation. In upcoming chapters, we will critically evaluate the "healthiness" of such engagement, particularly through the lens of dark UX patterns.

7.2.2 Social Engagement Strategies: The Core of Massively Multiplayer Online Games

Diablo Immortal has harnessed the power of social phenomena and digital platforms to amplify its reach and revenue, integrating psychological principles and social media strategies with keen precision. This analysis examines the unique social strategies employed by MMORPGs, focusing on principles outlined by Robert Cialdini and the exploitation of FOMO (Fear Of Missing Out). By examining how these social phenomena are utilised, we can better understand how MMORPGs attract and retain players and how they differ from other types of games.

While Diablo Immortal is not directly integrated to social media platforms like Facebook, Instagram or Twitter, the game asks the player to create a Blizzard account and claim numerous rewards for doing so. A Blizzard account gives players access to social features, allowing them to connect with friends, join guilds, and participate in community events. This enhances the game's multiplayer aspect, making it more enjoyable to play with others.

It is important to note that the social strategies employed by MMORPG games, such as Diablo Immortal, significantly differ from those utilised by casual games like Coin Master. Unlike casual games, which often rely on celebrity endorsements and testimonials to establish authority and attract players, Diablo Immortal leverages the existing franchise's reputation and incorporates sophisticated social dynamics to engage players.

Integrating the core principles of social interaction in MMORPGs involves creating a seamless community experience that encourages long-term engagement and investment from players. By fostering a sense of unity and belonging through collaborative game mechanics like guilds, Diablo Immortal taps into the human desire to be part of a community. The game's design also incorporates the principle of reciprocation, where players assist each other, enhancing social bonds. The acquisition of loot further fuels engagement, as it ties into the principles of liking and authority, with players valuing the status and respect that come from obtaining rare items. Additionally, the game capitalises on the Fear of Missing Out (FOMO), driven by social dynamics and in-game communication, urging players to dedicate more time and resources to keep pace with peers. This holistic approach to social interaction within Diablo Immortal enriches the player experience, ensures the game's enduring popularity within the MMORPG genre, and generates continuous revenue.

In conclusion, Diablo Immortal skilfully navigates the complex landscape of social interaction within MMORPGs, setting itself apart from casual gaming experiences through its deep integration of community, collaboration, and competitive elements. It is also clear that the social engagement strategies in these two games are different even though they tap into similar psychological principles.

7.2.3 Pay-to-win Dynamics and Premium Currency

In recent years, mobile gaming has become increasingly popular, and with it, various monetisation strategies have emerged. Among these strategies, pay-to-win (P2W) dynamics have been particularly notable for their impact on game design and player communities. Pay-to-win (P2W) games are those where players can buy content and items or participate in events that give them a clear advantage. This advantage goes beyond just cosmetic changes. Unlike purchases only for looks, P2W transactions can help players get an item that everybody wants, get to higher levels faster, or make their avatar much stronger. This model makes it more likely that players will succeed in the game. If loot boxes contain items that help players win, they can be considered part of P2W (Steinmetz et al., 2022). Loot boxes are virtual items that players can purchase in video games using real money. These loot boxes contain in-game items like skins, emotes, stronger characters, equipment, and avatar upgrades. While some of these items are purely cosmetic, others provide a gameplay advantage (seen in *Diablo Immortal*), making it easier for players to progress through the game. Although players can earn loot items through gameplay, the acquisition rate is often slow, encouraging players to purchase them as a practical means to secure the most sought-after items. Another item linked to loot is loot boxes or chests. When a player purchases a loot box, they are presented with a list of potential items but are not guaranteed to receive any specific item. This means that an element of chance is involved in the transaction, which contributes to the ongoing debate surrounding the classification of loot boxes as a form of gambling. This debate is further fueled by the ability to sell high-value items obtained from loot boxes for real money. According to Forsström et al. (2022), the risk-reward nature of loot boxes has led to concerns that they may be a form of gambling. Chapter 7.2.4 of this paper explores how the loot system is presented in *Diablo Immortal* and the main manipulative strategies behind it.

Apart from loot acquisition, the system allows players to purchase premium currency and other items that offer various advantages or cosmetic upgrades. The game introduces several types of in-game currencies, but the two currencies that translate to real money are "**platinum**" and "**eternal orbs**." The purchasing process for these currencies involves multiple steps, where players first buy eternal orbs with real money, which can then be used to purchase platinum (Figure 7.). Eternal orbs allow the player to purchase cosmetic items like character skins or special items known as eternal legendary crests, materials, and chests. Conversely, platinum is used within the game's market for different transactions, creating clans and extracting skill

stones. The distinct uses for eternal orbs and platinum highlight the game's strategy to engage players in its microtransaction ecosystem (Askeland, 2023). Moreover, the premium currency purchasing mechanism is not as easy to follow as the game does not represent the dollar equivalent of the in-game currency (Figure 7-6). The eternal orbs are sold in bundles and do not even put an exact total amount; rather, they use the plus sign to indicate the bonus amount of currency the player gets with the purchase. The next step is having leftover currency and purchasing more currency to acquire another item. Figure 7-7 Breaks down the logic behind this process, and while the figure presents only one example, such situations are common in Diablo Immortal. For instance, there is a cosmetics item that costs 1,000 orbs, and by looking at Figure 7-6, it becomes clear that the user is not offered such an option and instead has to combine a few options, which leads to a more complicated user journey, or get a more expensive bundle and have "leftover" money.

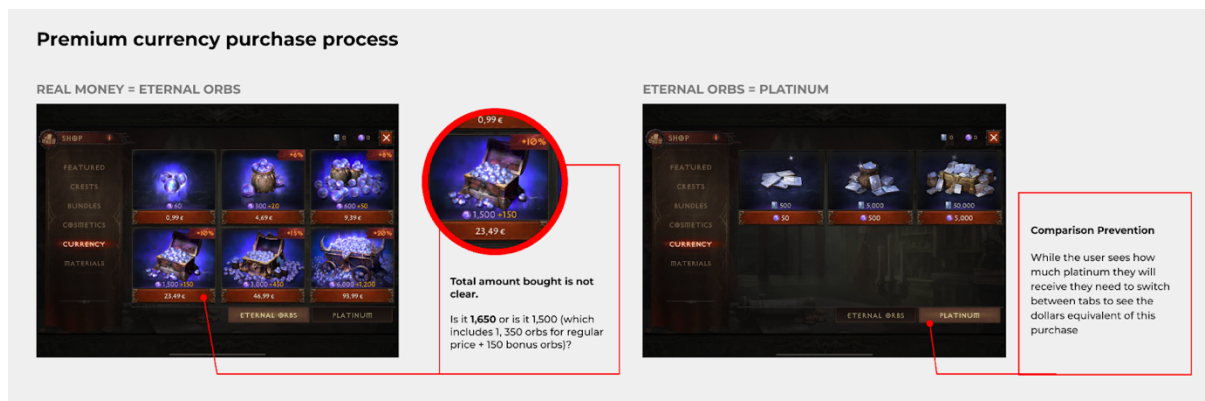


Figure 7-6 Premium currency purchase process (Diablo Immortal)

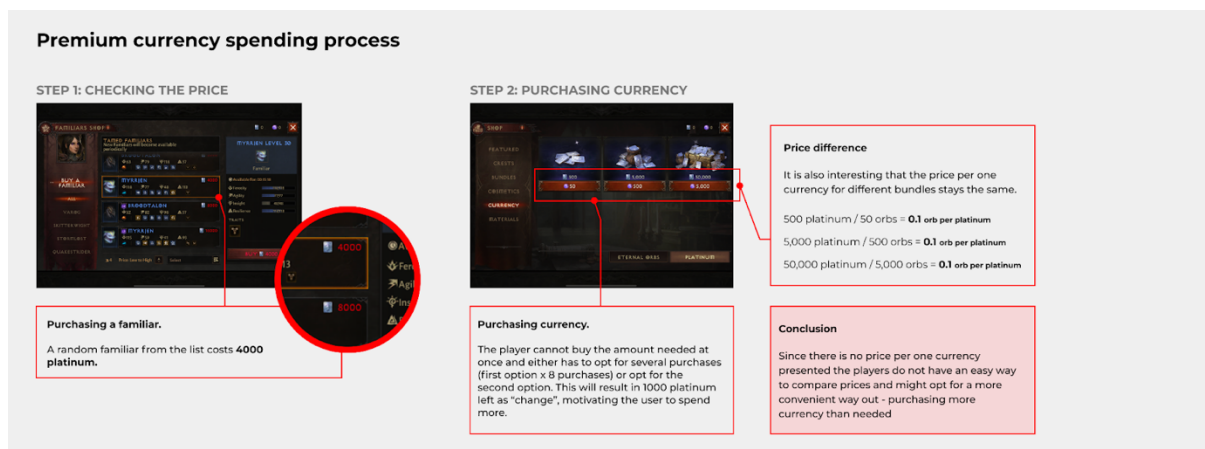


Figure 7-7 Premium currency spending process breakdown (Diablo Immortal)

Purchasing premium currency in Diablo Immortal offers optional advantages. Nevertheless, the social and competitive nature of MMORPGs like Diablo Immortal adds a layer of complexity. With features such as leader boards and clan achievements, these games emphasize community interaction and cultivate a competitive environment that often leads to a fear of missing out (FOMO). This can motivate players to invest in premium currency to excel or maintain their status. Such investments allow access to items or benefits that are not easily obtained through regular play. Although these purchases are voluntary, the game's design subtly nudges players towards spending to enhance their social experience and standing within the community, affecting the balance between a free experience and financial investment.

7.2.4 Understanding the Basis of the Loot System

Diablo Immortal has introduced a sophisticated loot system that serves as the primary monetisation method within the game. This system is intricately designed to engage players in continuous gameplay, encouraging them to invest time and money to acquire loot. The monetisation strategies in Diablo Immortal revolve around various methods of acquiring loot and diverse pricing models, which are crucial for understanding the game's economic ecosystem.

The first thing that needs clarifying and that explains the essence of the complexity behind the microtransaction maze that Diablo Immortal represents is the different levels of loot. Diablo Immortal features a diverse loot system with various items to discover and equip. Figure 7-8 presents a breakdown of the main categories.

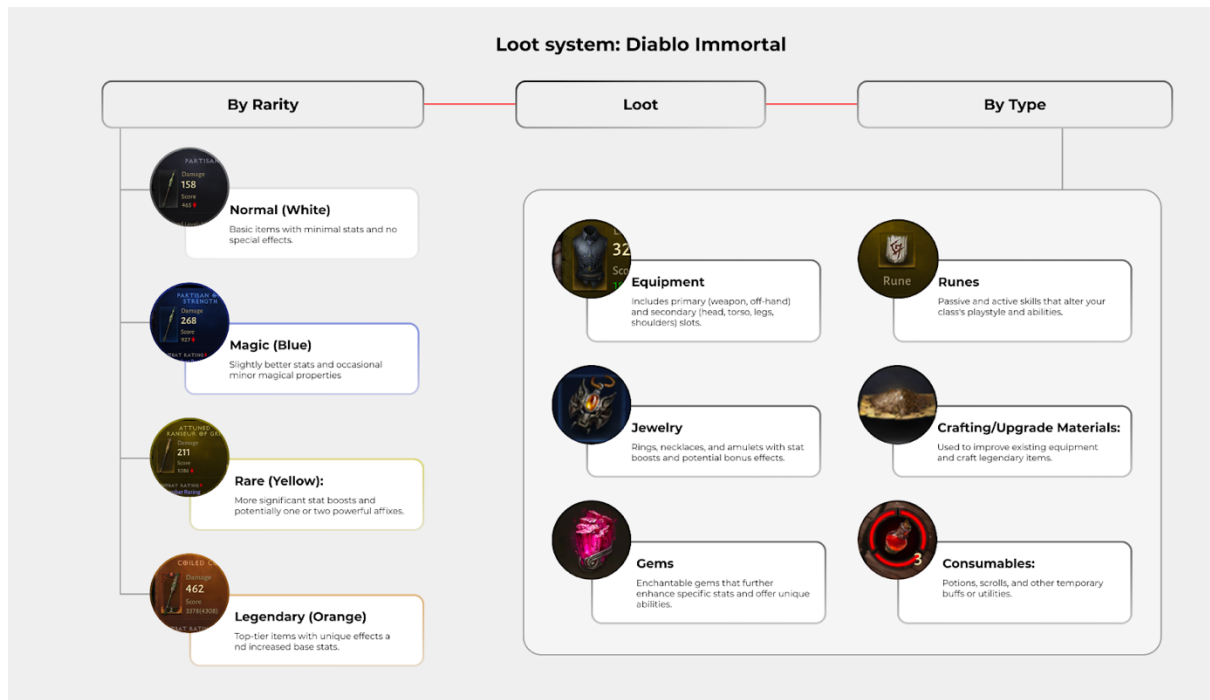


Figure 7-8 Loot System Breakdown (Diablo Immortal)

As the game targets a large variety of players, each choosing their own way to progress through the game, Diablo Immortal offers two main ways of acquiring loot:

- **Direct Gameplay:** Players can obtain loot by completing quests, defeating enemies, and exploring dungeons. This traditional method rewards players for their engagement and progress within the game. The game also has specific locations where the players can improve their gear.
- **In-game Purchases:** Diablo Immortal allows players to purchase loot boxes, bundles, battle passes or specific items for real money, which speeds up the process of obtaining even more desired items.

While there is a way of getting free items through playing the game and investing hours in it, very soon in the game, it becomes clear that finding rare or legendary equipment or jewellery is not a problem; the real issue is wanting to upgrade that equipment with gems or crafting materials. To form an even better understanding of how unethical the game design of Diablo Immortal is, the issue of the gem system is closely looked at in the following chapter.

In conclusion, Diablo Immortal's intricate loot system and monetisation strategies underscore a complex balance between rewarding direct gameplay and encouraging in-game purchases. While the game offers a pathway for players to acquire loot through dedicated play, the amount

of time it takes to get a top-tier item is huge. The players still meet the paywall at some point in the game, meaning they are "stuck" on a certain level and cannot proceed without investing in the game. Apart from the paywall, the allure and efficiency of obtaining high-tier items and upgrades through purchases present a tempting shortcut. However, the emphasis on microtransactions, particularly for enhancing equipment with gems or crafting materials, needs to be more prominent in player experience. It raises questions about the fairness and accessibility of the game's deeper mechanics, especially for players who choose not to engage in its monetisation aspects. This statement can be strengthened by Nodder's (2021) critique of in-game tokens as a deviation from user-friendly design principles, which directly applies to Diablo Immortal's microtransaction system. It reveals a clear departure from ethical design, where the complexity of microtransactions serves more to confuse and coerce players than to enhance their experience. This approach underscores a prioritisation of profit over player satisfaction, challenging the integrity of the game's design ethos.

7.2.5 Gems as a Loot Upgrade System and the Primary Way of monetisation

The previous chapter laid down the foundation of the loot system in Diablo Immortal's world. While it is extensive with many possibilities for additional research, this chapter will focus on exploring the gems system as a way of upgrading in-game equipment. In essence, almost every loot item in the game is multi-level or can be improved by some means, making the gameplay more complex and increasing the chances of microtransactions as users simply get tired of collecting and waiting all the time.

Gems are crucial to character enhancement and play a focal role in the game's monetisation strategy. These gems are classified into two main categories: Legendary Gems and Normal Gems, with the latter being further subdivided into Red, Yellow, and Blue Gems. Each gem classification aims to improve a character's abilities, directly impacting the player's gameplay and progression. Another thing that only adds to the complexity of the game design is that these gems cannot be applied anywhere the player wants. Legendary Gems are equipped in primary gear - weapons, shoulders, legs, body, and helm - to boost combat rating and Resonance, enhancing overall equipment attributes and unlocking unique abilities. Red, Yellow, and Blue Gems fit into secondary gear like necklaces, rings, gloves, boots, and belts, providing more minor boosts to health, damage, or penetration (Billcliffe, 2022). Figure 7-9 represents an

overview of the different types of gems met in Diablo Immortal to help the reader visualise the amount of loot items.

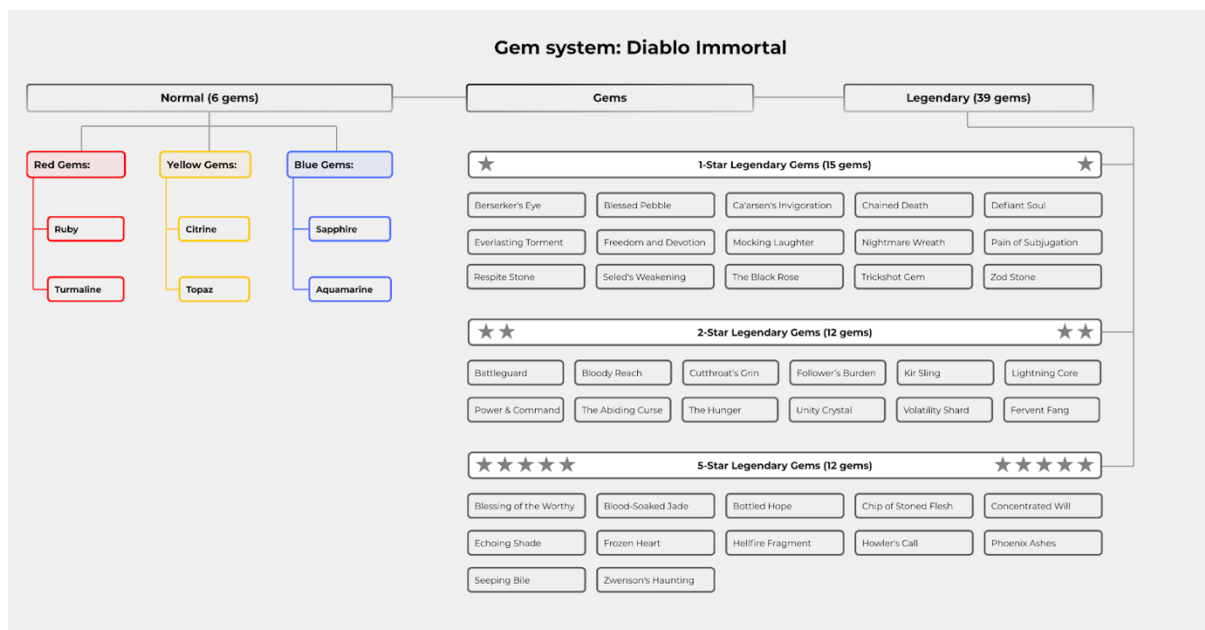


Figure 7-9 Gem System Breakdown (Diablo Immortal)

The total amount of individual gems comes down to 45 different ones. While Normal gems are relevantly easy to obtain through gameplay, the legendary gems will most likely require some payment. Most of how a player can get a legendary gem require some form of payment or are random, with no guarantees of what the player gets:

- **Elder Rifts:** Players can run Elder Rifts empowered with 1-3 Legendary Crests, with each Crest guaranteeing a drop of one Legendary Gem. This method ties the acquisition of Legendary Gems directly to gameplay but requires the investment of a premium item (Legendary Crests) to guarantee a gem drop.
- **Crafting:** By trading in Runes and Platinum to the Apprentice Jeweller, players can craft Legendary Gems. However, this is limited to 1-star and most 2-star gems, excluding higher-tier gems, unless using the Random Legendary Gem recipe, which does not guarantee a 5-star gem.
- **Market Purchases:** Players can buy and sell Legendary Gems through the Market for Platinum, Diablo Immortal's in-game currency. This system allows for direct player-to-player transactions but also introduces a market-driven dynamic to acquiring gems.

- **Fading Embers Trader:** A selection of 1-star and 2-star Legendary Gems can be purchased from the Fading Embers trader, with the stock rotating weekly. This provides a time-limited opportunity to acquire specific gems.
- **Paid Battle Pass:** Another way of acquiring Legendary Gems is through the game's paid Battle Pass, linking gem acquisition to real-money transactions.

While complex, there is more to the gem acquisition and usage. The players can also combine gems of the same type to maximise the improvements further. A video by YongYea (2022), a YouTube video creator, uses a Diablo Immortal loot box simulator to demonstrate how immoral the gem system is. The YouTuber ends up spending \$55,700 to acquire ten 5-star gems. The logical question would be, why would someone need so many gems? This is because Diablo Immortal utilises a combination mechanic, where players can stack the same gems to get even better upgrades and max out their gear, which is the game's ultimate goal for many players. However, even that is not it; the game also has a boost that can be used to alter the experience and the outcomes of Elder Rifts - Crests. Common Crests, obtainable from monsters, offer basic rewards and a small chance at Legendary Gems. Legendary Crests, bought with real or in-game currency, increase the chance of getting these gems. Eternal Legendary Crests, only purchasable with real money, guarantee a Legendary Gem that can be traded. This system not only pressures players into spending more for guaranteed rewards but also introduces a pay-to-win dynamic, as the ability to trade comes at the highest cost, pushing the game's monetisation at the expense of fair gameplay.

After analysing Diablo Immortal's gem system, it's evident that the game's monetisation strategy, especially the acquisition of Legendary Gems, has sparked controversy within the community. Players have expressed concerns that the system is costly, requiring a significant financial investment to enjoy the game fully. Despite these complaints, the game's download numbers indicate that many players are still willing to continue playing, suggesting that the game's allure outweighs the frustration for some. This paradox highlights a predatory aspect of the gem acquisition system, which expertly manipulates behavioural patterns such as FOMO (Fear Of Missing Out), the desire for community within the game, and the pursuit of authority through in-game status. These tactics successfully drive engagement and revenue but raise ethical concerns about the balance between monetisation and player experience.

By relying on microtransactions to progress, the system creates a barrier for those who are unwilling or unable to pay, detracting from the overall enjoyment of the game. While Diablo Immortal continues to captivate a vast audience, its monetisation strategies, particularly concerning gems, are a testament to the complex relationship between game design, player satisfaction, and revenue generation.

7.2.6 Establishing the Dark Patterns

Even though the analysis presented in the previous chapter needs to be completed and only covers a part of the game mechanics and microtransaction system, it becomes clear that Diablo Immortal utilises a complex and unethical monetisation strategy. This subchapter uses the findings on dark design patterns for mobile games described in chapters 5 and 6 of this research to establish how many Diablo Immortal breeches are. The list of the dark design patterns that Diablo Immortal employs is extensive; therefore, some of the patterns will be combined. Here is the complete list of the dark design practices used in this game:

- **Monetary Dark Patterns:** These are the game design tactics covered in sections 7.2.4 and 7.2.5 of this paper. Diablo Immortal employs various in-app purchases, enticing players with exclusive items, boosts, or shortcuts. These purchases often exploit impulsive behaviour, encouraging spending beyond what players initially intended.
- **Comparison Prevention:** One of the most distinct dark patterns in Diablo Immortal. The game's shop system is spread across various in-game locations, making it necessary for players to navigate between different markets and the primary in-game shop to make purchases. Moreover, purchasing loot directly with real money is impossible, as most of it is sold for in-game premium currency. This additional step not only complicates the purchasing process but also obscures the actual cost of items. As transactions are funnelled through this in-game currency, players might need help determining the real-world value of their purchases, leading to a disconnection between spending and consumption.
- **Temporal Dark Patterns:** Diablo Immortal employs a range of temporal dark patterns, notably the infinite treadmill, where the game's endless nature invites players to engage indefinitely. Central to this endless engagement is the concept of grinding, requiring players to undertake repetitive actions to achieve desired outcomes. To escape this grind, players are nudged towards purchasing in-game currency. Additionally, the game

features a calendar of events that leverages the fear of missing out (FOMO) on time-limited events and rewards, pressuring players to consistently log in and participate or risk falling behind their peers. This strategy challenges players' control over their own time and fosters a habit-forming routine that places game engagement above personal schedules and preferences, subtly manipulating players into prioritising the game over other aspects of their lives.

- **Daily Rewards:** Although part of the temporal dark patterns, daily rewards deserve a place of their own in this list when it comes to Diablo Immortal. The game successfully integrated one daily reward and turned it into a multi-layered system that drastically increased the playtime and the possibility of spending. Here are all the daily rewards that Diablo Immortal offers to its players:
 - **Daily Complimentary Shop Reward:** After logging in daily, players can collect a daily reward from the in-game shop. The reward includes gold, scrap materials, enchanted dust, and a glowing shard, consistently boosting resources.
 - **Complimentary Daily Elder Rift Crest:** Players can claim a free daily Crest at the Elder Rift Entrance in Westmarch. These Crests are essential for modifying Elder Rifts, collecting Runes and Legendary Gems, and advancing in the game.
 - **Inaugural Kill Reward of the Day:** Defeat an enemy after logging in to get a special item from the "First Kill of the Day" tab. Rewards change weekly for daily combat engagement. Participate in featured activities for additional rewards.
 - **Featured Activity:** Each day, the Codex highlights a Featured Activity, offering specific rewards for completion. These activities are crucial for maximising daily gains and enhancing the overall gameplay experience.
- **Social Dark Patterns:** In Diablo Immortal social dark patterns are intricately woven into the fabric of its MMORPG dynamics, significantly amplified by the clan system. This system not only fosters a sense of community and belonging but also introduces a competitive edge that can drive players towards unintended consequences. The inherent competition within and between clans creates a powerful motivator, pushing players to invest more time and resources into the game to maintain or enhance their status within these social structures. This competitive environment is further intensified by the fear of missing out (FOMO), as players are constantly exposed to the achievements and

acquisitions of their peers within the clan and the broader game community. The desire to stay caught up and to be seen as a valuable clan member can lead to significant pressure, encouraging continuous engagement and potentially leading to excessive spending. These social dynamics exploit natural human desires for belonging and recognition, leveraging them in ways that can prioritise game engagement over personal well-being or financial responsibility.

- **Psychological Dark Patterns:** Psychological dark patterns in Diablo Immortal are evident through tactics that exploit human behavioural tendencies, such as the infinite treadmill and grinding, which promise rewards that are always just out of reach. These patterns and loot boxes that gamble on human psychology encourage continuous play and spending. The game's design also taps into the constant desire for completion and achievement, nudging players towards investing more to overcome artificially created scarcity and barriers and offering an extensive reward system that can be enhanced even further with the purchase of a battle pass.

7.2.7 Conclusion

This exploration into Diablo Immortal has surpassed all the initial expectations and unveiled a complex network of manipulative strategies embedded within its monetisation framework. The elaborate methods devised to enhance player expenditure and participation through a detailed analysis of the game's loot mechanics, social engagement tactics, and the implementation of premium currencies were uncovered. Deploying dark patterns across various dimensions - from monetary lures and comparison prevention to social pressures and temporal constraints - creates a fertile ground for exploiting player psychology. Diablo Immortal's case illustrates the significant impact manipulative tactics have on the gaming industry's profitability. While effective in driving revenue, these tactics also raise important ethical issues regarding consumer protection and the morality of game design. Every aspect of the game, from loot systems to MMORPG social structures, is designed to encourage deeper player investment of time and money.

Summary of Key Findings

- **Manipulative Design Practices:** Diablo Immortal incorporates manipulative design patterns to increase the play time and drive continuous sales, by introducing a multi-level upgrade system and expansive loot system.

- **Psychological Implications:** The game utilises psychological tactics such as commitment, scarcity, social proof, unity, and authority to increase player engagement and spending. These tactics are strategically embedded into core mechanics and the player ends up interacting with them in one way or another. For instance, the player is rewarded in multiple ways tapping into the feeling of commitment; the player can play in clans and view the leader board which drives the sense of unity and in some cases leads players to extra spendings for social proof.
- **Economic Impact:** Diablo Immortal is one of the most predatory free-to-play games that focuses on driving infinite revenue and manipulates their community in multiple ways. Simple yet addictive core loop of the game makes it hard to resist the in-game purchases, and it is worth noting that the purchasable loot is not cheap with an average cosmetic look coming up to \$20.

7.3 Case Studies Results

This chapter only focuses on demonstrating the similarities of the dark pattern usage. In contrast, the following chapter will discuss the initial problem statement and answer the primary research questions. These two case studies represent two types of games: a casual game that caters to a broad audience and does not require gaming skills and a niche game that targets a more concrete community and an established fanbase. Both games were chosen for the analysis because of their revenue, where Diablo Immortal comes first with \$525, and Coin Master follows with over \$447 million in player spending. This chapter aimed to establish the commonly used dark patterns and explore whether they are connected to the monetisation strategies of both games.

The comparative analysis of these case studies provides clear insights into the manipulative tactics pervasive within the gaming industry, answering the secondary question that guided this research: What are the manipulative tactics within the gaming industry, and which are the main strategies employed? A table is presented to succinctly illustrate the main strategies observed in both Diablo Immortal and Coin Master, facilitating an easy comparison for the reader.

Table 2 Dark pattern comparison in Diablo Immortal and Coin Master

Dark Pattern	Coin Master	Diablo Immortal
Comparison prevention	Intrusive CTAs with deals that often feature only one item and are sometimes followed by a timer.	Multi-layered shopping experience where the premium currency is bought in one place and upgrades (that are bought with premium currency) are scattered around the different markets.
Matching between system and real world	The game uses in-game tokens (currency) which does not have a 1/1 rate with real money therefore making it difficult to calculate the real price of the in-game currency.	The game uses in-game tokens (currency) which does not have a 1/1 rate with real money therefore making it difficult to calculate the real price of the in-game currency. Moreover, Diablo has 2 different premium currencies and then a bunch of materials and loot that can be acquired with those premium tokens.
Temporal Dark Patterns	Daily login bonuses with an addition in the form of restored spins. The game also uses social media strategies to create a sense of urgency.	A complex, multi-level daily reward system, with an addition of daily featured tasks and weekly rotational loot items. The game also successfully utilises the event calendar and introduces time-sensitive campaigns/events.
Social Dark Patterns	Mostly achieved through active social media engagement and commercials with celebrities. The game also focuses on getting players to login with Facebook and play with friends. Moreover, the game has a leader board and the ultimate goal of becoming a Coin Master.	The social factor is the default of MMORPGs. Social patterns are boosted with the addition of clans and leader boards, which become accessible once the player signs in with a Blizzard account. Apart from that there is also a common human pattern of wanting to be a part of the community and not fall behind peers, and Diablo Immortal successfully utilises that and fosters FOMO within the players.
Psychological Dark Patterns	Successfully utilises the psychological principles such as reciprocation, scarcity, social proof and commitment and consistency to increase revenue generation and playtime.	Successfully utilises the psychological principles such as authority, scarcity, social proof, unity and commitment and consistency to increase revenue generation and playtime. The difference with Coin master: the multi-level structure of all of the principles.

This juxtaposition underscores the similarities between these divergent games and emphasises the tailored approaches required to engage specific audiences effectively. Coin Master, while employing a range of dark design patterns, notably incorporates a controversial core game mechanic akin to slot machines, bordering on gambling. This makes its manipulation strategies more clear compared to Diablo Immortal. Diablo Immortal, on the other hand, not only offers an addictive and endless gameplay loop but also incorporates a sophisticated monetisation strategy that effectively targets a variety of behavioural patterns.

In conclusion, this chapter has illuminated how dark patterns and manipulative tactics are woven into the fabric of casual and niche games. Despite their differing target audiences and gameplay mechanics, both Diablo Immortal and Coin Master leverage sophisticated strategies to maximise player engagement and spending. Coin Master's reliance on gambling-like mechanics boosted with social proof and Diablo Immortal's intricate monetisation system exemplify the diverse methods games employ to captivate and monetise their player base. This analysis not only underlines the dark patterns used within the video games industry but also underscores the ethical problems of consumer manipulation. As the gaming sector continues to grow, achieving new milestones with 1.22 billion players worldwide and soaring revenues, the imperative for cultivating a healthy, non-predatory gaming landscape that safeguards players' mental well-being has never been more paramount.

8 Discussion: Addressing the Problem Statement

This paper set out to answer the following research questions: (1) How do manipulative practices within the gaming industry contribute to its status as the most profitable entertainment sector? (2) Which areas, within the gaming ecosystem, see the application of manipulative practices? (3) What are the manipulative tactics within the gaming industry, and which ones are the main strategies employed? This chapter, however, answers the first two main questions of this paper, while the third question that was guiding the process of this research can be found in chapter 7.3 Case Studies Results.

8.1 Discussion of Results

The gaming industry is currently the most profitable sector of the entertainment industry. However, concerning the first question, the case studies clarified that this success has been partly driven by manipulative practices that directly and indirectly influence player spending. As revealed through the case studies, these practices exhibit a profound connection to monetisation strategies, directly and indirectly influencing player spending. Direct strategies include intrusive calls-to-action (CTAs) that disrupt gameplay to prompt purchases, time-limited offers that create a sense of urgency, comparison prevention tactics that obscure the real price of purchases, and the strategic use of in-game currency and loot systems to encourage continuous investment. An additional direct strategy can involve a deliberate design of in-game achievements and rewards that are just out of reach without payment, enticing players to spend to acquire them. Indirect dark patterns, on the other hand, subtly influence monetisation through gameplay mechanics. In the case of *Diablo Immortal*, for instance, the game's infinite gameplay loop and constant grinding requirements exemplify how such mechanics can lead to increased spending. The introduction of a 'pay wall'—where players find their progress artificially halted unless they make a purchase—is another prevalent tactic. These mechanics prolong engagement and strategically pressure players into spending money to bypass artificially imposed limitations. Furthermore, these dark patterns exploit psychological and social factors, manipulating players into dedicating more time and money to games. This includes leveraging social comparison, where players are driven to spend to match or surpass the achievements of their peers and exploiting the fear of missing out (FOMO) on limited-time items or events. The integration of social obligations within games, such as those found in clan or guild systems, further compounds this effect, as players are motivated to contribute financially to avoid letting down their group.

By tapping into these diverse psychological and social dynamics, the gaming industry's manipulative practices maximise player engagement and significantly enhance revenue streams. This multifaceted approach to monetisation, combining direct sales tactics with indirect gameplay influences, underscores the sophisticated strategies that have cemented the gaming industry's status as a powerhouse of the entertainment sector.

Building on the exploration of manipulative practices within the gaming industry and their contribution to its profitability, it is crucial to examine the broader application of these tactics across the gaming ecosystem. This section reflects the second main question of this research: Which areas within the gaming ecosystem see the application of manipulative practices?

While many of these patterns are directly linked to gameplay mechanics and objectives, their influence extends beyond the game itself through commercials and social media channels. The case of Coin Master serves as a prime example of how manipulative practices can expand into advertising and social media to attract and retain a diverse audience. Celebrity endorsements and commercials leverage social proof, a psychological and social phenomenon where people copy the actions of others in an attempt to undertake behaviour in a given situation. This tactic also makes use of the feeling of authority, which brings more credibility and appeal to the game and plays a crucial role in broadening its player base. Furthermore, Coin Master's strategic use of social media content, particularly through platforms like Instagram, demonstrates how games maintain continuous engagement with their audience. By offering gifts exclusively through their social media stories, Coin Master creates a compelling reason for players to follow their accounts, thereby inducing a fear of missing out (FOMO) among those who do not. This strategy ensures a steady stream of player engagement outside the game and fosters a sense of urgency and exclusivity around accessing in-game rewards.

These practices highlight games' multifaceted approach to embedding manipulative tactics within and beyond gameplay, utilising a blend of psychological triggers, social dynamics, and marketing strategies to maximise player investment. As such, the gaming ecosystem sees the application of manipulative practices within the direct gaming experience and in the broader context of player interaction, encompassing advertising, social media, and beyond. This expansive use of manipulative tactics underscores the need for awareness and critical engagement from players to navigate the gaming landscape consciously.

8.2 Future Research

The results of this research on manipulative practices in the gaming industry suggest several potential areas for future research. One promising direction involves utilising a psychological perspective to better comprehend how different gaming community members react to manipulative tactics. This could be turned into a series of user tests that would include diverse target groups and monitor their behaviour. This approach could provide more profound insights into the psychological foundations of gaming behaviour, exposing how particular strategies impact specific segments of players, their involvement and spending patterns. By monitoring variables such as time spent in-game, frequency of play, and financial expenditure, this research could illuminate the direct and indirect effects of these strategies on player engagement and spending habits. Furthermore, it could reveal the psychological triggers that are the most effective at influencing player behaviour, offering insights into the motivations and vulnerabilities of gamers. This understanding could serve as a foundation for developing more ethical gaming practices, guiding developers in creating games that engage players in a healthy, balanced manner without resorting to exploitative tactics. Moreover, it could further lead to creating an actual guide to ethical gaming that would satisfy both parties, the gamers and the creators.

Further exploration could also delve into the connection between gaming addiction and mental health issues and the role of dark patterns in exacerbating these problems. By examining the psychological impact of these manipulative practices, researchers can better understand the long-term effects on players' well-being and mental health. This line of inquiry is crucial for developing interventions and support mechanisms for individuals adversely affected by these gaming strategies. Just like the previous user test suggestion, this investigation could provide a clear answer as to how the dark patterns contribute to the addictive cycles and later on contribute to the more ethical gaming community.

The imperative for future research into the psychological and behavioural impacts of manipulative practices in gaming is underscored by the growing concern over gaming addiction. Recent studies indicate a troubling trend, with the World Health Organization officially recognising Gaming Disorder in the 11th Revision of the International Classification of Diseases (ICD-11, code 6C51) as a significant health problem (ICD-11 for Mortality and Morbidity Statistics, n.d). Another aspect to take into consideration is that the Gaming Disorder

has been classified as a part of the “Disorders due to substance use or addictive behaviours” section. Research by Paulus et al. (2018) highlights that approximately 2-3% of gamers develop behaviour patterns consistent with addiction, characterised by impaired control over gaming, increasing priority given to gaming over other activities, and continuation or escalation of gaming despite negative consequences. This burgeoning issue necessitates a deeper exploration into how manipulative gaming practices contribute to addictive behaviours and the overall mental health of players. By examining the psychological effects of these tactics, future research can provide valuable insights into preventive measures and interventions. Such studies are crucial for developing guidelines that ensure games are designed ethically, promoting healthy engagement while minimising the risk of addiction and its associated mental health issues.

9 Conclusion

This thesis has shed light on the manipulative practices central to the gaming industry's profitability, as detailed in the previous chapter. It shows how game producers use and adapt dark patterns to suit their target audience, like in the case of casual games such as Coin Master, where the audience is potentially more susceptible to manipulation. The player is instantly bombarded with multiple CTA screens urging them to connect to Facebook, play with friends, and claim rewards. The spinning wheel, which is the core mechanic, gives out amazing combos during the first spins and everything looks bright and fun to the user. In essence, since the game's core loop is also simple, the core of the manipulative practices will remain relevantly uncomplicated as well.

On the other hand, if Diablo Immortal is looked at, the manipulative practices do not even appear first in the game, intrusive CTAs are also not there, and there is no place for the dark design patterns in the first place. Another example would be that the in-game market (different from the shop) only appears later in the game and is a long way from the original starting point. Another insight gained through this research is the multi-layering style of loot systems. While already controversial in the gaming community, Diablo Immortal's case demonstrated that the loot system can be incredibly complex and aims to exploit the users instead of delivering an enjoyable experience. These tactics, coupled with the deliberate design of elusive in-game achievements, create a compelling lure for players to spend real money to bridge the gap between effort and reward. These manipulative strategies often breach the ethical line of delivering a fun experience and instead shift toward building a parasitic relationship akin to substance abuse.

As this thesis concludes, it is essential to acknowledge the power of choice that lies in players' hands. The gaming world offers many options, from simple and unassuming titles to complex and immersive worlds. Through this diversity, players have the independence to choose where they want to invest their time, energy, and resources. The industry's call to action is clear - to create a future where games are designed not just for profit but for the genuine enjoyment and well-being of the community. This thesis was aimed not just to critique but also to serve as a guide, inspiring both creators and players to advocate for a gaming culture that combines fairness, creativity, and respect. Together, we can turn the page towards a new chapter in gaming - one marked by innovation, integrity, and, above all, a shared passion for games.

10 Summary in Swedish

10.1 Introduktion

Effektiv produktdesign och säljtekniker spelar en avgörande roll för att skapa positiva konsumentupplevelser och nå framgång. En framgångsrik produktdesign kombinerar kreativitet med funktionalitet och kräver en djup förståelse för konsumentpsykologi och övertalningstekniker. Produktdesign kan främja varumärkeslojalitet genom att använda tekniker som storytelling, influencer-samarbeten och kundcentrerade strategier. Nuförtiden blir det allt svårare att fånga och behålla konsumenternas uppmärksamhet, särskilt i takt med att konkurrensen ökar. Det krävs alltså mer än att ha en bra produkt eller tjänst för att lyckas på marknaden. Som ett resultat litar många företag på psykologi och insikter om användarbeteende för att skapa produkter som resonerar med deras målgrupp. Även om det finns olika produkter att undersöka på marknaden, kommer denna examensarbetet att koncentrera sig på underhållningssektorn, särskilt videospel.

Med sina rötter i 50- och 60-talen har videospel stigit från ett tidsfördriv till en dominerande kulturell kraft med intäkter på över 406,2 miljarder dollar. Spelare idag längtar efter uppslukande upplevelser och har kraften att kräva innovation, vilket driver branschen till nya höjder. Tillsammans med tillväxten kom vinstlusten som har fått vissa företag att utnyttja konsumentpsykologin. Även om det kan användas för gott finns det en mörk sida: oetiska UI/UX-praxis som kallas "mörka mönster" som manipulerar spelarens val och prioriterar intäkter framför användarens välbefinnande. Trots de etiska debatterna fortsätter spelpopulationen att växa och förväntas nå 1,47 miljarder år 2027 (Statista, 2024). Målet med denna uppsats är att dissekera den manipulativa designtaktiken inom branschen och bidra till dialogen om etisk designpraxis.

Forskningen om UI/UX-mönster i spel har varit omfattande. Det behövs dock mer praktisk analys av hur man kan upprätthålla engagemang och lönsamhet. Denna studie utforskar kopplingen mellan mörka designmönster, spelarengagemang och ekonomisk framgång för att informera spelindustrin.

Forskningsfrågorna som denna uppsats fokuserar på är följande:

1. Hur bidrar manipulativ praxis inom spelindustrin till dess status som den mest lönsamma underhållningssektorn?
2. Vilka områden inom spelekosystemet ser tillämpningen av manipulativ praxis?

En mindre forskningsfråga som styr denna studie är:

3. Vilka är de manipulativa praxis inom spelindustrin, och vilka är de huvudsakliga strategierna som används?

För att besvara dessa frågor undersöker forskningen förhållandet mellan mörka UI/UX-mönster, manipulation av konsumentbeteende och deras inverkan på spelare i spelindustrin. Forskningen består av fem delar, inklusive en analys av de psykologiska principer som styr övertalning, förståelse av spelindustrins utveckling och undersökning av olika mörka designmönster och deras effekter på konsumenter. Studien strävar efter att ge insikter i manipulativ taktik som spelindustrin använder och erbjuda potentiella lösningar för att bidra till den etiska utvecklingen av UI/UX-design inom spel.

Slutligen är det viktigt att notera att denna studie följer vissa begränsningar. Denna forskning är inte en psykologifokuserad undersökning utan en litteraturforskning som bygger på befintlig litteratur. Dessutom har forskningen en begränsad omfattning och fokuserar på populära spel producerade av stora företag. Eftersom ämnet för mörka mönster inom UI/UX-design är komplext, och forskningen syftar till att presentera det på ett tillgängligt sätt, presenteras alla principer kort och överlåter till läsaren att utforska de psykologiska mönstren ytterligare.

10.2 Metodologi

Denna forskning använder en sekundär datainsamlingsmetod och använder ett antal riktlinjer för att utvärdera källorna. Dessutom görs en grundlig analys av spelgemenskapens åsikter och recensioner för att välja ut de spel som ingår i fallstudierna. Texten innehåller också en tabell (table 1.1) över inkluderings- och uteslutningskriterier för val av källa och belyser vikten av data av hög kvalitet för framgångsrika fallstudier.

Utöver det följer denna forskning en omfattande kvalitetskontrollprocess som involverar verifiering av författarnas kvalifikationer, noggrant urval av källor och korsreferenser av information. Dessa åtgärder är väsentliga för att säkerställa att forskningen om spelpraxis och deras effekter är korrekt, tillförlitlig och akademiskt sund. Nästa källa som detta lärdomsprov bygger på är Robert Cialdinis bok "Influence, New and Expanded: The Psychology of Persuasion" för att bygga en stark grund för att förstå övertalning och mänsklig psykologi. Resultaten från den här boken kommer senare att överföras till spelindustrins designmönster för att bygga upp en solid förståelse av problemet. För att göra poängen starkare avslutas forskningen med två fallstudier som tillämpar alla teoretiska rön från denna forskning till en verklig produkt för att svara på de viktigaste forskningsfrågorna.

10.3 Psykologisk påverkan: De sju principerna

Detta kapitel diskuterar det nära sambandet mellan design och psykologi. Det belyser vikten av att förstå det mänskliga psyket när man skapar design, särskilt för användarupplevelsen. För att förstå principerna för påverkan används boken "Influence, New and Expanded: The Psychology of Persuasion" av Dr Robert Cialdini (2021). Bokens författare identifierar sju typer av grundläggande påverkningsmönster hos människor. Det är avgörande att studera dessa principer med ett dubbelt perspektiv och inse deras potential för både etiskt engagemang och manipulativ praxis. Detta kapitel omfattar kort förklaringen av alla sju principer, och lämnar det upp till läsaren att utforska vidare.

Här följer de sju övertalningsprinciperna som diskuterats av Dr Cialdini:

- 1 **Cialdinis första princip – Återgåldande (reciprocation).** Människor tenderar att känna sig skyldiga till dem som har gett något till dem, vilket är en nästan evolutionär princip enligt Cialdini (2021). Människor har en inneboende drivkraft att ge tillbaka det de har fått. Onlineföretag använder detta koncept för att öka engagemang, försäljning och lojalitet genom att erbjuda kostnadsfria provperioder, gratis innehåll, gåvor eller värdefull information i utbyte mot användarnas förtroende och fortsatt interaktion med varumärket.
- 2 **Cialdinis andra princip – Gillande (liking).** Man brukar säga ja oftare om man känner eller tycker om den som ber. Enligt Cialdini (2021) ökar fem faktorer benägenheten att gilla andra och här presenteras tre största. Först är det *likhet*; människor tenderar att gilla de som liknar dem själva. *Komplimanger* är en annan faktor; människor dras till de som

uttrycker tycke för dem. Slutligen är *samarbetning* viktig; människor gillar dem som delar deras riktning och mål och som anstränger sig för att samarbeta mot dessa gemensamma mål. Detta sträcker sig till digitala interaktioner där webbdesign, rekommendationer från kändisar och konsumenternas smicker alla kan påverka beteende och relationer.

- 3 **Cialdinis tredje princip – Sociala bevis (social proof).** Socialt bevis är avgörande för att vägleda mänskliga beslut, särskilt under osäkerhet, och det blir alltmer inflytelserik online. Det utnyttjar grupp beteende för att påverka individuella val. Inom nätbutiker är kundrecensioner och rekommendationer från kändisar nyckelformer av socialt bevis. Användargenererat innehåll (UGC) är en annan form av kundrecensioner som vanligtvis stöds av visuellt innehåll som har blivit populärt på sistone.
- 4 **Cialdinis fjärde princip – Auktoritet (authority).** Auktoritetsfigurer såsom läkare, jurister, företagsledare och politiker har en betydande påverkan. Det är faktiskt inte auktoritetspersonerna själva som påverkar oss, utan de egenskaper och attribut som vi förknippar med auktoritet. Detta översätts också till webben med företag som använder partners/klienters logotyper för att bygga förtroende. Dessutom har recensioner från pålitliga kändisar också en chans att göra ett varumärke mer trovärdigt.
- 5 **Cialdinis femte princip – Knapphet (scarcity).** Begränsad tillgång ökar efterfrågan. Att framhäva att en idé, tjänst eller produkt är unik och inte tillgänglig någon annanstans motiverar människor att vilja ha den. Denna princip, framhövd av Cialdini, används effektivt online på flera sätt: tidsbegränsad knapphet (blixtra), kvantitetsbegränsad knapphet och åtkomstbegränsad knapphet (kräver ofta en inbjudan för att få tillgång till innehåll).
- 6 **Cialdinis sjätte princip – Åtagande och konsistens (commitment and consistency).** Att förbinda sig till något eller tänka på ett visst sätt leder ofta till att man vill hålla fast vid det. Det spelar en central roll i att forma beslutsfattande online, där initiala åtgärder med låga insatser kan leda till större åtaganden. Cialdini betonar att detta är särskilt effektivt i individualistiska samhällen. Exempel på Yelps enkla recensionsskrivning process och Duolingos användning av dagliga mål visar hur dessa principer motiverar användarna.
- 7 **Cialdinis sjunde princip – Gemenskap (unity).** Gemenskapsprincipen, som Robert Cialdini belyser, spelar en viktig roll i social interaktion där människor identifierar sig med och följer sin "vi-grupp". Denna princip förstärker samhörighet och samarbete. Online tar denna princip form genom plattformar som fitness appar, där användare kan dela sina hälsorecept och framsteg, skapande en känsla av gemenskap bland likasinnade. Genom att

tillämpa gemenskapsprincipen online kan man effektivt påverka och stärka sociala beteenden.

Efter att ha studerat Robert Cialdinis sju principer är det tydligt att de ofta är sammankopplade och förstärker varandra. Till exempel kan principen om socialt bevis bli mer effektiv när den kombineras med gillande eller auktoritet. Många företag, som Duolingo, utnyttjar flera av dessa tekniker i sina appar och marknadsföringsmaterial. Följande kapitel i studien utforskar manipulativa taktiker i spelindustrin, en av de mest lönsamma underhållningsbranscherna.

10.4 Introduktion till spelindustrin

Spelindustrin, som började på 1950- och 1960-talen, har växt till att bli den högst inkomstbringande underhållningssektorn med 193,7 miljarder dollar i global intäkt 2021 (Richter, 2022). Dess popularitet, drivet av tekniska framsteg och kulturella faktorer, beror på den interaktiva upplevelsen som lockar 3,24 miljarder spelare globalt (DFC Intelligence, 2021). Spelen fungerar som kulturella artefakter som blandar berättande, estetik och gemensamma upplevelser för att skapa en omslutande erfarenhet (Gee, 2003). Industrins tillväxt är nära knuten till diversifieringen av plattformar och enheter för spelleverans. Tillgängligheten av spelkonsoler, datorer, mobila enheter och online-plattformar har betydligt ökat industrins räckvidd.

Spelvärlden förändras snabbt, och spelutvecklare måste hela tiden anpassa sig för att hänga med i de senaste trenderna. The Game Developers Conference (2023) presenterar de vanligaste affärsmodellerna bland vilka "Pay to download" och "Free to download" dominerar, där den första erbjuder en komplett spelupplevelse för en engångsbetalning (exempel: "The Witcher 3"), och den andra, en freemium-modell med möjlighet till in-app-köp (Willing, 2023). Enligt Statista (2023) utgör F2P-spel 36 % av spelmarknaden och förväntas generera 117,7 miljarder dollar 2024. Användare bör vara medvetna om att spelindustrin använder olika strategier för att engagera konsumenter och öka försäljningen, inklusive Dr. Cialdinis principer och mörka UI/UX-mönster.

10.5 Videospel och designmönster

Spelmarknaden växer, och med stigande krav från konsumenterna på spelen uppstår nya utmaningar. "Cyberpunk 2077", som trots höga förväntningar led av tekniska problem vid

lanseringen, mötte mycket negativ kritik från spelarna. Detta är ett utmärkt exempel på hur mycket standarderna har förändrats och hur spelgemenskapen inte kommer att tveka att uttrycka sitt missnöje (Hendelmann, n.d.). Designmönster spelar en central roll i skapandet av användarupplevelser, där Jakob Nielsens 10 användbarhets principer utgör en grundläggande guide. Dessa mönster främjar spelarengagemang genom förenklad navigation och konsekvent design, förbättrar tillgänglighet och effektiviserar spelutvecklingen.

Vid sidan av fördelaktiga designmönster ökar användningen av manipulativa "mörka designmönster", som skapar förvirrande och vilseledande gränssnitt för att kommersiellt utnyttja spelare. Dessa mönster, som bedrägeri och påtvingade handlingar, spelar på psykologiska sårbarheter som rädslan för att gå miste om något (FOMO). Exempel på dessa mönster inkluderar vilseledande prissättning och tvingande åtgärder för att främja spelets framsteg. Dessa taktiker, som kartlagts av Harry Brignull och andra, utnyttjar spelarnas känslor och svagheter för att öka inkomsterna, vilket riskerar att underminera användarupplevelsen och skada företagets rykte och kundlojalitet på lång sikt.

10.6 F2P Mobilspel: från innovation till korrupcion

Mobilspel, som blivit alltmer populära, är speciellt utformade för mobila enheter och varierar från enkla till avancerade spel med teknologier som 3D-grafik och förstärkt verklighet (Rouse, 2012). Det är intressant att notera att de digitala mobilspelen har två ursprung: dels från tidiga arkadspel, dels från utvecklingen av mobiltelefoner som spelplattformar (Mäyrä, 2015). Mobilspelsindustrin har vuxit så att den 2022 blev den största spelsegmentet globalt med intäkter på cirka 103,5 miljarder dollar (gamesindustry.biz 2022).

Mobilspelens popularitet förklaras genom tillgänglighet, lätt mekanik, ett brett urval av spel och en "free to play" modell. Dessa faktorer har bidragit till den snabba tillväxten och den mångsidiga miljön för mobilspel. Men denna framgång har också en baksida med den ökade användningen av mörka designmönster bland spelare för att förbli konkurrenskraftiga. Dessa mönster, som syftar till att öka engagemang och få man att spendera mer pengar, kan ofta vara skadliga för spelarnas välbefinnande.

Mörka designmönster i mobilspel inkluderar *temporära taktiker* som förlänger speltiden; *monetära mörka mönster* som lurar spelare att spendera mer; *sociala mörka mönster* som

utnyttjar sociala relationer; *psykologiska mörka mönster* som påverkar spelarnas beslut. Dessa mönster utgör manipulationer och överensstämmelser med Cialdinis sju principer för övertalning, vilket avslöjar en avsiktlig designstrategi som syftar till att maximera intäkterna.

Trots detta finns det "hälsosamma spel" på mobilspelsmarknaden som använder strategier för att minimera risken för missbruk, vilket främjar en mer balanserad och positiv spelupplevelse. Dessa spel tillåter vanligtvis pausa när man vill, erbjuder en välbalanserad spelupplevelse och försöker inte dra för mycket pengar ur spelarens fickor. Det är viktigt att skapa spel som är lönsamma utan att exploatera spelarnas psykologiska sårbarhet och respektera deras tid och självständighet. Sammanfattningsvis är mobilspel en viktig del av vår vardag, men det är avgörande att de designas på ett ansvarsfullt sätt för att engagera spelarna och samtidigt prioritera deras tillfredsställelse och välbefinnande. Detta ansvar blir ännu viktigare mot bakgrund av de potentiella negativa konsekvenser som är förknippade med spelberoende.

10.7 Fallstudier: Från teori till praktik

Detta kapitel undersöker hur manipulativa mörka mönster har anpassats till specifika spel genom att tillämpa insikterna från tidigare kapitel på befintliga produkter. Syftet med kapitlet är att kritiskt utvärdera effekterna av dessa metoder på spelarens beteende och beslutsfattande. Två populära spel valdes ut för denna utvärdering: Coin Master och Diablo Immortal. Dessa två spel representerar olika speltyper och nischer och kommer att ge en bättre förståelse för den utökade användningen av mörka mönster.

10.7.1 Coin Master

Coin Master är ett socialt casinospel för mobil som kombinerar äventyr med spelautomatmekanik. Sedan lanseringen 2015 har spelet uppnått över 194,8 miljoner nedladdningar och genererat imponerande 59,15 miljoner dollar i globala intäkter under juli 2023 (Chapple, 2019), med en livstidsintäkt på över 3,5 miljarder dollar (AppMagic, 2023). Spelet använder mörka designmönster för att öka spelarens engagemang och intäkter. Här följer listan över huvudsakliga insikter:

- 1 **Temporära taktiker:** Spelare måste spela vid specifika tidpunkter för att få belöningar, vilket uppmuntrar till längre spelsessioner och dagliga inloggningar. Detta inkluderar även mekanismer som "vänta för att spela", där spelare väntar på att deras snurr ska återställas.

- 2 **Monetära mörka mönster:** Spelet använder mikrotransaktioner, där spelare spenderar riktiga pengar för att få premium spelvaluta. Dessa inkluderar köp av sköldar för att skydda byar och förbättringar för att öka framsteg.
- 3 **Sociala mörka mönster:** Spelet uppmuntrar till social interaktion genom Facebook-integration, vilket belönar spelare att spela med vänner. Detta ökar spelets synlighet och lockar in nya spelare. Dessutom engagerar Coin Master aktivt kändisar i sina marknadsföringskampanjer, vilket skapar mer exponering och skapar FOMO.
- 4 **Psykologiska mörka mönster:** Spelet använder olika belöningar och skapar en illusion av prestation, vilket uppmuntrar spelare att fortsätta spela i hopp om bättre belöningar. Dessutom används estetiska manipulationer för att påverka spelarnas beslut.

Dessa strategier gör Coin Master ett perfekt exempel på hur mobilspel kan använda mörka mönster för att öka spelarens engagemang och spenderande, vilket väcker etiska frågor om användningen av dessa metoder.

10.7.2 Diablo Immortal

Diablo Immortal, som lanserades av Blizzard Entertainment och NetEase 2022, blev snabbt en del av det populära Diablo-universumet på mobila plattformar. Spelet, ett massivt multiplayer online action-rollspel (MMOARPG), har laddats ner över 23,5 miljoner gånger (AppMagic, 2024). Trots blandade reaktioner från spelgemenskapen, genererade Diablo Immortal över \$525 miljoner från spelarutgifter under det första året (Nelson, 2023).

Efter ytterligare undersökning stod det klart att Diablo Immortal skiljer sig från Coin Master då det inte är ett casual-spel. Dess komplexa utmyntning strategi är mindre synlig och kräver mer djupgående forskning. Här följer listan över huvudsakliga insikter:

- 1 **Monetära mörka mönster:** Använder framgångsrikt komplext bytesystem för olika mikrotransaktioner och lockar spelare att spendera mer än de tänkt sig, ofta utnyttja impulsiva handlingar.
- 2 **Jämförelseförändring:** Spelbutikssystemet är utspritt över flera platser i spelet, vilket komplicerar jämförelse och döljer den faktiska kostnaden på föremål.
- 3 **Temporära taktiker:** Innehåller "oändliga löpband"-mekaniker som uppmuntrar oändligt engagemang genom grindning och händelsekalendrar som skapar FOMO.

- 4 **Dagliga belöningar:** Använder ett flernivå-system för dagliga belöningar för att öka spelarens engagemang och uppmuntra till frekvent inloggning och aktivitet.
- 5 **Sociala mörka mönster:** Använder klansystem och rankningslistor för att skapa socialt tryck och konkurrens, vilket uppmuntrar kontinuerligt engagemang och ibland extra spenderande.
- 6 **Psykologiska mörka mönster:** Utnyttjar mänskliga beteendemönster för att främja kontinuerligt spelande och spenderande, med taktiker som utnyttjar FOMO och skapar en känsla av investering i spelet.

Denna fallstudie belyser tydligt användningen av mörka mönster på flera nivåer i Diablo Immortal. Även om spelets ekonomiska framgång är framträdande, väcker det etiska frågor om utnyttjandet av psykologiska sårbarheter i vinstsyfte.

10.7.3 Slutsats

Trots att Diablo Immortal och Coin Master riktar sig till olika målgrupper och har olika spelmekanik, använder de sig av sofistikerade strategier för att maximera spelarengagemang och inkomster. Coin Master förlitar sig på mekanik som gränsar till spel, förstärkt med sociala bevis, medan Diablo Immortal har en invecklad utmyntning strategi som effektivt riktar sig mot olika beteendemönster. Båda spelen demonstrerar hur mörka mönster används inom spelindustrin och framhäver de etiska problemen med konsumentmanipulation. I takt med att spelbranschen fortsätter växa, med 1,22 miljarder spelare globalt och stigande intäkter, är det viktigare än någonsin att främja en hälsosam, icke-predatorisk spelvärld som skyddar spelarnas mentala välbefinnande.

10.8 Diskussion av frågeställningen

Denna forskning har använt sekundär forskning följt av fallstudier för att kunna ge ett opartiskt svar på följande frågor.

Hur bidrar manipulativ praxis inom spelindustrin till dess status som den mest lönsamma underhållningssektorn? Spelindustrin använder manipulativa mönster som påverkar spelarnas spenderingsvanor både direkt och indirekt. Direkta metoder inkluderar CTAs och tidsbegränsade erbjudanden, vilket skapar FOMO då spelare är rädda att missa något. Indirekta taktiker, såsom oändliga spelloopar och 'paywalls', motiverar spelare att spendera för att

övervinna konstgjorda begränsningar. Dessa strategier, kombinerade med spelens förmåga att psykologiskt engagera användarna, bidrar väsentligt till spelindustrins ekonomiska framgång. Efter fallstudierna blev det klart att spelen använder andra kanaler för att påverka konsumenten och de mörka mönstren är inte begränsade till enbart spelet. Så för att svara på den andra frågan i denna forskning: *Vilka områden inom spelekosystemet ser tillämpningen av manipulativ praxis?* Svaret är sociala medier och traditionella marknadsföring kanaler. Detta inkluderar användning av kändis stöd och sociala media innehåll för att skapa engagemang och behålla spelare.

För att kunna svara på huvudfrågan stöddes denna forskning av en sekundär fråga: *Vilka är de manipulativa praxis inom spelindustrin, och vilka är de huvudsakliga strategierna som används?* Och även om det finns många mönster och olika spel använder dem på olika sätt och kombinationer, finns det några som är mest framträdande:

- Skapande av ett 'beroende' av spelet genom design som uppmuntrar kontinuerlig spelning. Detta beroende skapas vanligtvis av **temporära mörka mönster** som begränsar spelaren och får dem att logga in i spelet om och om igen.
- Tidsbegränsade erbjudanden, rekommendationer från kändisar, sociala medier och spelens sociala dynamiker (t.ex. rankingslistor) kombineras framgångsrikt för att främja **känslan av FOMO**.
- Implementering av **'pay-to-win'-modeller**, där framsteg eller fördelar i spelet kan köpas, vilket ofta leder till ökad spendering.
- **Psykologiska triggers**, såsom belöningsystem som spelar på spelarnas belöningscentra i hjärnan, uppmuntrar till upprepning och ytterligare utgifter.
- **Cialdinis 7 principer för manipulation**. Spelindustrin använder Cialdinis principer för att psykologiskt påverka och engagera spelare, vilket ökar både tidsmässigt och finansiellt engagemang. De huvudsakliga principerna inkluderar: auktoritet, återgäldande, knapphet, gemenskap och socialt bevis.

Sammanfattningsvis bidrar dessa strategier helt klart till spelindustrins ekonomiska framgång, men det finns en växande oro för de etiska aspekterna av sådan manipulation, särskilt när det gäller spelares välbefinnande och mentala hälsa. Därför skulle ytterligare forskning kunna fokusera på det psykologiska perspektivet för att förstå hur olika spelgemenskapsmedlemmar reagerar på manipulativa taktiker. Detta kan leda till mer etiska speldesigner och hjälpa till att

utveckla en hälsosammare spelkultur. En annan viktig forskningsväg är att utforska sambandet mellan spelberoende, psykiska problem och mörka mönster.

Avslutningsvis belyser denna uppsats vikten av spelarens valmöjligheter i en mångsidig spelvärld, från enkla till komplexa upplevelser. Detta lärdomsprov syftar inte bara till att kritisera utan också till att fungera som en guide som inspirerar både spelare och spelare att sträva efter en spelkultur som kombinerar rättvisa, kreativitet och respekt. Tillsammans kan vi vända blad till ett nytt kapitel inom spelbranschen - ett kapitel som kännetecknas av innovation, integritet och, framför allt, en gemensam passion för spel.

11 References

- Backman, J. (2008). *Rapporter och uppsatser* (2 uppl.). Studentlitteratur.
- Ehrenberg-Sundin, B., Lundin, K., Wedin, Å., & Westman, M. (2008) *Att skriva bättre i jobbet : En basbok om brukstexter* (4 uppl.). Norstedts Juridik AB.
- Aagaard, J., Knudsen, M. E. C., Bækgaard, P., & Doherty, K. E. (2022). A game of dark patterns: designing healthy, Highly-Engaging mobile games. CHI Conference on Human Factors in Computing Systems Extended Abstracts. Article 438, p. 1–8. <https://doi.org/10.1145/3491101.3519837>
- Amazon Ads. (n.d). *Curious about Twitch ads? Here's everything you need to know*. Amazon Ads. Retrieved December 2, 2023 from <https://advertising.amazon.com/library/guides/twitch-ads>
- Appfigures. (2022). *Number of available gaming apps in the Apple App Store from 1st quarter 2015 to 3rd quarter 2022* [Graph]. In Statista. Retrieved December 20, 2023 from <https://www.statista.com/statistics/780238/number-of-available-gaming-apps-in-the-apple-app-store-quarter/>
- Appfigures. (2022). *Number of available gaming apps in the Google Play Store from 1st quarter 2015 to 3rd quarter 2022* [Graph]. In Statista. Retrieved December 20, 2023 from <https://www.statista.com/statistics/780229/number-of-available-gaming-apps-in-the-google-play-store-quarter/>
- AppMagic. (2023). *App revenue generated by Coin Master worldwide from September 2020 to July 2023 (in million U.S. dollars)* [Graph]. In Statista. Retrieved January 10, 2024, from <https://www.statista.com/statistics/1077451/coin-master-player-spending/>
- AppMagic. (2023). *Highest grossing mobile games worldwide in 2023 YTD (in million U.S. dollars)* [Graph]. In Statista. Retrieved January 10, 2024 from <https://www.statista.com/statistics/1179913/highest-grossing-mobile-games/>
- AppMagic. (2024). *Number of Diablo Immortal app downloads worldwide from June 2022 to January 2024 (in millions)* [Graph]. In Statista. Retrieved January 20, 2024, from <https://www.statista.com/statistics/1325830/diablo-immortal-number-of-downloads-worldwide/>
- Askeland, H. D. (2023). *Predatory/exploitative Monetization in Modern Video Games: A critical analysis of FIFA 23 and Diablo: Immortal*. <https://hdl.handle.net/11250/3071881>
- Awasthi, Y. (2018). *Using the reciprocity principle for a persuasive UX*. Medium. Retrieved November 2, 2023 from <https://uxdesign.cc/leveraging-principle-of-reciprocity-for-persuasive-ux-8f7e20c953f9>
- Beveridge, C. (2022). *What is User-Generated Content? And Why is it Important?* Hootsuite. Retrieved November 14, 2023 from <https://blog.hootsuite.com/user-generated-content-ugc/>

- Billcliffe, J. (2022). *Diablo Immortal Gems & Runes Guide | How to get the best Legendary Gems*. VG247. Retrieved January 21, 2024 from <https://www.vg247.com/diablo-immortal-legendary-gems-runes>
- Bruijn, F., Braccini, E., & Lawson, L. (n.d.). *The rise of Social Commerce*. Deloitte Netherlands. Retrieved November 23, 2023 from <https://www2.deloitte.com/nl/nl/pages/consumer/articles/the-rise-of-social-commerce-a-growth-opportunity-for-brands.html>
- Budiu, R. (2021). *The reciprocity principle: give before you take in web design*. Nielsen Norman Group. Retrieved November 2, 2023 from <https://www.nngroup.com/articles/reciprocity-principle/>
- Cambridge Dictionary. (n.d.). Call to action. Retrieved from <https://dictionary.cambridge.org/dictionary/english/call-to-action>
- Cambridge Dictionary (n.d). Foodie. Retrieved from <https://dictionary.cambridge.org/dictionary/english/foodie>
- Chapple, C.. (2019). *Coin Master rakes in \$500 million globally as it cashes in on success in Great Britain, Germany, and the U.S*. Sensor Tower. Retrieved December 20, 2023 from <https://sensortower.com/blog/coin-master-revenue-500-million>
- Cherry, K. (2023, March 7). *What is reciprocity?* Verywell Mind. <https://www.verywellmind.com/what-is-the-rule-of-reciprocity-2795891>
- Cialdini, R. B. (2021). *Influence, new and expanded: The psychology of persuasion* (2nd ed.). HarperCollins.
- Costes, J., & Bonnaire, C. (2022). *Spending money in Free-to-Play Games: Sociodemographic characteristics, motives, impulsivity and internet Gaming disorder specificities*. International Journal of Environmental Research and Public Health, 19(23), 15709. <https://doi.org/10.3390/ijerph192315709>
- Coursera Staff. (2023). *UI vs. UX Design: What's the Difference?* Coursera. Retrieved January 3, 2024, from <https://www.coursera.org/articles/ui-vs-ux-design>
- Coursera Staff. (2023). *What Is UI Design? Definition, Tips, Best Practices?* Coursera. Retrieved January 3, 2024 from www.coursera.org/articles/ui-design
- DarkPattern.games (n.d.) *Helping You Find Healthy Mobile Games*. Retrieved December 20, 2023 from <https://www.darkpattern.games/>
- Deceptive patterns (n.d.). *Types of deceptive patterns*. Retrieved December 1, 2023, from <https://www.deceptive.design/types>
- Deterding, Sebastian & Dixon, Dan & Khaled, Rilla & Nacke, Lennart. (2011). *From Game Design Elements to Gamefulness: Defining Gamification*. Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments, MindTrek 2011. 11. 9-15. 10.1145/2181037.2181040.

- DFC Intelligence. (2021). *Number of video gamers worldwide in 2021, by region (in millions)* [Graph]. In Statista. Retrieved November 22, 2022, from <https://www.statista.com/statistics/293304/number-video-gamers/>
- Ellis, M. (2022). *What's an Ellipsis? Definition and Examples*. Grammarly Blog. Retrieved January 20, 2024 from <https://www.grammarly.com/blog/ellipsis/>
- Elswick, E. (2017). Wikipedia. Retrieved November 13, 2023 from <https://qr.ae/pKypzV>
- Escalas, J. E., & Bettman, J. R. (2017). *Connecting with Celebrities: How consumers appropriate celebrity meanings for a sense of belonging*. *Journal of Advertising*, 46(2), 297–308. <https://doi.org/10.1080/00913367.2016.1274925>
- Fessenden, T. (2018). *The authority principle*. Nielsen Norman Group. Retrieved November 20, 2023 from <https://www.nngroup.com/articles/authority-principle/#:~:text=Summary%3A%20A%20perceived%20high%2Dauthority,users%27%20decision%2Dmaking%20process.>
- Fessenden, T. (2018, March 5). *The principle of commitment and behavioral consistency*. Nielsen Norman Group. Retrieved November 20, 2023 from <https://www.nngroup.com/articles/commitment-consistency-ux/>
- Fogg, B.J., Soohoo, C., Danielsen, D., Marable, L., Stanford, J., & Tauber, E.R. (2002). *How Do People Evaluate a Web Site's Credibility?* Retrieved from <https://api.semanticscholar.org/CorpusID:167588592>
- Forsström, D., Chahin, G., Savander, S., Mentzoni, R. A., & Gainsbury, S. (2022). *Measuring loot box consumption and negative consequences: Psychometric investigation of a Swedish version of the Risky Loot Box Index*. *Addictive Behaviors Reports*, 16, 100453. <https://doi.org/10.1016/j.abrep.2022.100453>
- Furze, L. (2024). *Why brand values are important for connecting with clients*. Lisa Furze. Retrieved January 3, 2024 from <https://lisafurze.com/blog/why-brand-values-are-important/#:~:text=Like%20attracts%20like%2C%20so%20by,look%20at%20the%20younger%20generations>
- Game Developers Conference. (2023). *Most common gaming business models used by game developers worldwide in 2023* [Graph]. In Statista. Retrieved November 28, 2023 from <https://www.statista.com/statistics/1183087/game-developers-business-models/>
- gamesindustry.biz. (2022). *Games market revenue worldwide in 2022, by device (in billion U.S. dollars)* [Graph]. In Statista. Retrieved March 06, 2024, from <https://www.statista.com/statistics/278181/global-gaming-market-revenue-device/>
- Games - Worldwide. (n.d.). Retrieved January 2, 2024, from <https://www.statista.com/outlook/amo/media/games/worldwide>

- Gee, J. P. (2003). *What video games have to teach us about learning and literacy*. Computers in Entertainment, 1(1), 20. <https://doi.org/10.1145/950566.950595>
- Gunnell, M., Wrenn, E., & Srivastava, V. (2024). *What Is Dark Pattern (UX Dark Pattern)?* Techopedia. Retrieved December 10, 2024 from <https://www.techopedia.com/definition/dark-pattern-ux-dark-pattern>
- Halsey, M. (2017). Quora. Retrieved November 13, 2023 from <https://qr.ae/pKy1za>
- Harrison. (2018). *The 6 Principles of Persuasion & How They Apply to UX Design*. Shillington education. Retrieved November 20, 2023 from <https://blog.shillingtoneducation.com/rule-of-persuasion-and-ux-design/>
- Hayashi, R. S. (2017). Quora. Retrieved November 13, 2023 from <https://qr.ae/pKyIpn>
- Hendelmann, V. (n.d.). *What Happened To Cyberpunk 2077? Here's Why The Game Failed.Initially*. Productmint. Retrieved November 24, 2023 from <https://productmint.com/what-happened-to-cyberpunk-2077/>
- ICD-11 for Mortality and Morbidity Statistics. (n.d.). *6C51 Gaming disorder*. Retrieved January 23, 2024 from <https://icd.who.int/browse/2024-01/mms/en#1448597234>
- Indeed Editorial Team. (2023). *Methods of Data Collection: Definition, Types and Examples*. Indeed Career Guide. Retrieved January 3, 2024 from <https://www.indeed.com/career-advice/career-development/methods-of-data-collection>
- Interaction Design Foundation - IxDF, D. (2016). *What is User Experience (UX) Design? | IxDF*. Interaction Design Foundation - IxDF. Retrieved January 3, 2024 from <https://www.interaction-design.org/literature/topics/ux-design>
- King, C. (2020). *What makes you a gamer: Top 15 signs that you are one*. Red Bull. Retrieved November 14, 2023 from <https://www.redbull.com/za-en/you-are-a-gamer-when>
- V, M., V. (2019). *5 types of scarcity: how to use it to influence anyone?* Medium. Retrieved November 10, 2023 from <https://uxdesign.cc/5-types-of-scarcity-how-to-influence-anyone-using-these-7f309d328dbb>
- Marnewick, G. (2023). *Celebrity Endorsement in Beauty & Cosmetic Industry: Strategy, Stats & Trends*. Appnova. Retrieved November 14, 2023 from <https://www.appnova.com/celebrity-endorsement-in-beauty-and-cosmetic-industry/#:~:text=Celebrity%20Endorsement%20Statistics&text=Celebrity%20endorsements%20impact%20the%20purchases,sales%20after%20a%20celebrity%20endorsement>
- Mäyrä, Frans (2015) *Mobile Games*. In: Robin Mansell et al. (Eds.), International Encyclopedia of Digital Communication & Society. Wiley-Blackwell (2015). Retrieved from [wbiedcs014.dvi \(tuni.fi\)](#)

- Nelson, R. (2023). *Diablo Immortal blazes past \$500 million generated in its first year on mobile*. data.ai Blog. Retrieved January 21, 2024 from <https://www.data.ai/en/insights/market-data/diablo-immortal-500-million/?consentUpdate=updated>
- Newzoo (2020) *Global Games Market Report*. Retrieved December 1, 2023 from <https://strivesponsorship.com/wp-content/uploads/2020/07/Global-Games-Market-Report-2020.pdf>
- Nielsen, J. (1994). *10 Usability heuristics for user interface design*. Nielsen Norman Group. Retrieved November 14, 2023 from <https://www.nngroup.com/articles/ten-usability-heuristics/>
- Nodder, C. (2021). *Evil by Design: Persuasion in UX: Breaking coherence*. Retrieved January 20, 2024 from <https://www.linkedin.com/learning/evil-by-design-persuasion-in-ux-14253964/breaking-coherence?u=56747801>
- Norman, D. (n.d.). *What is User Experience (UX) Design? | IxDF*. The Interaction Design Foundation. Retrieved February 10, 2024 from <https://www.interaction-design.org/literature/topics/ux-design>
- Oleary, H. (2023). *What are Mobile Games?* CellularNews. Retrieved December 20, 2023 from <https://cellularnews.com/definitions/what-are-mobile-games/>
- Outrun Games. (n.d.). *Dark Patterns*. Retrieved December 20, 2023 from <https://www.outrun.games/design/dark-patterns-introduction>
- Paulus, F. W., Ohmann, S., Von Gontard, A., & Popow, C. (2018). *Internet gaming disorder in children and adolescents: a systematic review*. *Developmental Medicine & Child Neurology*, 60(7), 645–659. <https://doi.org/10.1111/dmcn.13754>
- Richter, F. (2022). *Chart: Are You Not Entertained?* Statista. Retrieved November 13, 2023 from <https://www.statista.com/chart/22392/global-revenue-of-selected-entertainment-industry-sectors/>
- Rosala, M. (2024). *Deceptive patterns in UX: How to recognize and Avoid them*. Nielsen Norman Group. Retrieved December 1, 2023 from <https://www.nngroup.com/articles/deceptive-patterns/>
- Rouse, M. (2011). *Design pattern*. Techopedia. Retrieved November 13 2023, from <https://www.techopedia.com/definition/1435/design-pattern>.
- Rouse, M. (2012). *Mobile games*. Techopedia. Retrieved December 10 2023, from <https://www.techopedia.com/definition/24261/mobile-games>
- Schrank, J. (1974). *The Language of Advertising Claims. Media and Methods*.
- Shreyas, S. (2021). *Coin Master -Deconstructing the game from a KPI-based lens*. Medium. Retrieved January 10, 2024 from <https://medium.com/@suganshreyas/coin-master-game-analysis-c201b7972fb7>

- Softity (n.d.). *What is a mobile game?* Retrieved December 20 2023, from <https://softity.com/blog/detail/what-is-a-mobile-game>
- Statista (2024). *Global video game users 2027*. Statista. Retrieved November 13, 2023, from <https://www.statista.com/statistics/748044/number-video-gamers-world/>
- Statista (2024). *Global video game industry revenue 2029*. Statista. Retrieved November 13, 2023 from <https://www.statista.com/statistics/1344668/revenue-video-game-worldwide/>
- Statista. (2023). *Free-to-play (F2P) games market revenue worldwide from 2018 to 2024 (in billion U.S. dollars)* [Graph]. In Statista. Retrieved November 24, 2023, from <https://www.statista.com/statistics/324129/arp-f2p-mmo/>
- Statista. (2024). *Number of digital video game users worldwide from 2017 to 2027, by segment (in billions)* [Graph]. In Statista. Retrieved December 2, 2023 from <https://www.statista.com/forecasts/456610/video-games-users-in-the-world-forecast>
- Statista. (2024). *Online video game market revenue worldwide from 2017 to 2027 (in billion U.S. dollars)* [Graph]. In Statista. Retrieved December 2, 2023, from <https://www.statista.com/statistics/240987/global-online-games-revenue/>
- Statista. (2023). *Share of video gamers worldwide as of June 2023, by gender* [Graph]. In Statista. Retrieved December 13, 2023, from <https://www.statista.com/forecasts/1406337/video-gamers-worldwide-by-gender>
- Steinmetz, F., Fiedler, I., Von Meduna, M., & Ante, L. (2021). *Pay-to-Win Gaming and its Interrelation with Gambling: Findings from a Representative Population Sample*. *Journal of Gambling Studies*, 38(3), 785–816. <https://doi.org/10.1007/s10899-021-10042-1>
- Turbine Games Consulting (202). *Getting more with less: 6 high-yield design patterns for F2P games*. Retrieved November 24, 2023, from <https://turbine.games/2020/04/22/getting-more-with-less-6-high-yield-design-patterns-for-f2p-games/>
- TwitchTracker. (2024). *Number of active streamers on Twitch worldwide from January 2018 to January 2024 (in millions)* [Graph]. In Statista. Retrieved December 02, 2023 from <https://www.statista.com/statistics/746173/monthly-active-streamers-on-twitch/>
- UXPin. (2023). *Should user experience designers be aware of psychology?* UXPin. Retrieved January 10, 2024 from <https://www.uxpin.com/studio/blog/should-user-experience-designers-be-aware-of-psychology/>
- UXPin. (2023). *UI Elements that Every Designer Must Know - Studio by UXPin*. UXPin. Retrieved January 10, 2024 from <https://www.uxpin.com/studio/blog/user-interface-elements-every-designer-should-know/>

- Vinney, C., PhD. (2022). *What is a parasocial relationship?* Verywell Mind. Retrieved November 15, 2023 from <https://www.verywellmind.com/what-is-a-parasocial-relationship-5210770>
- Wang, J. L., Sheng, J. R., & Wang, H. Z. (2019). *The association between mobile game addiction and depression, social anxiety, and loneliness*. *Frontiers in Public Health*, 7. <https://doi.org/10.3389/fpubh.2019.00247>
- Williams, D., Consalvo, M., Caplan, S. E., & Yee, N. (2009). *Looking for Gender: Gender roles and behaviors among online gamers*. *Journal of Communication*, 59(4), 700–725. <https://doi.org/10.1111/j.1460-2466.2009.01453.x>
- Willing, N., (2023) *Free-to-Play (F2P) Gaming Model*. Techopedia. Retrieved November 23, 2023 from <https://www.techopedia.com/definition/27039/free-to-play-f2p>
- YongYea. (2022). *Diablo Immortal Loot Box Simulator shows how awful its P2W monetization is* [Video]. YouTube. <https://www.youtube.com/watch?v=xUdJvrAhX4>