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Høgskulen  
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# MASTER'S THESIS

Loot boxes - a gambling attraction?

Loot boxer - en gamblingattraksjon?

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Master of Science in Business

Department of Business Administration

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20.05.2022

Jeg bekrefter at arbeidet er selvstendig utarbeidet, og at referanser/kildehenvisninger til alle

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## **Preface**

The submission of this master thesis marks the end of my studies in the master's degree program Master of Science in Business at Western Norway University of Applied Sciences in Sogndal. I moved to Sogndal two years ago, and the time here has been a time of learning, both academically and about myself. In regard to completing this master's thesis, there are many I would like to thank. First off, I want to thank my supervisor Atanu Kumar Nath for his help and guidance. Secondly, I want to thank my parents for all their continued support. Furthermore, I want to thank Mikala for her support and assistance with proofreading. I also want to thank Dr. Lee Fallin for his educational videos on how to use NVivo, that he has uploaded to YouTube. Additionally, I want to thank Eirik and Even, my partners on previous papers during my time in Sogndal. Finally, I would like to thank all my fellow students for the good times over these two years. A special thanks goes out to Eirik, Even, Miriam, Silje and Linn. Last but not least, in the words of Snoop Dogg, I wanna thank me.

## **Abstract**

The purpose of this study was to uncover the motivations for loot box purchases, and to discover potential similarities between motivation for loot box engagement and gambling engagement. The motivation for the study was to contribute to fill the research gap on the subject. Netnography was selected as a research method, and used archival data and elicited data from Reddit.com. In total, 446 comments from 15 different threads were coded and analysed, which consisted of around 29 000 words, approximately 70 pages of text. NVivo 12 Plus was used to code and analyse. The motivational factors were categorized into push and pull factors to explain the psychological reasons for wanting to spend money on or in video games, and the factors for choosing to purchase loot boxes. The push factors identified in this study were enjoyment, value, self-expression, supporting the developers, hobby, and time saving. Support of monetisation model was also shown in the motivation factor of supporting the developer. The pull factors identified in this study were “wanting specific reward”, “cost effective value” and enjoyment from opening loot boxes. In-game events were identified as a link between the push and pull factors. The study found similarities in motivation for loot box engagement and gambling engagement in the motivational dimensions of “chance of winning”, “mood change” and “social rewards”.

**Keywords:** Loot boxes, gambling, motivations, cosmetic, pay-to-win, free-to-play, microtransactions

## Sammendrag

Hensikten med denne studien var å utforske motivasjonen bak kjøp av loot boxer, og for å finne mulige likheter mellom motivasjonen for å åpne loot boxer og delta i gambling.

Motivasjonen bak gjennomføringen av denne studien var for å bidra til å fylle forskningsgapet på temaet. Netnografi ble valgt som undersøkelsesmetode og brukte arkivdata og fremkalt data fra Reddit.com. Totalt ble 446 kommentarer fra 14 forskjellige tråder kodet og analysert, og bestod av omtrent 29 000 ord, ca. 70 sider tekst. NVivo 12 Plus ble brukt til å kode og analysere. Motivasjonsfaktorene ble kategorisert inn i dytte -og dra faktorer for å forklare de psykologiske grunnene for å ville bruke penger på eller i et videospill, og faktorene for å velge å kjøpe loot boxer. Dytt-faktorene som ble identifisert i denne studien var fornøyelse, verdi, selvutrykk, støtte til utviklerne, hobby og tidsparing. Støtte til forretningsmodell var også en del av motivasjonsfaktoren støtte utviklerne. Dra-faktorene identifisert i denne studien var ønske om spesifikk gevinst, kosteffektiv verdi, og glede av å åpne loot boxer. Begivenheter i spillet ble identifisert som en lenke mellom dytte og dra-faktorene. Studien fant likheter i motivasjonen for åpning av loot boxer og for å delta i gambling i motivasjonsdimensjonene «sjanse for å vinne», «humørendring» og «sosiale gevinster».

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# 1. Introduction

The video games' industry has since its beginning been through a lot of progression and development, all the way from the digital development of joysticks to controllers, motion sensing devices, personal computer (PC) games, to mobile phone gaming. This is not the only way the industry has progressed and developed, but also in the ways the games are being monetised. From the early days of arcades, followed by selling games for a one-time fee. In the 2000s the subscription model became a profitable way to monetize games, where the players had to pay a monthly fee to play. In the 2010s, microtransactions became popular in the gaming industry. Microtransactions can be described as a transaction where users can purchase virtual goods or content in exchange for real life money (Gibson et al., 2022). Microtransactions opened up a whole new way for the developers to generate revenue, from selling in-game advantages, cosmetic changes, as well as loot boxes, for real life money. A loot box is a virtual consumable item which can be redeemed to receive a randomised selection of virtual items (Lloyd et al., 2021). Opening a loot box is a “gamble”; sometimes you will receive “worthless” items, another time you might just hit the jackpot and receive rare and exclusive rewards.

## 1.1. Purpose

The purpose of this study is to identify motivations for loot box purchases, and to uncover possible similarities in the motivation for loot box engagement and gambling engagement. The fields of gaming and gambling are rapidly converging, as gaming operators are offering gambling products and gambling operators use social games as stand-alone products as well as marketing opportunities (Gainsbury et al., 2014). The relationship between gambling and gaming that microtransactions and loot boxes present is a fairly new phenomenon, and there is much uncertainty around the topic. It is also an important subject, especially considering that children make up a substantial amount of the players of these games. The way gambling-like elements have become a part of gaming, opens up many questions to be asked.

## 1.2. Motivation

The gaming industry is growing, the amount of people enjoying video games is ever increasing, and so has the amount of money involved. The gaming industry had 3 billion active players and



a market exceeding \$150 billion in 2021 alone (Hodge et al., 2022). With it comes unanswered questions, many in which touch upon important topics such as games' design and structure, the game mechanics containing microtransactions such as loot boxes, the gambling aspects of these, potential risk of addiction, and safeguarding individuals from potential harm. Many of the participants of gaming are children, making them more vulnerable to the different elements presented. Von Meduna et al. (2020) states that qualitative studies seeking to understand the lived experiences of players who purchase loot boxes could help clarify players' purchasing motivations. As reported by Close & Lloyd (2021), there has been "almost no academic literature published about the motivations for loot box purchasing." The uncertainty that this topic presents, along with the popularity of games offering loot box purchases makes this an interesting topic to study further. The motivation of this study is to contribute to fill the research gap on the topic.

### 1.3. Research questions

**What are the motivations for loot box purchases?**

**Are there similarities in the motivation for loot box engagement and gambling engagement?**

## 2 Literature review

### 2.1. Microtransactions

It has been estimated that the global videogame market made \$159 billion in 2020, with over 70% of this revenue coming from microtransactions (Gibson et al., 2022). Microtransactions facilitates a variety of ways game developers can monetise their games, and what kind of items or advantages you can purchase with real life money through microtransactions varies from game to game. The origins of microtransactions goes back to the so called “Freemium games”. “Freemium” combines the two words “free” and “premium”, and references a business model where the game is free to play, but requires a payment for any service or content deemed to be “premium” (Schwiddessen & Karius, 2018). Any purchase of premium content is in a form of a microtransaction. Premium content may include additional play time, unlocking new location or maps, level ups, armour, weapons, virtual currency, cosmetic customisation and characters (Schwiddessen & Karius, 2018).

### 2.2. Cosmetic microtransactions

Cosmetic microtransactions allow players to purchase decorations and costumes, often referred to as “skins”, for real-world money (Schwiddessen & Karius, 2018). Cosmetic items serve the purpose of customizing the game, the player’s character, or an item such as a weapon. Cosmetic microtransactions offer no in-game advantage and are purely aesthetic (Zendle et al., 2020). The cosmetic microtransactions featured in a specific game might vary. As examples, in the Multiplayer online battle game (MOBA) *League of legends*, players can purchase alternative decorations for the different characters, also known as champions. You can also purchase “emotes” in the game, which allows a player to express themselves via the movements of their in-game character. An emote could be described as a cosmetic flare. An emote can be a “thumbs up” icon showing up above your character for a brief moment, for yourself and other players to see. *Rocket League* is a vehicular football game, where players can purchase different types of “goal explosions” that allows them to celebrate their goals with a unique visual effect. In the first-person shooter game *Counter Strike: Global offensive*, you can purchase cosmetic changes to your outfit and weapons, such as visually change the gloves that their character is wearing, or the weapon that the character is wielding. Neither of these pieces confer any in-game boost or advantages in terms of gameplay, they simply look different (Zendle et al., 2020).

### 2.3. “Pay to win” microtransactions

Not all microtransactions in games are purely cosmetic. Many modern video games offer the option of purchasing virtual items and bonuses that offers in-game advantages. These microtransactions that offers in-game advantages for real-life money are often referred to as “Pay to win” microtransactions (Zendle et al., 2020). The implementation of game-affecting microtransactions can tie a player’s ability to be successful or to be able compete with other players up to spending real-life money through microtransactions. Criticisms of “pay to win” microtransactions are wide ranging from gamers to academics alike; some academics provide ethical critiques of how “Pay to win” microtransactions may change “the game from a competition where the player wins to...who wants to and can pay the most” (Zendle et al., 2020). Games that have “Pay to win” microtransactions have been criticised as unfair for less affluent players, causing frustration and sparking feeling of unfairness (Alha et al., 2018). If the pay to win elements dominate over the skill components within a game, these games can be considered a pay to win games (von Meduna et al., 2020).

### 2.4. Loot Boxes

A loot box is a virtual consumable item that offers the player randomized in-game rewards of uncertain in-game and real-world value (Xiao, 2022). The loot boxes can be purchased directly with real-world money, or bought with a game currency, which can be bought for real-world money, or earned through in-game credits (Nicklin et al., 2021). The rewards from loot boxes may range from simple customization options for a player’s game character, to game-changing equipment such as armour, weapons, virtual currency, additional skills, or even completely new or exclusive characters (Schwiddessen & Karius, 2018). The contents of loot boxes are randomly determined, and the total value of the rewards received may, or may not, exceed the price paid to open the box; a real world analogue are lottery scratch tickets (Macey & Hamari, 2019). Similar to microtransactions as a whole, you can categorize loot boxes in to two categories; those purely generating cosmetic rewards, and those generating items or advantages that affects the gameplay progress as well (Schwiddessen & Karius, 2018). Loot boxes can further be categorized in those which the rewards of the loot boxes are tradeable with other players, referred to as tradeable loot boxes, and those that the rewards are not possible to trade with others, referred to as untradeable loot boxes (Schwiddessen & Karius, 2018). The implementation of loot boxes in games are perhaps seen as the most controversial type of microtransactions, as they can not only be viewed as a predatory way of monetisation, but also

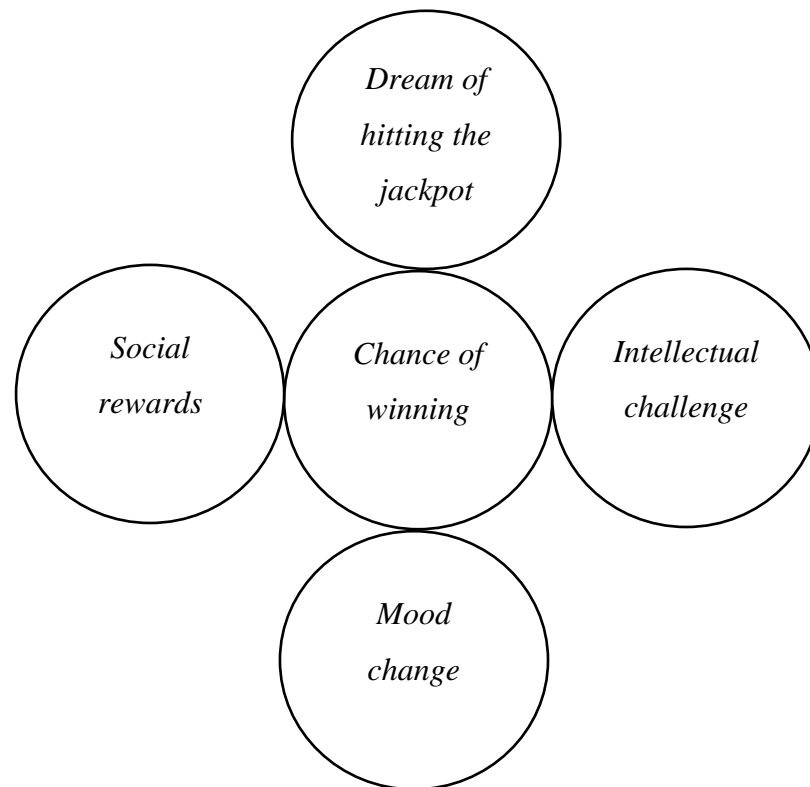
to have blurred the lines between gaming and gambling (Brady & Prentice, 2021). As loot boxes require zero skill to open, distribute randomized rewards that remain unseen until purchased, and are available in unlimited quantities, critics of games that feature these mechanics have argued that they represent a unique form of unregulated gambling (Drummond & Sauer, 2018).

## 2.5. Gambling

Gambling is defined as risking money or something of value on the outcome of an event involving an element of chance when the probability of winning is less than certain (Korn & Shaffer, 1999). If viewed as a consumer product, gambling has one of the highest rates of penetration in the populations where gambling is legal (Mizerski et al., 2013). Gambling has become widely socially accepted as a form of recreation (Stucki & Rihs-Middel, 2007). The question of why people participate in gambling is questioned both in academic studies and in society at large. Per Binde (2013) presents a model identifying five motivational dimensions to participate in gambling. Binde (2013) states that the model is primarily applicable to leisure gambling in contemporary western societies, as well as helping to understand problem gambling. This model is based upon the variety of studies done on human behaviour and motivation of gambling previously done. “The gambling phenomenon has been explained in a variety of ways, reflecting general theories of human behaviour current in various academic disciplines, including psychoanalysis, Jungian psychology, cognitive psychology, behaviourism, neuroscience, civilization studies, economics, macro sociology, micro sociology, comparative anthropology, cultural anthropology, and existentialism” (Binde, 2013). The model constructed by Binde (2013) includes motives that are present in many of the models in previous studies, however, it differs from these in that it aspires to be more general and synthesizing in scope.

## 2.6. Five motivational dimensions for gambling

The five motivational dimensions for gambling as constructed by Binde (2013) are chance of winning, social rewards, dream of hitting the jackpot, intellectual challenge, and mood change.



*Model 1. Five motives for gambling (Binde, 2013)*

### 2.6.1. The core of gambling: The chance of winning

Chance of winning is the core of all gambling engagement and is therefore always present (Binde, 2013). “The chance of winning is viewed as a psychobiological as well as a symbolic and cultural entity” (Binde, 2013). In the biopsychological domain, the brain’s reward system induces positive expectation, satisfaction and pleasure when something good is anticipated and received, especially if its better or stronger than the usual (Klein, 2006). Human psychological motivates individuals to engage in activities that offers a chance of a reward, as we feel pleasurable anticipation and satisfaction when the reward is received, and is likely to contribute to human gambling motivation of various intensities (Platt & Huettel, 2008). Chance of winning must not be confused with the simple motive of “winning money”. Furthermore, money is the *medium* of gambling, and not what gambling is actually about (Binde, 2013). Poker player and author David Spanier describes money as the *fuel* of gambling (Spanier, 2001):

*“Money is the fuel of gambling; it drives it, as petrol powers a car, but the pleasure of driving a car is not about petroleum. It’s about speed, style, movement. Fuel is merely what makes the car run. In that sense, the real motives behind gambling are to be sought elsewhere.”*

In the sociocultural domain, a gambling win contradicts with the rule of reciprocity governing much of social life (Binde, 2013). Human societies are built on the concept of reciprocity: people exchange goods and services (Polanyi, 2001). The commonality in exchanges are symmetrical and balanced, as one thing is exchanged for another with equal value (Binde, 2013). Trading is based upon this basic principle and has been since the times of bartering in pre-modern cultures and is still the basic principle of commercial business in modern societies (Binde, 2013). Receiving much more than one has given, like a gambling win provides, is thus exceptional and pleasurable (Binde, 2013). That prospect has given rise to cultural and symbols which refers to magnificent world in which one could “gain without losing, enjoy without sharing” (Lévi-Strauss, 1969), a world of lavishness in which everybody would be happy (Binde, 2013). The Christian religion has the conception of divine grace, as a gift given from God, demanding nothing in return («Grace», 1907). The equivalent of grace in secularism is luck (Pitt-Rivers, 2011), a concept often given as the explanation for unexpected gambling wins. The free and altruistic gift is thought of as an epitome of true love and friendship (Binde, 2013). The chance of winning thus has affinity to many mighty cultural symbols and concepts, where all of them have in common that they build upon the prospect of receiving more than one has given, or have received freely without any obligation in return (Binde, 2007a). Thereby, gambling is charged with positive cultural meanings (Binde, 2013).

The cultural meaning of winning money in gambling can be viewed as a domain-specific version of the full-scale imaginary economies that historians and anthropologists have studied in various cultures, where money and wealth are thought to be created, transformed and distributed in extraordinary ways (Binde, 2013). In modern western societies, winning is closely associated with success, happiness, and satisfaction (Binde, 2013). This association is often played upon and highlighted in gambling commercials (McMullan & Miller, 2009). When gambling, the sums won does not need to be huge for psychological and symbolic value of winning to be big (Binde, 2013). For example, a minor scratch ticket win may be interpreted as a propitious sign of having good luck, or having luck on your side (Binde, 2007a). The symbolism of this is not only metaphorical, gambling being a simile of the alteration of life, but also iconographic (Binde, 2013). Winning embodies an individual’s ambitions and hope of success in life (Binde, 2013).

Being a generalized measure of value, money holds the capacity to charge activities with symbolic meanings associated to all the things money can buy and accomplish (Codere, 1968). Money is viewed as the ultimate symbol, or the “symbol of all symbols” (Gregory, 1997). This

allows the chance of winning to refract into a multitude of personal ambitions and desires (Binde, 2013).

To summarize, the chance of winning has deep psychological and cultural significance (Binde, 2013). “The anticipation of winning is exciting and pleasant; winning may produce a primordial joyful feeling.” (Binde, 2013). As mentioned, the chance of winning is essential to gambling and ever present, while the others four motivational dimensions outlined in Binde’s (2013) model may or may not be relevant to particular games or to the preference of individual gamblers.

### 2.6.2. The dream of hitting the jackpot

The dream of hitting the jackpot is the central motive for participating in lotteries and other types of games where a small stake gives the gambler the chance to win a massive sum of money (Binde, 2013). The gambler enjoys the amusing fantasy of becoming wealthy and may intensify and extend this fantasy in various ways (Binde, 2013). An example of this could be someone purchasing a scratch lottery ticket, keeping it for a while, allowing the person to repeatedly indulge in the fantasizing thoughts of the ticket being worth millions, or being able to change their life. Such amusing fantasies are often emphasized in lottery advertisements (McMullan & Miller, 2009).

Hitting the jackpot is imagined to have the power to transform one’s life for the better, becoming free of economic troubles, increasing the quality and volume of personal consumption (Binde, 2013). However, for many living in first world countries this is not the primary objective. Rather, it is the realization of one’s “true self” (Binde, 2013). Realization of one’s “true self” is a process of self-fulfilment, facilitating personal development and living up to the ideals of generosity and sociability (Binde, 2007b). In other countries, with different cultural and social values, the dream of hitting the jackpot may contain other visions of how life might be transformed (Gudgeon, 2001).

### 2.6.3. Social rewards

While some enjoy gambling as a solitary activity, for many the social dimension is important, and makes them gamble for more and in other ways than if they had been gambling on their own (Binde, 2013). Gambling offers three specific kinds of social rewards: Communion,

competition and ostentation (Binde, 2013). In a general view, the gambling environment may constitute a sociocultural world of its own that captivates and attracts people (Binde, 2013).

#### *Communion*

Gambling serves a way of getting together and socializing with others. This could be friends playing poker together, senior citizens having a bingo game, or being at the casino talking to people sitting at the same craps table (O'Brien Cousins & Witcher, 2004). The magnitude of conviviality and interaction with others may range from high to low (Binde, 2013). Some people may like to be among others for a while, without necessarily being interested in interacting with them.

#### *Competition*

Gambling offers an established and readily available arena for engaging in competition with others, in which makes gambling particularly attractive to people of a competitive nature (Binde, 2013). As an example, a blackjack player may feel that he is competing against the dealer. Another example is poker players competing against each other, whether it be in a cash game, or in a championship tournament, whether it be at a local, regional, national or international level (Binde, 2013). A sports bettor can have the same feeling of competitiveness versus the bookmaker, viewing it as a challenge to “beat the system” (Neal, 2005). Winning enhances the self-esteem of a competitive player, and a desire for this may be a cause of his or her competitiveness (Binde, 2013).

#### *Ostentation*

Gambling provides an opportunity to display prominent consumption, skilfulness, boldness, and more generally gallantry and familiarity with the ways of the world (Holtgraves, 1988). This gives the gambler an opportunity to gain social recognition and status (Binde, 2013).

### 2.6.4. Mood change

Gambling has the power to change the affective and emotional mood of the gamblers (Binde, 2013). Excitement rises when, for example, a poker player sees that he has been dealt pocket aces, a sports bettor sees the football team he has placed a bet on is going on the counterattack, the roulette player sees the ball jumping on the wheel and is about to land on a number, or a bingo player only having a single number left (Binde, 2013).



Gambling may also be relaxing, in similar way any other hobbies or leisure activity that people engage in voluntarily to unwind for a while (Binde, 2013). For example, a sports bettor losing himself or herself for a while in the study of the betting options and filling out betting slips: it is an activity similar to solving a sudoku puzzle or a crossword puzzle (Binde, 2013). The pleasurable narrowing of attention in leisure gambling has been seen as experiencing *flow* (Csikszentmihalyi & Bennett, 1971). Flow is engaging in an activity with the optimal balance between opportunities and restricts, avoiding the stress and confusion of having too many choices, or the dullness of having few (Csikszentmihalyi & Bennett, 1971).

### 2.6.5. Intellectual challenge

Some games offer the gambler choices that makes it possible to influence the outcome (Binde, 2013). The gambler may spend plenty of time studying these games, increasing knowledge and developing their skill for such games, which can provide an intellectually interest and hobby (Kerr et al., 2009). Poker and handicap betting are especially appealing to gamblers who enjoy intellectual challenges (Binde, 2013). The game of poker is a game of strategy, allowing the gambler the chance to influence the outcome and outplaying their opponents by making the right choices (Ponsen et al., 2009). Handicap betting is based upon the art of estimating the chances of outcome, whether it be the outcome of a horse race or a football match, where optimal bets are placed based upon the estimated probabilities and the odds offered (Binde, 2013). Due to the nature of loot boxes, where the outcome is not possible to influence (Macey & Hamari, 2019), the intellectual challenge dimension is of less relevance to the research questions at hand.

## 2.7. Gambling elements in microtransaction games

As previously stated, gambling is defined as risking money or something of value on the outcome of an event involving an element of chance when the probability of winning is less than certain (Korn & Shaffer, 1999). Loot boxes share a pattern similar to classic games of chance. A payment is made, be it real currency or virtual currency, and a mechanism, that is supposed to rely on chance, generates a selection of virtual rewards to be received (von Meduna et al., 2020). Loot boxes appear to resemble gambling slot machines or scratch lottery tickets as they require no skill, and have a randomly determined outcome (King & Delfabbro, 2018). The loot box mechanism itself is not the only gambling-element, rather the loot boxes are

designed to encourage purchase in manners similar to gambling (Xiao, 2022). Research suggests that the thrill from gambling comes from associated increases in physiological arousal not possible monetary gains, and gamers performing microtransactions to purchase loot boxes can lead to similar increases in physiological arousal (Brady & Prentice, 2021). King & Delfabbro (2018) puts forward that loot boxes represent a “predatory monetization scheme”: because of loot boxes’ designed psychological manipulations, players often become emotionally and financially committed to spending more and more money on loot boxes, in a similar way to how gamblers become addicted, which could potentially lead to gambling-related harms.

Similar critique of this has been put forward on games that feature microtransactions without necessarily offering loot boxes. In the popular mobile game *Candy Crush* players complete levels by swapping coloured pieces of candy on a game board to make a match of three or more of the same colour, eliminating those candies from the board and replacing them with the new ones, which could potentially create further matches. The player begins with five “lives”, and one is lost whenever a level is failed. When a player has run out of “lives”, the player can either wait for them to replenish themselves, as a “life” is restored every half hour, or make a microtransaction purchase. Several parallels have been made between slot machine play and *Candy Crush*, not only rewarding events (winning spins, levelling up), but also frustrating events, such as Near-misses outcomes (Larche et al., 2016). Near-misses outcomes are outcomes that come close to, but fall just short of a win (Reid, 1986). “Cognitive accounts of gambling suggest that the experience of almost winning, so-called near misses, encourage continued play and accelerate the development of pathological gambling in vulnerable individuals” (Winstanley et al., 2011). In *Candy Crush* the game specifically highlights attempts that fall just short of the big win (Larche et al., 2016). For example, if a player needs only 2 moves to level up, but runs out of the allotted number of moves, the player will see the move counter drop to zero, followed by the message “Out of moves! You only needed 2 more jellies”. In contrast to this, if a player is not close to levelling up, the move counter drops to zero and the message would simply state “Out of moves”. As such, there is a clear attempt to highlight to the player those instances where they came close to, but fell short of the goal of the game (Larche et al., 2016).

Even without a direct gambling element where money is wagered on outcomes, money can change hands, and the game has gambling-like structures that may promote further engagement in the game, as well as offering the option of spending money to gain extra lives, extra moves

or bonus accessories as a way to maximize the likelihood of winning and advancing in the game (Larche et al., 2016). Recent research suggests that microtransactions made in casual games, especially those that feature gambling-relevant themes, are a risk factor to migration to online gambling, even in players who have not engaged in the activity before (Kim et al., 2015). The study performed by Larche et al. (2016) demonstrates that near-misses in *Candy Crush* appears to have similar psychological and physiological impacts on the players of *Candy Crush* as slot-machines near-misses have on gamblers. “Specifically, *Candy Crush* near-misses, just like their gambling-game counterparts, are physiologically arousing, and frustrating, yet motivate the urge to play” (Larche et al., 2016). It appears that the game is designed in such a way that the player feels urged to keep playing by utilizing gambling-like elements, in which a microtransaction purchase can enable further playtime.

## 2.8. Virtual goods and second-hand market

Gaming companies argues that loot boxes are not a form of gambling, as there is nothing of real-world value to be won from their content (Brady & Prentice, 2021). Another argument put forward to distinguish loot boxes from gambling, is that someone participating in traditional gambling can always cash out his or her chips to redeem money. Most games have a one-way system where in-game items and currency do not relate to real life money, meaning you can't redeem money for your loot box reward, and therefore do not hold real-life value (Hodge et al., 2022). Establishing the value of virtual goods is a hard task, and different jurisdictions may have different opinions on the matter. In the latter part of 2016, Valve, the publisher of the popular game *Counter Strike: Global Offensive*, was the subject to legal proceedings in the United States which related to the use of skins in third-party gambling websites (Holden & Ehrlich, 2017) (Martinelli, 2017). The outcomes of these cases established that US law does not recognise virtual items as constituting items of value, in contrast to other countries such as the United Kingdom (Holden & Ehrlich, 2017). If you apply US law's interpretation on virtual items not being recognised as constituting items of value, one could argue that loot box mechanics do not engage in gambling, as nothing of value is at stake. But is this an accurate assumption?

The legal proceedings that lead to the ruling, was rooted in what soon became known as the *2016 skin betting scandal* (Schwiddessen & Karius, 2018). The matter did not actually primarily concern loot boxes, but was indirectly connected to them (Schwiddessen & Karius, 2018). Over

time, secondary marketplaces formed, which were places for players to trade, buy or sell in-game goods and in-game currency. The most popular form of goods traded, were, and still is, rewards generated by loot boxes, in particular cosmetic rewards, best known as *skins* (Holden & Ehrlich, 2017). As some rewards from loot boxes are drawn significantly less than others, the rare rewards can hold significant value, ranging from thousands of USD, all the up to 100 000 USD (Schwiddessen & Karius, 2018). As time went on, these secondary markets for virtual items evolved, opening third-party websites with professional user interface, offering customer service, offering several methods of payment, making these markets looking like regulated places of business. Eventually, many of these third-party websites saw the potential to increase their field of business, and instead of only offering a place to trade virtual goods, they started offering the chance of gambling these virtual goods (Schwiddessen & Karius, 2018). Skins and other virtual items works as a replacement for real-world currency as stakes in established gambling activities, ranging from blackjack to simulated coin-flipping, to playing poker (Gainsbury et al., 2014). Hing et al. (2015) found that the most regularly identified aspects of online gambling leading to impaired control were use of digital money, access to credit, lack of scrutiny and ready accessibility. The aspect of digital money leading to impaired control may be relevant, as skins may be viewed as detached from real money in a similar fashion. Some of the third-party websites also offers betting on outcomes of professional e-sport matches (Schwiddessen & Karius, 2018), which is a selection that all major legal gambling bookmakers (e.g. Betway, Unibet, Bet365) likewise offers (Peter et al., 2019).

## 2.9. Approaches to monetisation

The usage of microtransactions in games can be seen as controversial amongst gamers, which the case of leading publisher Electronic Arts (EA)'s beta test of *Star Wars: Battlefront 2* is a good example of, which initially put major emphasis on loot boxes (McCaffrey, 2019). In particular, the loot box system in *Star Wars: Battlefront 2* rewarded players with in-game advantages, falling into the category of "Pay to win" microtransactions (Schwiddessen & Karius, 2018). An outrage in the gaming community followed, and ultimately EA decided to scrap the microtransaction system just before the final release of the game (McCaffrey, 2019). But even though EA ultimately decided to scrap their microtransaction system, it did not end without blowback. In EA's first public response to the gaming community, they tried to defend their initial microtransaction mechanisms against numerous fan complaints on Reddit. EA's comment became the most down-voted comment in Reddit's history (Messner, 2019), and the

comment was eventually inducted into Guinness World Records for this achievement (Guinness World Records, 2019). EA lost \$3.1 billion in stock value following the consumer protests, and their stock price has fluctuated widely ever since (McCaffrey, 2019).

A different approach to monetisation has been done by video game publisher Riot Games. Riot Games released the game League of Legends in 2009, and have influenced the gaming industry in several profound ways (Jarrett, 2021). Since its release Riot Games' League of Legends has grown from an obscure title developed by an independent studio, into becoming one of the most popular, lucrative and influential games in the world (Crecente, 2019). In 2017, League of Legends generated 2.1 billion USD worldwide, a figure that has been growing steadily year by year since its release in 2009 (Murray, 2018). What makes League of Legends significant in comparison to many other commercial games that came before it, is that players are not asked to spend any money to play the game (Jarrett, 2021). Riot Games popularised the term "pay to win" as a way of differentiating their way of monetisation, coining their own model a "fair" model of free-to-play (Jarrett, 2021). The study performed by Jarrett (2021) describes this model as built upon "affective monetisation", which involves reciprocal gift exchanges between players and commercial games developers. Jarrett (2021) describes that the "fair" free-to-play monetisation model used by Riot Games closely resembles the affective valorisation represented by brands as capturing, as described as an "ethical surplus" of socially enacted labour on the part of everyday consumers by Arvidsson (2005). Jenkins (2006) employed the term "affective economics" as a way of describing "a new configuration of marketing theory, still somewhat on the fringes but gaining ground within the media industry, which seeks to understand the emotional underpinnings of consumer decision-making as a driving force behind viewing and purchasing decisions". Jarrett (2021) concludes that League of Legends is a "microcosm of decommoditising affects operating within the commercial logics of the online game industry; a hybrid economy of co-creativity with all of the political economic paradoxes that entails." The game's players are aware of the role they serve as they voluntarily spend money on a game that does not require them to, but nonetheless feels justified in making purchases due to the game's distinctive longevity, as well as its connective social relations and the hybrid power dynamics Riot Games as a commercial developer has come to represent; it is the diffusive affect that underpins player purchases (Jarrett, 2021).

## 2.10. Regulation

Perhaps the most crucial effect of the *Star Wars: Battlefront 2* controversy, is that it gave fuel to calls for regulation of the video game industry (McCaffrey, 2019). In particular during the last months of 2017, video gamers all over the world put forward thousands of complaints to local gambling regulators, youth protection regulators, as well as calling for politicians to take actions against loot boxes (Schwiddessen & Karius, 2018). The amount of complaints mixed together with mass media coverage and global internet uproar, made several authorities, age-rating boards, politicians as well as shareholders take a closer look at the matter (Schwiddessen & Karius, 2018). In November of 2017, Hawaii state representative Chris Lee held a press conference to propose legislation to regulate loot boxes, and Senator Maggie Hassan of New Hampshire questioned the nominees of Federal Trade Commission about their willingness to investigate the problem (McCaffrey, 2019). Two papers were released by the UK Gambling Commission regarding loot boxes to provide the most useful guidance for practitioners, and while these papers do provide valuable insight, they also provide contractionary and indefinite answers to several key questions (Schwiddessen & Karius, 2018). Applying a strict interpretation of the papers would mean that Tradable Loot Boxes require a license under UK gambling laws, while applying a lenient interpretation of the papers, loot boxes does not pose an issue at all (Schwiddessen & Karius, 2018). Belgium has positioned itself as the leading voice of resistance towards loot boxes, declaring loot boxes as a form of illegal gambling (Brady & Prentice, 2021). In 2018, FIFA was found in violation of national gambling legislation by the Belgian Gaming Commission (Geens, 2018).

## 2.11. Loot box engagement motivation and links to gambling

Although research on the subject is scarce, some studies have been conducted. Zendle et al. (2019) performed a study conducting a preregistered online survey with a sample of older adolescents aged 16-18, where they were asked a series of questions about their loot box spending and problem gambling. 1150 full responses were gathered, where 468 (40.5%) participants had made a loot box purchase the last month, in which was analysed (n = 468) (Zendle et al., 2019).

The study found several motivations for spending money on loot boxes comparable to reasons for gambling (Zendle et al., 2019). 70 of the individuals in their sample explicitly mentioned that they opened loot boxes in order to get the exciting feeling that came from opening them

(Zendle et al., 2019). Some of the participants explicitly linked this to the randomized nature of the rewards in loot boxes; others even referred to these as “gambling feelings”. Zendle et al. (2019) draws parallels between why older adolescents buy loot boxes and why gamblers spend money on games like online poker, in which excitement is often thought to be a key factor in determining engagement (Zaman et al., 2014).

Only four motivations from a pool of 492 mentioned the idea of “profit”. Zendle et al. (2019) interprets this finding this way: “This contrasts heavily with gambling, in which the desire to make money is often a key driver of why many people gamble. This may point to the idea that the value associated with loot boxes lies somewhere other than in financial terms.” Close & Lloyd (2021) describes that the loot boxes can hold significant social and psychological values. Although the idea that Zendle et al. (2019) presents might very well be correct, one can also point out that according to Binde (2013), the assumption that making money is a key driver of gambling is misconstrued and is in fact the motivation of having the *chance of winning*.

The most common motivation for loot box purchase found by Zendle et al. (2019) was in-game advantages: Loot boxes were “bought not because they might increase players’ capital outside of the game, but because they might enable them to compete within the game itself” (Zendle et al., 2019).

Another motivational aspect was found, which Zendle et al. (2019) defines as social capital. Sixty-seven responses referred to the idea that player bought loot boxes in the hopes of being able look a certain way. Some respondents also mentioned that “skins” and other cosmetic items were a necessity to let them “fit in” within a social group (Zendle et al., 2019). Zendle et al (2019) concludes that a desire for social acceptance within a group might be a key driver for loot box engagement.

An additional finding of the study was strengthening of the links between loot box engagement and problem gambling. However, this was only found in two specific cases: In games where loot box items were only available for a limited time, and in cases where games would occasionally give away “free” loot boxes (Zendle et al., 2019). The precise reason for these effects is unclear, but Zendle et al. (2019) suggests that it may be the case that “limited time” offers on loot box items create a sense of urgency that appeals to problem gamblers more than it does to those without a gambling problem. The sense of urgency felt due to a limited time offer, can be described as the fear of missing out, commonly abbreviated to FOMO (Hodkinson,

2019). The study also looked for a link between impulsiveness and loot box engagement, but no significant link was found (Zendle et al., 2019).

Lloyd et al. (2021) developed a scale to measure the reasons and facilitators for purchasing chance-based items within video games, naming the scale as the “RAFFLE” scale. The RAFFLE scale comprises of a 23 item, seven factor scale. The seven factors identified in the scale are as follows (Lloyd et al., 2021):

Factor 1, “enhancement”, which explained the most variance as well as having the strongest reliability, containing the items relating to enjoyment.

Factor 2, “progression”. This factor contains the items related to the desire of progression in the game, like overcoming a hurdle in the game, to come back from a defeat, or otherwise speed up or gain an advantage in progression.

Factor 3, “social pressure”. This factor contains items related to (negative) social pressure, like direct pressure from peers, or fear of being shamed or left out.

Factor 4, “distraction/compulsion”. This factor relates to items containing the feeling of being compelled to the urge of purchase and being motivated by a desire to take one’s mind off life or as a source to relieve boredom.

Factor 5, “altruism”, this factor is comprised of two items that refers to altruistic motives, which is supporting of good causes and of games developers.

Factor 6, “fear of missing out (FOMO)”, this factor was comprised of three items that refers to the feeling of missing out on something, ranging from items in a collection, to an in-game event, or a special offer/deal.

Factor 7, “resale”, was compiled of two items, both of them concerning with the desire to obtain items to re-sell, either for real currency or in-game currency.

Lloyd et al. (2021) concludes that the motivations identified in the RAFFLE both have parallels with and distinctions from motivations for gaming and gambling.



### 3. Research Method: netnography

Obtaining an in-depth understand of the research questions was sought by using netnography (Kozinets, 2002). Netnography is an established approach to qualitative research, whose name draws together the terms ‘Internet’ and ‘ethnography’, and is an adaptation of traditional ethnography for the internet as a virtual fieldwork site (Kozinets et al., 2014). Netnography has been found to be potent on gaining an insider’s perspective on a given online culture in marketing studies (Kozinets et al., 2010), and is unique in tapping into naturally occurring consumer conversations (Mkono, 2011). Kozinets et al. (2010) describes netnography studies as suitable for research questions that concerns the virtual world. As the research topic and research questions at hand addresses the consumers of gaming with a natural online presence, netnography as research method was deemed appropriate. A netnographic study enables one to analyse online data that are posted under anonymously or under a pseudonym (Kozinets et al., 2010). Interactions in online communities are often freed from many of the usual social restraints employed during in-person gatherings (Kozinets, 2002). Gambling is considered a taboo subject by many, especially if addiction is present (Alexius, 2017). As the research questions that this study addresses involves gambling and gambling motivation, choosing netnography as research method may provide insight that otherwise would not have been shared. Netnography also works well with a qualitative exploratory approach (Kozinets et al., 2010), which is appropriate when there is a need for a deeper description and explanation of multifaceted phenomenon (Vo Thanh & Kirova, 2018). Qualitative methods are particularly useful for revealing the rich symbolic world that underlies wants, needs, desires, meanings, and choices (Levy, 1959). In practice, this study follows the five steps proposed by Kozinets (2010): (1) preparing for data collections and cultural entrée; (2) collecting and creating the data; (3) performing ethical research; (4) conducting an insightful and trustworthy analysis; and (5) representing the data analysis in a meaningful and appropriate manner.

#### 3.1. Preparing for data collections and cultural entrée

At this preliminary stage, it is important to be clear about the research questions and identify the certain online community suitable to answer the goals of the study (Kozinets, 2002). In order to identify the correct online field to study, key criteria suggest by Kozinets (2002) were followed. These key criteria are: “(1) favouring communities that are more ‘research question

relevant’; (2) have a ‘higher traffic of postings’; (3) have larger numbers of discrete message posters; (4) have more detailed or descriptively rich data; and (5) have more between-member interactions of the type required by the research question” (Kozinets, 2002).

Many different online communities on several platforms were scouted during this stage. Online communities with gaming as core interest were the primary target. Several different platforms were considered, including gaming communities on Facebook, Discord channels dedicated to gaming, as well as different types of webpages and forums. A number of Discord channels were heavily considered due to their popularity amongst gamers. The drawback of Discord channels is that they are chat room-oriented, making it less suitable for the research questions at hand. Chat rooms tend to be considerably less market oriented in their focus, containing information that is often fantasy oriented, social, sexual and relational in nature (Kozinets, 2002). Ultimately, Reddit.com was chosen as the online platform to study. Reddit.com was selected for the following reason in which reflects the criteria suggested by Kozinets (2002).

- (1) As of March 2022 “Reddit.com” ranks as the 9<sup>th</sup> most visited website in the world (Semrush, 2022). “Reddit.com” consists of over 130 000 subreddits (Statista, 2022). A subreddit is a subcategory of “Reddit.com” and are dedicated to a particular topic. There are numerous of subreddits dedicated to gaming, both for specific games, and for gaming in general. Anyone can sign up an account for Reddit as long as you are over the age of 13, and is free of charge to use (Reddit, 2022). The communication on “Reddit.com” is thread-based, making it more suitable than other forms of online communication such as chat rooms (Kozinets, 2002).
- (2) “Reddit.com” embraces a high volume of traffic and had approximately 1.5 billion visits in February 2022 (Statista, 2022). In 2019, Reddit had 199 million posts, where the post titled “Take your time, you got this”, which were posted on gaming subreddit /r/gaming was the 2<sup>nd</sup> most upvoted thread with 225 000 upvotes (Reddit, 2019).
- (3) “Reddit.com” is one of the world’s most active social networks worldwide, with more than 430 million monthly active users, and 52 million daily active users in 2021 (Dean, 2021).
- (4) “Reddit.com” is structured in such a way that it is a low threshold for making a post, whether it is a discussion thread, a thread where you want a question answered, posting memes, sharing a news article or other content, or sharing whatever you may want, for example your newest achievement, whether it be gaming-related, work-related, fitness-

related; there's a sub-reddit for it (Dean, 2021). Depending on the nature of the post and topic at hand, you may get detailed, extensive information.

- (5) The design of "Reddit.com" facilitates and invites the members of the community to engage in between-member interactions, with possibilities to either comment on the thread as a whole or posting a reply to a specific comment that is posted in the thread.

Kozinets (2002) underlines the importance of the researcher being familiar with the online community one seeks to understand. Knowing the characteristics, the interests and the language or slang of the community is critical to conduct a fruitful study (Kozinets et al., 2010). The author of this paper has been a member of "Reddit.com" since 2015, engaging in gaming-related sub-reddits regularly, and has been frequenting gaming-related forums for over 15 years.

### 3.2. Data collection

Kozinets (1999) arranged the online posters into four categories, based on their involvement level in the online community. These four groups consist of tourists, minglers, devotees, and insiders. According to Kozinets' (1999), the most important sources of data are the voices from devotees and insiders. Both devotees and insiders have strong consumption interests but vary in the level of attachments to the online community.

In this study, the author used "loot box" as keyword to search for relevant posted on "Reddit.com". Due to the amount of posts related to loot boxes, but not necessarily related to loot box engagement motivation, more specific phrases were used for searches, such as "Why do you buy loot boxes?" and "loot box spending", as well as using other terms for "loot boxes". Loot boxes are known under other names such as "loot crates", "prize crates", and "prize boxes", and they can also have a more specified name in various games, such as "crown crates" in the game *The Elder Scrolls Online*, or "hextech chests" in the game *League of Legends* (Jarrett, 2021). Additional searches were done to gain insight in the psychological reasons for spending money on or in video games. "Spending money on video games", "spending money on gaming", "why do you spend money on games?" were search phrases used for this purpose.

Due to the number of posts on the subject of loot boxes, hundreds of threads were read, most of which did not discuss or showed motivation for engagement. As pointed out by Kozinets et al. (2014), depending upon specificity of the topic at hand, finding data for a particular interest may be difficult. This did prove to be the case, as discussing motivation for purchasing loot boxes was a rarity amongst the community. However, 11 threads, containing 346 comments in

total, was found to be relevant for the research questions of this paper. Not all of the comments in the threads contained information about motivation for loot box engagement, as the nature of online medium, it is common that people respond with memes, jokes or comments that are considered off-topic for the research questions (Kozinets, 2002). The 11 threads were carefully read and coded in its entirety. Documents for each thread were constructed, and systematically recorded.

As suggested by Kozinets et al. (2014), participation in the communities was sought out to provide additional insight and elicited data. Elicited data refers to content that is co-created by the researcher and members of the online community through processes of social interaction (Kozinets et al., 2014). This was done by posting discussion threads in five different gaming related sub-reddits, which were /r/gaming, /r/games, /r/Leagueoflegends, /r/WorldOfTanks and /r/overwatch. A thread was also posted on the sub-reddit /r/AskReddit, where the discussion was aimed at gamers in title and description. These sub-reddits have a member base of respectively 32.8 million, 3.1 million, 5.8 million, 126 000, 3.9 million and 35.8 million. The threads posted in /r/games and /r/overwatch gained little to no traction and was not used in the study. Due to the number of posts, a thread can easily drown in the flood of other threads if it doesn't catch traction early on. The threads posted in /r/gaming, /r/Leagueoflegends, /r/AskReddit and /r/WorldOfTanks got 28, 13, 16 and 43 responses, responses made by researcher not included. The thread in /r/WorldOfTanks gave the most insight of these, as several members, which was categorized as devotees and insiders (Kozinets, 1999), engaged in back-and-forth questioning about the research questions of the study, giving descriptively rich data responses. The reasons for the choices of sub-reddits were based upon getting a mix of sub-reddits of games with cosmetic only microtransactions including loot boxes, games with "pay to win" microtransactions including loot boxes, as well as broader channels such as /r/gaming and /r/AskReddit. In these discussion threads, the communities were asked about their motivation for purchasing loot boxes and invited to share their thoughts regarding loot boxes and other microtransaction mechanics.

### 3.3. Research ethics

In common with others study using online material, it was not considered necessary to obtain the posters' consent to code and assess their online postings (Wu & Pearce, 2014; Rageh et al., 2013). The ethical guidelines put forward by Kozinets (2002) advocates getting posters'

consent. However, Kozinets' guidelines (2002) have later been revised, as their applications are more appropriate in restricted (semi-) private online communication (Langer & Beckman, 2005). It is deemed unnecessary to obtain consent for analysis of postings on public forums of communication such as Reddit.com (Rageh et al., 2013). However, as proposed by Kozinets (2002), when interacting with posters in the threads, the intention behind the posts and questions was fully disclosed.

### 3.4. Data analysis: manual coding based method

For this study, a manual, open coding approach was adopted to analyse the data, as advocated by Kozinets et al. (2014): "...the use of such software risks reducing the researcher to a mere button-pusher who finds the pre-programmed output of various web-mining and content analysis programs sufficient as either the outcome or primary basis of an interpretation. To avoid this, we advocate an 'old-fashioned,' hands-on approach to netnographic data analysis." An established qualitative data analytic process was adopted (Berg & Lune, 2017). When coding, an inductive approach was taken, in line with grounded theory (Gibbs, 2018). The coding was done using the program NVivo 12 Plus. Codes were analytically developed and inductively identified in the data and attached to the content. In total, 105 different codes were developed. Due to the explorative nature of the study, not all of these were codes directly linked to motivation expression, as some of them were used in an attempt to identify other patterns such as feeling, attitude, identifying type of loot boxes, identifying patterns of phrases. Field notes were made for research recording, reflection and analysis (Kozinets et al., 2014). Some of the codes that were initially developed were deleted as they did not amount to anything. The codes were then transformed into categorical labels or themes, and the materials were sorted by those categories. The motivational themes were put into two final categories, *push* and *pull* factors (Crompton, 1979). One early distinction which has widespread implicit agreement amongst researchers is the distinction made between true psychological drivers of behaviour, identified as *push factors*, and the appeal of specific characteristics of destinations, *pull factors* (Crompton, 1979). In this study, the push factors were psychological factors for a gamer to spend money on or in games. The pull factors were the factors for pulling the gamer to purchase loot boxes.

The 11 threads of archival data, and the 4 threads of elicited data were coded in its entirety (Kozinets et al., 2014). In total, 446 comments were coded and analysed, which consisted of

around 29 000 words, roughly 70 pages. In 127 of the comments, motivational factors were identified.

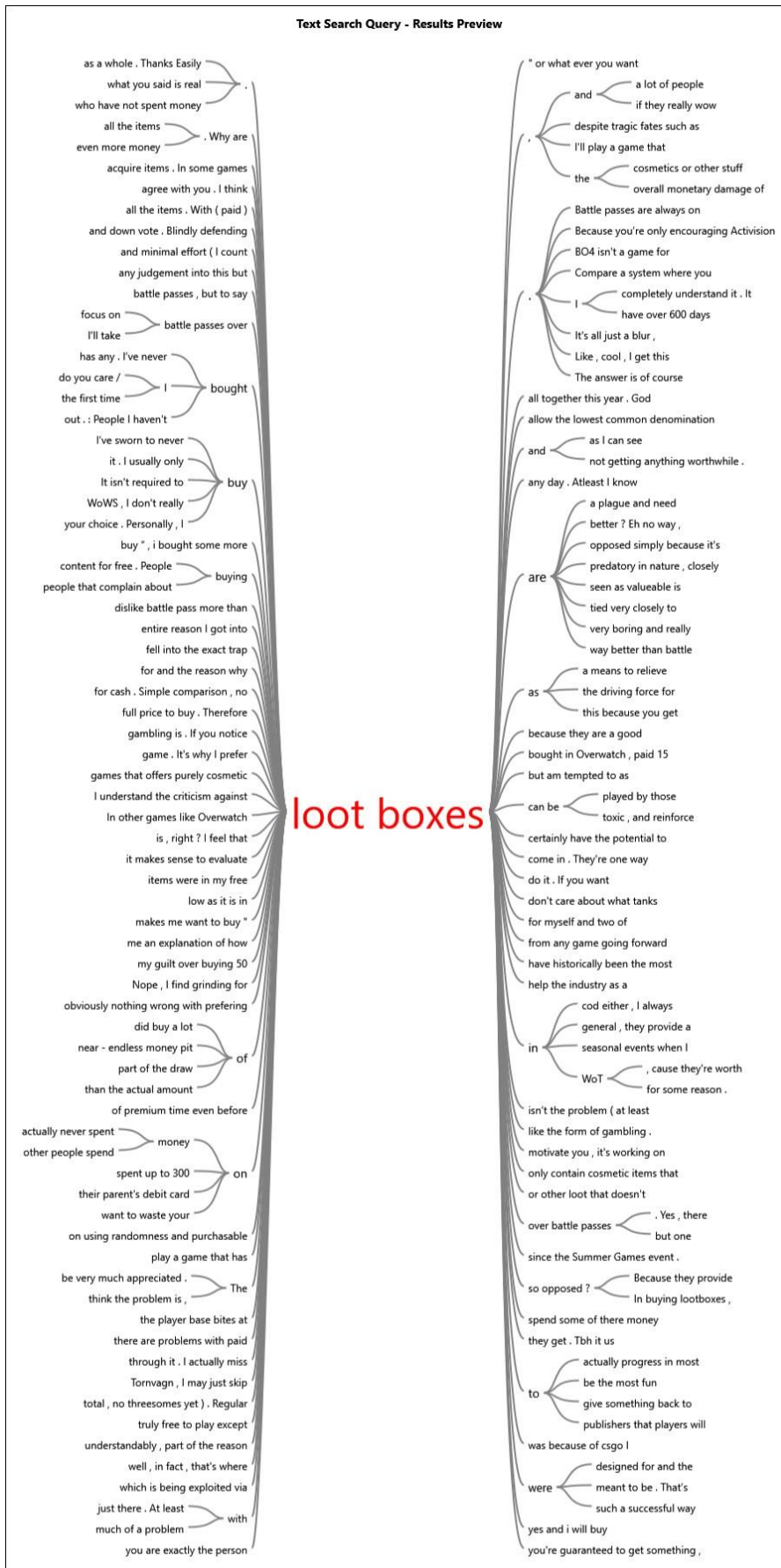


Figure 1. Word tree of "loot boxes"

# 4. Research Results

## 4.1. Push factors

The push factors identified in this study were enjoyment, value, self-expression, supporting the developers, hobby, and time saving. Many of these factors are linked, with many comments expressing several at once, in particular the factor of enjoyment.

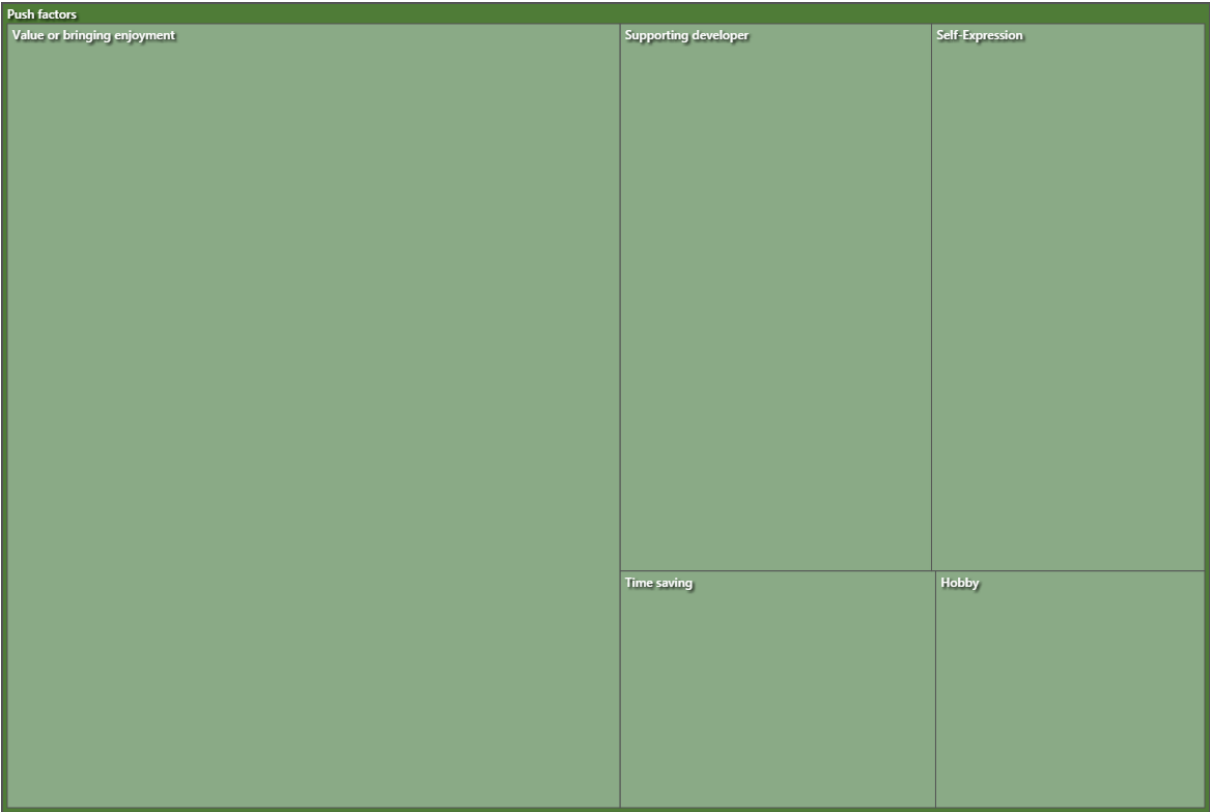


Figure 2. Hierarchy chart of push factors

### 4.1.1. Enjoyment, value, and hobby

Enjoyment is the most common theme among the push factors, and the other factors appear to be linked with enjoyment. Spending money on or in a game brings the gamer enjoyment and acts as a hobby, a hobby which one is willing to spend money on to increase the enjoyment one gets out of the hobby. Making purchases brings the gamer *value*. The term of value is viewed as *entertainment value*. This is commonly expressed and explained in two main ways. The first way is by relating the value to time, which is viewing the purchase up against how long the gamer gets enjoyment out of the purchase. The second way is by making a comparison to other things that one may choose to spend money on, and then comparing this to the purchase made



in or on video games. By some, it is described as the *movie baseline*, which is based upon calculating the amount of money spent on games, compared against what it would cost to go to the movies. Some typical statements include:

“A movie costs, what? \$8 and you get 60-120 minutes of entertainment. Maybe you buy a Soda and popcorn for increased quality of the experience for another \$8-\$15. A triple A cost of games is around \$60, \$45, \$15. And there are tons of high quality free ones. Either singler player or online. A normal single player game takes about 25-50 hours. A 25 hour single player game, that costed \$60 is roughly \$140 cheaper than spending that amount at movies (the low estimate).

Online games take around 5-30 minutes. And average gamer plays couple hundred of them in a year. Take League of Legends for example. Average lol player plays about 1000 hours in a year. How much do you think 1000 hours of enjoyment is worth?

Apparently, my account of 8 years. Is worth \$200. If we assume I'm average player. I payed \$1 for 40 hours of gameplay. In a game that is considered to have one of the most expensive skins, and in game purchases. Which I do own quite a lot. I think I got my money's worth honestly. Your money can go toward so many other useful things like investing or real life experiences. And those of you who will say that its for the experience of the game, there are so many things that you could do with that money in person, in real life that would be so much more fun. I love this myth. What do you think I could do with \$200 in real life that would give me more than some 8000 hours of enjoyment?“

“I spend every month about 100\$ on sport bets when my paycheck is in. I don't really mind skip one month with bets and spend it on something where i will be spending 100+ hours next year for a little more fun and joy.”

“My wife just bought a new car. The color she wanted was only available on the "premium paint" package, which cost us an extra \$600. I basically bought a "skin" for her car, which provides no value beyond the fact that she likes to look at it when she sees her car. How is that fundamentally different than buying a skin for a video game character? People value different things and not everything we value (and thus spend money on) falls into "investing or real live experiences." Some things we just buy because they are fun or we find them aesthetically pleasing.“



“... I’ve probably bought \$100 worth of rocket league keys, but I enjoy how my car looks and for 400+ hours that's less than \$.25 an hour.”

Self-expression can also be achieved through choice of playstyle, which might require a purchase. For example, in the game World of Tanks, accessing different tanks may provide the gamer with different playstyles that one may identify with:

“It kinda depends. In general probably not. **I’d just pick tanks that fit my play style better and use them.** An oddly specific scenario where I would is if it’s a package deal with gold and a tank from a list. If there are no tanks that fit my play style especially well/none that stick out to me sure I’d probably randomize and see what I get. Generally something sticks out to me though.”

“...There has been a couple nations of ships that I felt were more my play style so I bought in...”

The motivation of self-expression may be particularly strong for a certain group of players, called *Roleplayers*. Roleplaying (RP) is an activity where a person plays the role of a character they create and interact with other characters belonging to other people. The roleplayers make up backstories for their characters, and making references to the real world is not permitted. Roleplayers may often play on servers specified for roleplaying, depending on the game at hand. However, this particular group of players seem to be small, and only one comment made reference to roleplaying.

“Voted no but for some players "it depends." If you are heavily into RP like those I play with, some of these items are vital to character expression ...”.

#### 4.1.3. Time saving

Time saving is a motivation for purchase. There are two main motives for time saving, the first one being that one simply does not have the time to play, or lacking the desire to play, and therefore choose to purchase to obtain the desired items or in-game currency instead. The second motive being that some players may find one part of the game boring or less enjoyable than other parts of the game and want to get to the “end game” faster, therefore making a purchase to speed up or skip the part the player considers boring or less enjoyable than other

parts of the game, to spend more time playing the parts of the game that one enjoys the most. Examples of time saving motivation:

**“I work full time with lots of overtime so I buy 50 boxes whenever they drop an event.** When I first start hearing about an event coming I start saving a little money here and there so when the event hits I can just some some boxes and try to grind the rest. So far I have not missed out on anything that I wanted.”

“I would usually spend 10 bucks at the end as a last ditch effort to get some stuff. Lat event I went a little crazy though **because I didn't have much desire to play but I really wanted some of the uprising skins.**”

“If I didn't have the money to spend on this game I would probably still play it because it is fun without it. It just takes more time to reach the best parts imo. I think a good way to explain this is with another game I play which is stellaris. It's a real time strategy game and the early game is fun but I really like mid and late game better. **If I could somehow pay a little more for to get that late game experience faster I would. It's about maximizing my time on the parts that are the most fun.** That being said that's not reasonable in stellaris because late game wouldn't be as fun if the AI just created my empire up to that point. **I like playing with the higher tier tanks more and I like to maximize my time on them. It's not that I don't enjoy the lower tiers but I do enjoy it less.**”

#### 4.1.4. Supporting the developers

This motivation factor is different than the other ones, as it is based upon the players wanting to support, or give back to the developers, instead of getting or unlocking some type of content. Every comment that expresses the motive of purchase to supporting the developers have some commonalities. The first one is that they are all linked to enjoyment, and the amount of fun the game has provided them is expressed together as a reason to why one wants to support the developers. Another commonality is that all of them motivated to these factors refer to a game that is free to play. Gratitude is expressed, and a desire to reciprocate the developers for all the enjoyment is a driver to make purchases as a way to support the developers. Some of the commenters states that supporting the developers makes them feel good. For many, supporting the developers acts as a justification for a purchase of something

one desires, for example a cosmetic skin, but for some, supporting the developers appear to be the main motivation for purchase. Some examples:

“I have bought about 144 lootboxes now, because I support and love blizzard's work so i thought i would " donate " them some money along with getting the boxes in return, plus is was the last day of an event I was desperate”

"Overwatch is probably the most fun I've ever had on a video game, so I have no problem supporting Blizzard's continued development of it. I usually only buy loot boxes in seasonal events when I want a specific skin, but don't have it/have enough currency to buy it.”

“Call me dumb but I have bought lootboxes for 3 events. **I love this game and want to support it.** I do agree it's damn hard and close to impossible to earn everything you want **but they have to make their money somehow.** Plus if your looking for a cosmetic that isn't based on luck or how much money you spend then get a golden gun.”

In some of the comments, another aspect of supporting the developers is portrayed, which appears to be support of *monetisation model*, where support is expressed for being able to play for free, and acknowledgement of realizing that the developers have to earn money one way or the other:

“...I play of League of Legends regularly, probably 8+ hours per week. The game is free, and for a long time I paid nothing. I was a student, I didn't have a lot of money, and hey, free game, right? Now I'm not a student, I have a job, and I've logged over 1000 hours on the game. I could sit back and think, "Wow!, awesome, I got 1000 hours of enjoyment for free, lucky me." Instead I realize 2 things. 1) **Riot made a game that I really enjoy, and it costs them money to produce and run, so now that I have spare money, I should support them.** It's just a good thing to do, and I still got a pretty great fucking deal. Over 1000 hours of fun for what? \$20? \$40? That seems worth it to me. 2) **If I don't support this game, how will game developers know that they should spend their time and resources to improve upon League of Legends and potentially steal me away? If nobody ever spent money on video games, then developers would stop producing them, and that'd be a bummer for me, so I keep spending money.** TL;DR: I don't buy video game skins because I think they're

a good value on their own. I buy them to support the game's development. Plus, they look cool, sometimes.”

“I spent \$10 on them, would do it again for this game. My rule about buying stuff is: I want to support the development team because I play the game a lot and there’s no monthly fee AND either it’s a legit expansion pack OR I can earn it in game for free and minimal effort (I count loot boxes as this because you get them for just playing normally)”

“I buy 2-5 at the end of events if I didn't get what I wanted. After spending a lot of time with Destiny and CoD I also kind of want to support Blizzard for making a game that doesn't split up the players with DLC and that doesn't give unfair advantages to people who are willing and able to spend money on character accessories. Now that I've been thoroughly sucked into Overwatch, I honestly don't think I'll ever buy another game that requires paid DLC to get the full experience.”

Making purchases motivated by wanting to support the monetisation model of the game one plays and enjoys, begs an interesting question of what role a game’s monetisation model plays when a gamer makes the decision of whether to play and spend money on a game or not.

All of the commenters motivated by affect to support developers was referring to free to play games with no “pay to win” elements. The players of the games where it is free to play but includes “pay to win” elements in them, did not show the same affect towards the developers as those games without. The free to play game World of tanks has “pay to win” elements by the definition stated by Zendle et al. (2020). However, in the discussion thread in /r/WorldofTanks, several *insiders* (Kozinets et al., 2014) stated that they did not view the game as “pay to win”, as the elements that one could purchase that gave in-game advantage were small, and that one could still compete without them, viewing the developers’ model as having a good balance between earnable perks through gameplay to paid perks. The term “*pay for convenience*” was used, describing a model where purchase can provide minor advantages, but increased spending would not come with increased advantages, rather paying to advance faster:

“...In World of Tanks a premium account and/or tank gives you more XP and credits every battle, and that gives faster crew training and helps fund tank purchases, consumables,

or premium ammunition. But no matter how much you pay you don't get better matchmaking or different RNG for accuracy, shell penetration, or damage. Some people say the increased credit income allows players to shoot more premium ammunition (it generally has better penetration or damage or both) than FTP players and that counts as "pay to win." It's debatable, but I think there's a difference between paying to advance faster and paying to win."

"...I suppose in some way it does make me feel better about spending money. Since the game is built around "pay for convenience" instead of "pay to win" I am okay with supporting it."

The players of free to play games with "pay to win" ("pay for convenience" included) loot boxes did not state the same affection for the developers, and the motivation of reciprocal gift exchange as stated by (Jarrett, 2021) seems lost. The players of free to play games with "pay to win" elements portray a more neutral affect towards the developers, as well as the monetisation model.

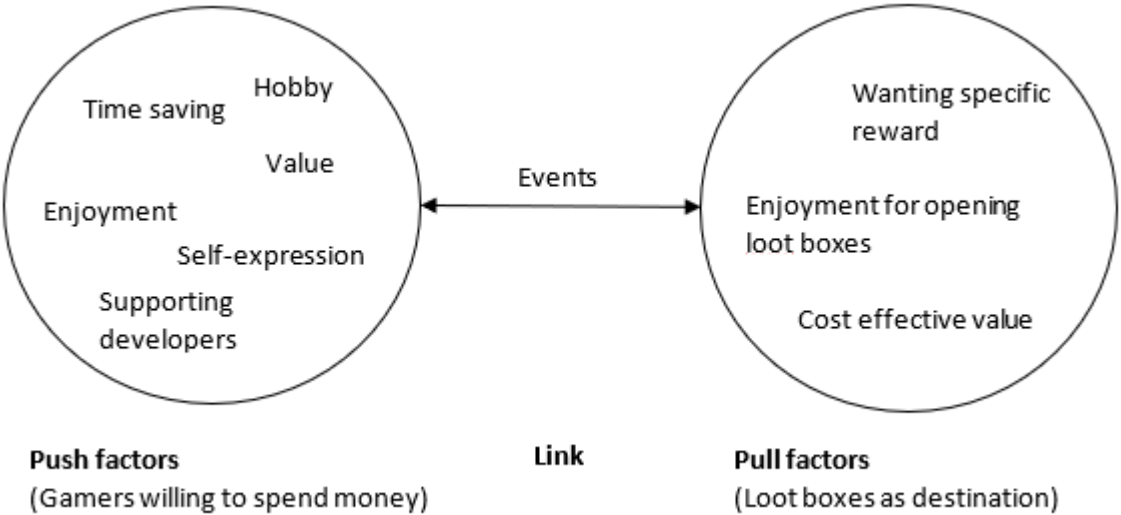


Figure 4. The push and pull factors relevant to loot box purchase

#### 4.2. Link between push and pull factors: Events

In-game events plays an important role in influencing loot box purchase. In-game events are time-limited, and during this period, players may gain extra rewards for playing, as well as the

rewards in the loot boxes are increased. Depending on the game, it can make the amount of loot rewarded from the loot boxes bigger, and commonly it adds rewards that are not possible to obtain in any other way and will only be possible to gain during the event period. These in-game events often, but not necessarily, coincide with real life events and holidays, such as Christmas and Halloween. The importance of events on the motivation for purchase was expressed throughout all the archival and elicited data that discussed loot box purchase, for both cosmetic loot boxes and “pay to win” loot boxes. Fear of missing out, the sense of urgency felt due to a limited time offer (Hodkinson, 2019), comes along with the events, and 11 commenters mentioned the exact phrase “FOMO”. The events act as a link between the push factors of spending money on or in games and deciding to purchase loot boxes.

On the 9<sup>th</sup> of December 2021, the same day the seasonal Christmas event started (WorldofTanks, 2021), an insider (Kozinets, 1999) of /r/WorldofTanks posted a thread titled “How much do you think you'll spend on loot boxes this year?” with the text:

“In past years, I've spent up to \$300 on loot boxes for myself and two of my boys. I'm probably on the 'dumb' side of this game, spending money on it all the time. My goal this year is to spend roughly \$100 or so. Neither of my boys are still playing tanks regularly so I probably won't be gifting them boxes this year.”

On this thread, there was also a poll attached, referring to the question asked in the title of the thread, where 1041 voted. 303 (29.11%) voted for “Nothing. F@#\$ wargaming!”, 87 (8.36%) voted for “under \$20”, 147 (14.12%) voted for “under \$50”, 257 (24.69%) voted for “up to \$100”, 185 (17.77%) voted for “More than 100 but less than 250” and 62 (5.96%) voted for “As much as it takes to get all the new premium tanks”.



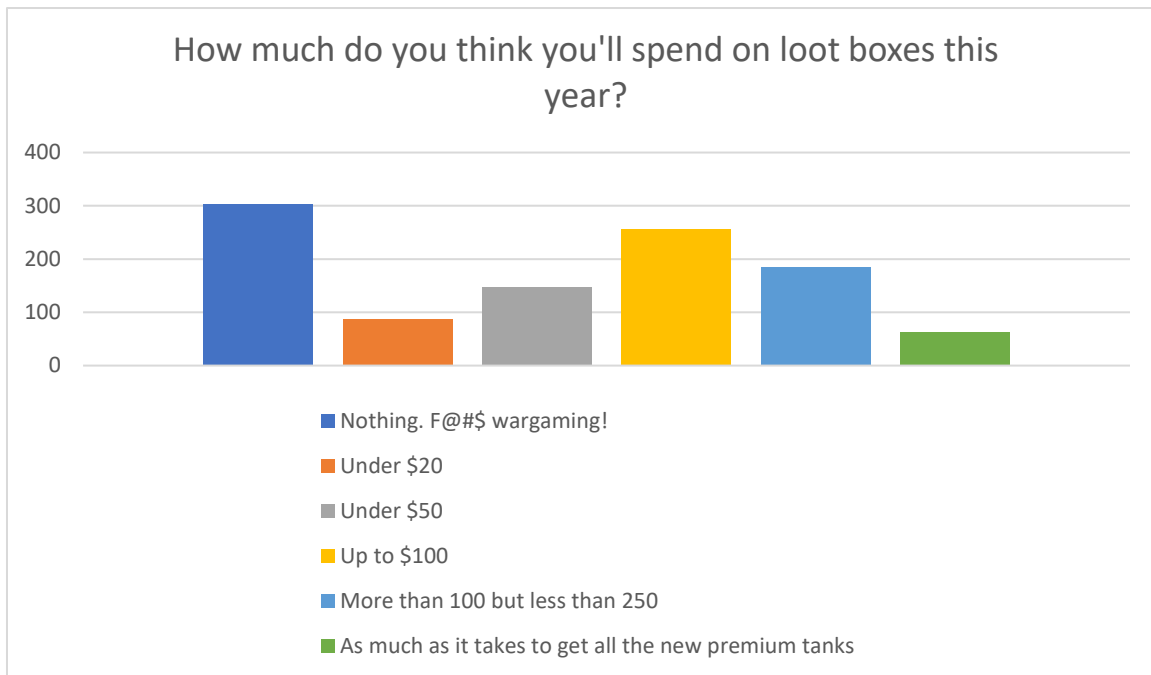


Figure 5. Poll on /r/WorldofTanks

Although the poll has multiple flaws in the answering options and was not made for scientific purposes, it can provide some indication. The thread got 72 comments, with most commenters saying they would be making purchase(s) during the event. Unlike most games with loot boxes, where loot boxes always are available for purchase (Drummond & Sauer, 2018), WorldofTanks only offers loot boxes during these events. This may cause additional FOMO. A devotee (Kozinets, 1999) writes:

“Definitely 75 boxes. Very likely 150 boxes... and honestly some chance of more depending on how my rolls go. My prime concern is getting gold for BM and prem time for the year (I honestly can’t bring myself to play without it, feels so inefficient). Cool tanks are nice but they are really a tertiary thing for me (have a tier 8 from last year I haven’t even touched...). Honestly... I even just like getting the deco’s all upfront so I can have that cred bonus at the beginning. And the reason i’m considering more boxes than usual is it seems like the gold per box has gone this year (and iirc it has steadily every year) due to less compensation for tanks. **So I have a bit of FOMO of getting even worse value next year. Yes its that’s a very dumb reason but its in my mind when deciding.**”

An interesting observation to be made is that loot boxes are purchased with the intention to give as a Christmas gift. The thread starter states that he has gifted his sons loot boxes for

Christmas, in addition to purchasing to himself. Others also state they purchase loot boxes as Christmas gifts either to themselves or other, although only 5 commenters specify that they are purchasing themselves a Christmas gift, and one other commenter stating he is purchasing loot boxes as a Christmas gift, as well as birthday gift:

“I have spent \$10 one time per event. I bought my son \$20 worth for Christmas and his birthday. I didn't play Summer Games so I guess I spent maybe \$100 on Boxes total since I got the game in August/September.”

“I know the correct answer is "none" but I know I will spend my Xmas money for a gift to myself on these damn lootboxes.”

### 4.3. Pull factors

Pull factors emphasize the appeal of specific characteristic of destinations, and pull factors are motives aroused by the destination rather than emerging exclusively from within the traveller himself (Crompton, 1979). In this study, loot boxes are thought of as the destination. Based on the content analysis, three key pull factors were identified. Those were wanting specific reward, cost effective value, and enjoyment from opening loot boxes.



Figure 6. World cloud of pull factors

### 4.3.1. Wanting specific reward

The most common of the pull factors was wanting a specific reward. Many of these specific rewards were limited to the period of the event. Some of the rewards were also only possible to get through purchasing loot boxes. Wanting specific rewards was a common factor both in cosmetic only loot box games, and those including “pay to win” loot boxes:

“I've bought at least 50 lootboxes just trying to get a single player icon before. I usually drop some cash on new event boxes as well.”

“I used to play FFBE. Average spend about £200-£300 a month, but I could afford it so didn't think much of it. The newer units always have more power and feels nice to always have the latest powerful units for trials etc...”

“My first year i'd drop 20\$ each event, i started on anniversary, i have not bought any lootboxes since halloween since most of the skins and goodies (imo) have been mediocre especially anniversary and uprising. Maybe **when rein and dva finally get an event skin** after over a year.”

Wanting specific reward motivation is closely associated with “fear of missing out”, as many of the rewards are only possible to acquire during the time of the event, with many expressing purchasing in a last ditch attempt to acquire the specific reward they were after:

“I have bought about 144 lootboxes now, because I support and love blizzard's work so i thought i would " donate " them some money along with getting the boxes in return, **plus is was the last day of an event I was desperate**”

“I bought some for the Christmas event **because I desperately wanted the Zencracker and I didn't have enough currency at the time.** I ended up not getting it from a box but I got enough currency to buy it. I only bought like 10 boxes though so not too bad.”

**“I would usually spend 10 bucks at the end as a last ditch effort to get some stuff.**

Lat event I went a little crazy though because I didn't have much desire to play but I really wanted some of the uprising skins.”

For the games with “pay to win” loot box, some players feel the pressure to keep spending money to get the newest, strongest reward:

“No, player would prefer to pay £100 to just buy the hnit if that choice was available. Because you end up spending way more chasing after a unit since it is chance based. Yes you can be lucky and get the unit with the first £10, but that is unlikely. **There was a cery strong unit got release, a game-changing type powerful unit that people been waiting on. I spent £450 before I managed to get that unit. If they let me buy that unit for £100, I would, but they make way more money doing it this way.** It sounds ridiculous if you see they charge £100 for a unit, but sad reality is that is nothing to people that are actively chasing the unit. High spender in that game have spent over £10k.”

“I play TCGs an while yes buying singles is the ideal way to do things for the digital platforms that isn't really an option sooo am left buying packs/loot boxes in the hope of getting new card”

The “wanting specific reward” factor was present through the study, being a factor in pay to play games, and free to play games, with and without “pay to win” loot boxes. As the comments above points to, it appears that offering loot boxes that contain rewards that are only possible to obtain through loot boxes is an effective way of getting players to spend more money chasing that item through loot boxes than it is to offer it as a direct purchase.

#### 4.3.1.1. Chasing completion

Chasing completion is a sub-category of wanting specific award. Chasing completion is the motive of wanting all of the items. This can be all the items within a specific group, for example all the seasonal skins of that event, or to complete a set of a particular items. The players describing “chasing completion” motivation was few and far in between, and it appears that the gamers motivated by chasing completion is a small group of players, willing to spend a lot of money. What the reason behind wanting all the items, to chase completion,

was not discovered in this study, and the commenters that expressed they wanted everything, did not specify their motivation for this. Examples:

“I have money, I want all the skins. The playtime it would take to get them all is not feasible for me during a 3 week event. I buy 2-3 sets of 50 at the start of each event, collect boxes from playing during it, and buy everything else with currency at the end.”

“Since I already own the 122TM and Skoda T 56, I know that I won't spend more than \$200 on the 150 boxes to receive all 3 new tier-8 premium tanks.”

In the poll (figure 2), 62 (5.96%) voted that they would spend as much as it took to get all the new premium tanks. Although the poll has many weaknesses, this may indicate players chasing completion.

#### 4.3.2. Cost effective value

One of the motivations for loot box purchase is the cost effective value, meaning that loot boxes are the option that gives the purchaser the most reward for the amount paid. As mentioned previously, during events the reward of loot boxes are increased, either by increased reward, or giving rewards limited to the time of the event, making loot boxes the choice of purchase that gives the player “most bang for the buck”. Some commenters stated that they have done calculations to find out the value of purchasing loot boxes as opposed to other types of purchases:

“Yeah I did some math on it yesterday. Last year I averaged 64 days of premium from each set of 75 boxes I got. A set of 75 boxes is also enough gold for all 9 stages of battle pass in a year, and I believe you get 23 days from each stage of battlepass, so if you complete all 9 the grand total is 271 days of premium from 75 boxes+9 stages of battle pass. Then all the extra days you earn throughout the year...I'd say you get somewhere around a full year of premium...basically my 400+ days of premium never even go down. And that's just from one set of 75 christmas boxes and without buying summer boxes or halloween boxes or separate premium time or anything.”

“Yes, because you can buy the 25k gold package on sale for \$90, or you could spend \$100 and get 30k gold, a bunch of premium tanks, a bunch of premium days, a bunch of credits (valued at 6k gold based on WG prices), maybe a 3d skin or two, and decorations for holiday ops...”

“their gold value per euro was higher than buying gold on average, like anywhere between 1.5 and 2.5x depending on your luck”

The motivation of cost effective value appear to be bigger in some games than others. Both archival and elicited data gathered in /r/WorldofTanks, the cost effective value is the main motivation for purchasing. In the discussion thread made in /r/WorldofTanks, the most upvoted comment with 28 upvoted stated:

“The loot boxes have historically been the most cost effective way of getting both premium tanks and gold.”

The loot box needs to contain lots of value to the player, and the value must be higher than other types of purchases available. This appears to be a part of Wargaming’s loot box strategy. Wargaming, popularly abbreviated to WG, is the developer of WorldofTanks. In the discussion thread made in /r/WorldofTanks, a devotee (Kozinets, 1999) shares his opinion:

“...I think, at least in the case of world of tanks, the company knows that the player base bites at loot boxes because they are a good deal. If there were a significant risk of it not being a good deal, say getting the gold for roughly the same exchange as normal, but with a premium tank thrown in, I think their sales would drop dramatically even though it’s still technically a “deal...”

When announcing the seasonal Christmas event, WG advertised with the amount of value in their loot boxes: “As always, the **total value of the items inside is greater than or equal to the price of the box in gold**, so there’s no way you can lose out” (Wargaming, 2021). WG gives additional guarantees to the players willing to purchase at least 50 loot boxes:

“This year, Large Boxes feature guaranteed vehicle mechanics. It’s simple—if **you open 49 boxes but still do not receive a Premium vehicle, then, with the 50th opening,**

**you're guaranteed to receive a random Premium Tier VIII tank** from the set list below that you don't have yet.” (Wargaming, 2021).

The motivation of cost effective value was the main push factor for players playing WorldofTanks, and it appears that this motivation is based upon how the specific game rewards loot boxes and other types of microtransaction purchases.

### 4.3.3. Enjoyment from opening loot boxes

Getting enjoyment from the act of opening loot boxes was consistent for both pay to play games, and free to play games, both with “pay to win” loot boxes and cosmetic-only loot boxes. Comments that described of feeling an appeal to the unknown, triggering a rush or joy when opening, trying one’s luck, or describing enjoying gambling was categorized as “enjoyment from opening loot boxes”. Describing getting enjoyment from opening loot boxes was rarely the sole motivation, but as an extra enjoyment on top of the rewards:

“For me it makes them worth, that i don't have to buy premium days over the year. So I just buy the loot boxes and have enough premium days and gold for the rest of the year+i can get the tanks. **That makes them worth it for me and it also provides the joy while opening them.**”

However, some described the enjoyment from opening as the main motivation, and described it as gambling, or describing it as provoking the same feelings as when gambling:

“If I have disposable income left during the month **I can enjoy the gamble. I don't think the dopamine rush is much different from cranking the arm on a slot machine.** It's definitely a little simplistic and cave man, **but I do get an enjoyment out of trying my luck from time to time...**I understand it's frowned upon to enjoy it, but the amount of lootboxes and micro transactions making more money than base game sales, shows a lot of people aren't probably not entirely honest with their loot box purchases as its a little taboo.”

“**Mainly the gamble aspect,** don't main champions so I'm happy getting a random skin It's not overly expensive compared to other hobbies. If I'm going to spend a lot of time playing the game in my spare time then throwing a few bucks on it here and there is not a big deal”

One devotee (Kozinets, 1999) in the /r/leagueoflegends sub-reddit explained that he bought loot boxes as a way to satisfy his gambling needs, adding that he had never been interested in “real life gambling”, but that the loot boxes got his interest. It suggests that loot boxes can be a way to discover the enjoyments of gambling for the first time, and as stated by the devotee, develop a gambling need. Both comments written by the devotee:

“I just like to gamble and LoL offer me that opportunity for a cheap price basically. Not spending too much though, may be 20\$/month.”

“I also spend around the same amount of money (30\$/month max) in a mobile gacha game, **so those two satisfy my gambling needs fully**. It's important to add, I believe, that it was never a problem for me, the budget is strictly set to 50\$/month total. **I was never interested in, like, real life gambling, but this lootbox stuff got me honestly.**”

A mingler (Kozinets, 1999) in /r/gaming explained that he used to purchase loot boxes for the thrill, but no longer did as viewing the monetisation model as predatory and a potential for reinforcing bad habits, particularly in young gamers. Both comments written by the mingler:

“I used to buy loot boxes for the thrill of it. Fun little gamble to hopefully get something nice. But now I don't support that transaction model - too predatory. I would rather buy a game pass or some item from a store where I know exactly what I'm getting or working towards.”

“Put your money where your mouth is, right? I feel that loot boxes can be toxic, and reinforce bad habits especially in younger gamers. I am happy to support a healthier alternative of in game transactions.”

Only one commenter described social rewards (Binde, 2013) playing a part in the purchase, describing how him and his friends stream to each other opening boxes, egging each other on:

“Yes 180 us a month sometimes it's less and csgo has a market place where you can buy skins you want directly from other people the reason being that some skins are no longer available to get because they were from limited timed crates **but I'd rather roll the dice and**



get a new weapon skin from a box than buy it of the market but it's also a thing among my friend group where we stream out crate opening and we just kinda egg each other on so when I open a case it's like a group satisfaction right there. And it definitely is much stronger when rolling the dice because cases are drops I earned from playing matches so getting a rare weapon skin off that case I earned makes it feel a lot more satisfying.”

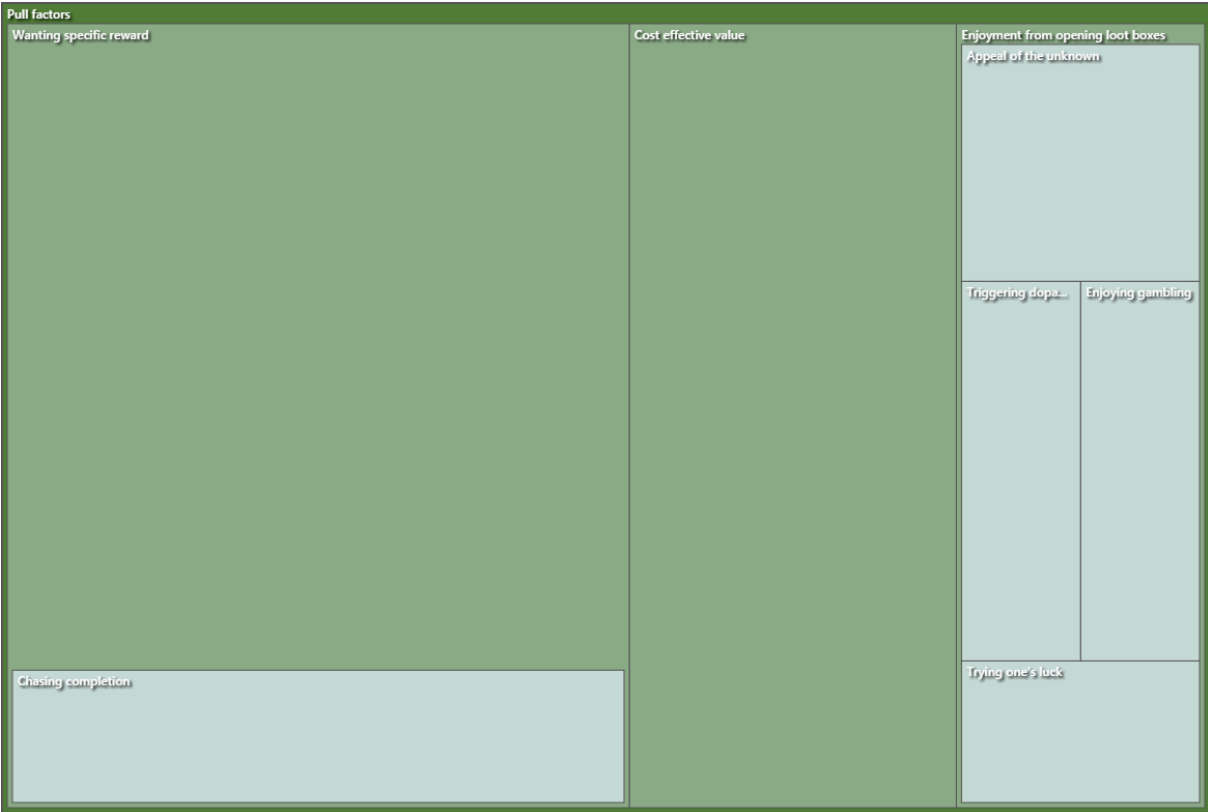


Figure 7. Hierarchy chart of pull factors

### 4.3.4. The second market

Even though rewards from loot boxes are the primary source of traded goods on the second market (Holden & Ehrlich, 2017), and is used as the stake of traditional gambling games on 3<sup>rd</sup> party sites (Schwiddessen & Karius, 2018), purchasing loot boxes motivated by trading or gambling on the second hand market was not found in this study. Purchasing loot boxes motivated by trying to get a skin with a high monetary value to re-sell was not found in this study. However, one reference was made to having traded on the second market. One devotee (Kozinets, 1999) of /r/WorldofTanks stated he had sold skins on the second hand market in order to open more crates, but that he no longer did that due to the gambling aspect of opening loot boxes:

“If I am buying a Tank, Premium time or gold yes. Crates on the other hand, from my experiences with CSGO, for me I don't really enjoy gifts of chance even if I am buying it as a gift to myself. I see crates as a gamble, I tend to gamble with a set amount that I am willing to lose. **I purposely treat these crates like a casino because of how much I used to gamble with CSGO skins and would sell skins to open crates. It was kind of like a circle I would win a ton gambling and I would use that to fuel opening crates.** I was pretty successful but, that was mainly luck I could of lost out on many occasions.”

#### 4.3.5. Additional findings

This section consists of findings that were not found to be a part of a theme but relates to loot boxes and gambling and were deemed to be of interest.

All of the comments describing loot box purchases by motivations similar to those found in gambling motivation has described leisure gambling (Binde, 2013), except for one. A mingler (Kozinets, 1999) made a post in /r/gaming, describing having a gambling problem prior to playing games with loot boxes, and having the same sensation from loot box engagement. The mingler goes on to describe how he defaulted on payments and can't play games containing loot box mechanics. An excerpt from the post:

“Later I discovered tf2 and CS:GO, and I can confidently say that I have spent at least \$1000 on crates and other assorted gambling things in those games, then I defaulted on a car payment, having no money I was forced to stop playing. I stopped playing TF and CS and I still don't touch them to this day. But now I am scared to play most modern games, with very good reason. I can't turn lootboxes off, I can't play overwatch without being tempted by the lootboxes. And the worst part is that more and more games have them, because even if the lootboxes are “just cosmetic “ they trigger the same reaction in my brain, and if I start opening them I will never stop, they are engineered to addict.”

Four commenters describe not having, or lacking, impulse control, with one additional commenter replying, “are you me?” to one of the comments. Three of the comments don't express any additional information, while the fourth states:

“I have low impulse control and hope that I'll get something really good but ofc never do. I don't go overboard of course, only 5 chests now and again. Plus I've played the game for 8 years and don't see myself stopping unless all my friends quit too so I don't feel bad about spending even if it's a little gambling”

One commenter describes not usually spending money on “gambling” features, but getting free loot boxes induced purchase of the in-game currency Riot Points (RP) which then again was used to purchase loot boxes (eclipse capsules):

“Mhh. So **I don't normally spend money on "gambling" features** because I play very few champs, Im a OTP so I don't really need skins for most other champs. However, the recent eclipse capsule with a bunch of skins and other goodies made me purchase more of those, becuase of how many things you get from them. **So I guess the hype and the amount of stuff I got for free made me want to get more, which made me spend RP to get more capsules.** I guess the gambling aspect of the game paired with the micro transactions and the possibility of getting high profile/rare skins is what motivates people? For instance this happened to Runescape. They introduced micro transactions with a wheel of fortune and the prices were insane. Very low change of getting something valuable, however. This made the game feel P2W and many ppl quit because it was poorly implemented, but I feel like RIOT is doing a good job for now. **So to summarize: getting free loot made me want to get more loot, which made me purchase RP.”**

During a discussion on /r/gaming, one member of the community describes making loot box purchases to get a certain new reward, in particular the newest, strongest units (pay to win). Another member of the /r/gaming community points out the *sunken cost fallacy*, in which the first member agrees with, explaining his feelings:

“For some people it starts by thinking they might get that lucky 10\$ or 50\$ hit, but when they realize they've spent like 100\$ sunken cost fallacy takes over and they just keep going.”

“Yes, I can certainly say that is the case a lot of the time. **It feels that if you already spent that much, you will feel lose out if you walk away with nothing.** However you have no idea how much more you have to spend before you get the unit, it may even be more than what you have already spent.”

## 5. Discussion

For the push factors, enjoyment, value, hobby, self-expression, time saving and supporting developer was identified. The factor of enjoyment was the most important push factor and was closely linked to every other factor, as they provide some sort of enjoyment. The factor of enjoyment is similar to the motivational factor described by Lloyd et al. (2021) as “enhancement”. Lloyd et al. (2021) describes “enhancement” as one of the most universal factors do with fun, excitement or recreation. There are differences as well, as Lloyd et al. (2021)’s “enhancement” category also defines the fun experienced from opening loot boxes, while enjoyment as push factor in this study refers to the enjoyment as a psychological driver for choosing to spend money. The push factor of value describes the merit of spending money and was described as the value of entertainment the gamer gets from choosing to spend money, similar to spending money on any other sort of hobby or leisure activity, which is also included in Lloyd et al. (2021)’s “enhancement” category. When describing value, the re-occurring theme was related to the amount of time one could be entertained for the purchase, or making a comparison to another recreational activity that cost money, such as going to the movies.

Self-expression describes a person’s desire to express one’s personality, feelings and style, and can be expressed through the purchase of cosmetic skins, emotes, dances, icons, as well as “pay to win” rewards such as a tank in the game WorldofTanks, where each tank has a different playstyle that one may find to express their personality. The motivation of self-expression may be even stronger for certain group of gamers, such as roleplayers. The theme of self-expression as a motivational factor is corresponding with the findings of Zendle et al., (2019), which findings included motivational factor for purchase was being able to “look a certain way”, as well as “fitting in”.

Time saving was found to be a motivational push factor for choosing to spend money. Time saving was done out of two motives. The first motive was to be able to get the desired items one wanted, but due to the lack of time available or lack of desire to play video games, one would purchase them instead. The second motive was finding one part of the game boring or less enjoyable than other parts of the game, and therefore making a purchase to speed up or skip the part the player considered boring or less enjoyable than other parts of the game,

allowing for more time to be spent on the parts of the game that gives the most enjoyment. The motive of skipping or speeding up certain parts of the game is consistent with the motivational factor described as “progression” by Lloyd et al. (2021).

Desire of supporting the developers was found to be a motivational factor for players of “free to play” games, containing cosmetic only microtransactions, loot boxes included. The motive for spending is unique, as it is rooted in a feeling of gratitude towards the developers, and a desire to give back to the developers of the game that offers the players to play for free, without demanding anything in return, nor make the players make purchase to be competitive. Enjoyment is closely linked to the desire of supporting the developers, as everyone that expressed this motive, also expressed positive feelings towards the game, stating how much they love the game, how much time they have played the game, or how much joy the game has brought them. Jarrett (2021) describes this as a lucrative affective economy involving reciprocal gift exchanges between the players and the game developers. The findings of this study correlate with the findings of Jarret (2021) and includes players from other games than League of Legends, which his findings are based on. In addition to wanting to support the developers, some also expressed of being aware that the game needs to monetise somehow, and as having an interest of keeping the game free to play without “pay to win” elements, they showed motivation for supporting the monetisation model.

The link between the push and pull factors was identified as in-game events. Events increases the value offered in loot boxes, as during the time the event is on-going, the reward of the loot boxes are increased, or offer loot that only are available for the event’s period. The effect of events was consistent all the way through, referring to pay to win games, free to play win games, with and without “pay to win” microtransactions with the inclusion of loot boxes. In this study, events are identified to be accompanied by fear of missing out (FOMO), as one can miss out on the chance of loot boxes with high value reward, or rewards that are limited to the time of the event. This is consistent with the findings of Lloyd et al. (2021), as described in factor 6 “Fear of missing out” in their RAFFLE scale. These events often coincide with real life events, such Halloween and Christmas. This may further increase motivation and may work as a justification for purchase. The study found examples of players purchasing loot boxes as a Christmas gift to themselves, but also as a gift given to other people, notably children.

For pull factors, wanting specific reward, cost effective value and enjoyment from opening loot boxes were identified. The factor of wanting specific reward was the most common, with reach in pay to play games, free to play games with cosmetic-only microtransactions, as well as free to play games containing “pay to win” microtransactions. The specific rewards that was desired was cosmetics such as skins, dances, emotes, icons, as well as “pay to win” rewards, which was in-game items that gives the player an advantage, for example a powerful weapon. These desired rewards are consistent with previous findings (Zendle et al., 2019; Lloyd et al., 2021). For the players motivated by the desire of wanting a specific reward, the fear of missing out was present, with many describing making purchases in a last effort to obtain the desired reward, whether that be an in-game advantage reward, or cosmetic reward. For a specific group, defined in this study as players “chasing completion”, the motivation to purchase appeared to be higher, willing to spend money to achieve the desired reward(s). This group of players appear to be small in size.

Cost effective value was identified in this study as the players motivated to purchase loot boxes due to the increased value that events bring and can be described as the motivation to get “most bang for your buck”. The motivation of getting cost effective value appears to be linked to the game at hand, and in particular the way the game structures their loot boxes and other purchase options; if the value in the loot boxes offered during the event holds a higher value than other purchase possibilities offered, the cost effective value of purchasing loot boxes become higher. The fear of missing out was found to be present for the players motivated by cost effective value, but not as strong as with players wanting specific reward. An explanation for this may be that players purchasing for cost effective value are aware that they won’t have to get “lucky” to still receive the value they are motivated by as they are bound to get a sizeable reward, while the players that are after specific items have to get “lucky”.

The final push factor identified was “enjoyment from opening loot boxes”. This refers to the enjoyment from opening the loot box, and not the reward itself. The study found players enjoying the aspect of opening the loot boxes across the types of games, including pay to play, free to play with cosmetic-only loot boxes and “pay to win” loot boxes. Feeling a rush, joy, appeal of the unknown, “trying one’s luck”, as well as describing motivation as enjoying gambling was identified and categorized as “enjoyment from opening loot boxes”. The findings of feeling enjoyment from opening loot boxes are consistent with the findings of

Zendle et al. (2019) and Nicklin et al. (2021). These motivations can be viewed in the light of Binde's (2013) model of motivations for gambling. The chance of winning, which is always present in gambling, is present when opening loot boxes, as one does not know what the reward will entail (Nicklin et al., 2021).

The motive of “mood change” was also identified, as mood change was described, feeling a rush, or feeling joy from opening the loot boxes (Binde, 2013). One occasion of being motivated by the “social rewards” dimension was identified, specifically the category of “communion”, where a commenter stated purchasing loot boxes as a social event among his friends, where they streamed each other opening loot boxes, egging each other on.

This study did not find anyone purchasing loot boxes motivated by the potential of re-selling rewards or to gamble on the second-hand market, although one devotee (Kozinets, 1999) of /r/WorldofTanks stated that he previously had sold skins on the second hand market in order to open more crates, but that he no longer did that due to the gambling aspect of opening loot boxes. In the RAFFLE scale, “resale” is identified as one of the factors (Lloyd et al., 2021). In the study conducted by Zendle et al. (2019) only four motivations from a pool of 492 mentioned the idea of “profit”. Zendle et al. (2019) argues that this contrasts heavily with gambling, as the desire to make money is a key driver of why many people gamble. According to Binde (2013), this is a common misconception, as the motive is in fact “chance of winning” and not making money; money is the fuel of gambling, but not the key driver.

However, one possible explanation to the discrepancies in the significance of “resale” motivation will be fronted in this paper: Some loot boxes are tradable and some are untradeable (Schwiddessen & Karius, 2018), and for games that utilise untradeable loot boxes, the potential for selling the reward may be smaller, as that would include selling the account the reward are bound to, not just the loot box reward. This entails a wide range of potential issues, such as how to implement the trade, the chance of potentially getting scammed, the risk of account being recovered.

The motivation of “hitting the jackpot” as described in Binde (2013) was not identified in this paper. However, the motivation may have relevancy in the aspect of loot boxes. As some rewards from loot boxes can be worth up towards \$100 000 (Schwiddessen & Karius, 2018)

on the second-hand market, the motivational dimension of “hitting the jackpot” seem fitting, and may be relevant in games with tradeable loot boxes. Further research is needed.



## 6. Conclusion

There's no denying that loot boxes are controversial yet featured in many of today's video games. The gaming industry is ever growing and uncovering the reasons for purchasing loot boxes is an important topic, especially with many adolescents participating in both gaming and loot box engagement. This paper sought out to uncover the motivations behind loot box purchases, and to uncover potential similarities in motivation between loot box engagement and engagement in gambling. Netnography was chosen as research method, and both archival and elicited data was utilised in this study. Binde's (2013) paper "Why people gamble: a model with five motivational dimensions" was employed as the anchor of assessing similarities of motivation in gambling engagement and loot box engagement. Binde's (2013) paper is metanalysis based upon prior research on motivations for gambling, and was deemed appropriate to assess similarities in loot box engagement and gambling engagement.

The motivations of loot box purchase were categorized into push and pull factors in order to explain the psychological reasons for wanting to spend money on or in a game, and the factors for choosing to purchase loot boxes. The push factors identified in this study were enjoyment, value, hobby, self-expression, time saving and supporting the developer. Support of monetisation model was also identified in the motivation factor of supporting the developer. The factor of enjoyment was the most important of the push factors, and was closely linked to every other factor, as they provide some type of enjoyment. The push factor of value describes the merit of spending money to gain something of value and was described as the value of entertainment the gamers gets from spending money, in a similar fashion of spending money on any other sort of hobby or leisure activity that brings entertainment. The push factor of self-expression described a person's desire to express oneself, one's personality, feelings and style. The motivation of self-expression may be particularly strong for a certain group of players, called roleplayers. The push factor of time saving described choosing to spend money to save time. Time saving was found to be done out of two motives. The first motive was spending money as a way obtain desired items one wanted, but due to the lack of time or lack of desire to play, one would purchase them instead. The second motive of time saving ensued when a player found one part of the game boring or less enjoyable than other parts of the game, thus making a purchase to speed up or skip the part the player considered boring or less enjoyable, allowing for more time to be spent on the parts that maximized

enjoyment. The final push factor identified was supporting the developer. The desire of supporting the developers was found to be a motivational factor for players of free to play games, containing cosmetic-only loot boxes. The desire for supporting the developers was found to be unique, as it is rooted in a feeling of gratitude towards the developers, and a desire to give back to the developers of the game that offers the players to play for free, without demanding anything in return. Support of monetisation model was also expressed along with the support of developers.

In-game events was identified as the link between the push and pull factors. Events increased the value offered in loot boxes, as during the time the event is on-going, the reward of the loot boxes are increased, or offer loot that only are available for the event's period. The effect of events was consistent all the way through, referring to pay to play games, free to play win games with cosmetic-only loot boxes and "pay to win" loot boxes. In this study, events was identified to be accompanied by fear of missing out (FOMO). In-game events commonly coincide with real life events, such as Christmas. The study found examples of players purchasing loot boxes as Christmas gifts to themselves and others.

The pull factors identified in the study were "wanting specific reward", "cost effective value", and "enjoyment from opening loot boxes". The most common pull factor found in this study was "wanting specific reward". "Wanting specific reward" was consistent in pay to play games, free to play games with cosmetic-only loot boxes and "pay to win" loot boxes. For the players motivated by the desire of wanting specific reward, the fear of missing out was found to be strong. Cost effective value was identified as a pull factor in this study. This describes loot box purchases motivated by the increased value in the loot boxes due to events, making it the option that provided the gamer with most value for money spent. This pull factor appeared to be game dependent, based upon a game's loot box model. The final push factor identified was "enjoyment from opening loot boxes", and was described by players feeling joy, a rush, desired by an appeal of the unknown, as well as described with comparisons to gambling and feelings triggered by gambling. "Enjoyment from opening loot boxes" was analysed in light of Binde's (2013) model of gambling motivations. The dimensions of "the chance of winning", "mood change" and "social rewards" were identified as motivations for loot box engagement.

## 6.1. Limitations of the study

The choice of data found suitable for the purpose of the study, the coding of the data, and the interpretation of the data in this study was done by a single researcher. These research steps are bound to be somewhat subjective. Doing these steps by several researchers instead of one researcher would have provided more strength to the results of the study.

Another limitation of the study is that the set of data is small. It proved to be harder than initially thought to find data that provided insight about motivations for loot box engagement. The data stretches over several games as well as types of games, which has different approaches to loot boxes, and other factors may motivate purchases depending on what game it relates to. Information posted on sub-reddits that was not dedicated to a specific game, for example /r/gaming, often did not provide information about what type of game the poster was talking about. Focusing on one particular game and sub-reddit was considered, but due to scarcity of data on motivations for loot box purchases, the decision of using all relevant data found was taken. It also needs to be noted that the approach to determining the factors of motivation of archival data was done in retrospect and inferred rather than asked directly and assessed. The archival data used dates back from 6 months up to 5 years.

A third limitation is lack of demographics. Due to the anonymous nature of Reddit.com and this study being a “pure” netnography (Kozinets et al., 2014) without an offline component, the study does not provide any form of demographics.

## 6.2. Further research

Due to the scarcity of studies on loot box engagement motivation combined with the limits of this study, further research upon the topic is suggested. This topic provides many variables, such as different types of games, different types of monetisation models, different types of rewards offered from loot boxes. Adding value to amount of upvotes a comment has received can also provide more insight, as it is common to upvote comments that one agrees with, and many may upvote a comment that states their opinion, rather than adding another comment saying the same thing.

Another suggestion for further research is research upon second hand markets and the gambling opportunities that are offered, with skins and other loot box rewards being used as

stake. Purchase motivation based on “resale” or purchasing loot boxes as a way to obtain stake for “skin gambling” on third party sites was not found in this study. However, a possible explanation of the reasons why has been provided as being heavily game dependent.

A third suggestion for further research is research upon a game’s monetisation model plays a part in the choice of game a consumer chooses to play and spend money on. This may also include research upon whether “pay for convenience” is different than the category of “pay to win”.

A fourth suggestion, further research on loot boxes acting as one’s introduction to gambling, and the potential to develop a gambling need in a similar way stated by one of the devotees in this study.

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