Master’s Programme in Marketing

Understanding consumer experiences of in-app purchases in freemium model competitive mobile games

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Abstract

Freemium business model has become a go to monetization method for mobile games. Criticism of in-app purchases in competitive freemium mobile games is a popular agenda in the gaming world. Prior research addresses some of the factors that may cause resentment of in-app purchases but does not cover the effects non-monetary sacrifice and the changing monetization mechanics have on the attitudes towards freemium mobile games’ in-app microtransactions. This study is based on a netnographic research into 15 online forum posts and 1038 comments. The results demonstrate that perceived unfairness of microtransaction prices, perceived unfairness of the amount of non-monetary sacrifice needed to compete/progress in a game without paying for microtransactions and the perceived procedural unfairness of setting monetary price on progressing in a game may lead to resentment of microtransactions in competitive freemium mobile games. The study analyses different circumstances that affect perceived unfairness of prices and non-monetary sacrifices involved with playing freemium mobile games. The findings may be useful in designing microtransactions for freemium competitive mobile games.

Keywords Mobile games; Freemium; Price fairness; Microtransactions; In-app purchases; Free-to-play; Pay-to-win.
Table of Contents

1 Introduction ........................................................................................................................................... 6

2 Literature review ............................................................................................................................... 10
   2.1 Introduction to literature review ................................................................................................. 10
   2.2 Perceived Price fairness ............................................................................................................... 10
       2.2.1 Price fairness and factors that influence its perception ....................................................... 10
       2.2.2 Procedural price fairness ..................................................................................................... 11
       2.2.3 Distributive price fairness .................................................................................................. 12
       2.2.4 Effects of product and service quality on price fairness perception .................................. 14
       2.2.5 Effects of buyer-seller trust on price fairness perception .................................................. 14
       2.2.6 Effects of buyer’s income level on price fairness perception ........................................... 15
       2.2.7 Effects of non-monetary sacrifice on price fairness perception ......................................... 16
       2.2.8 Consequences of perceived unfair price ............................................................................ 16
   2.3 Free-to-play .................................................................................................................................. 18
       2.3.1 Shift to free-to-play business model ...................................................................................... 18
       2.3.2 Playing games ....................................................................................................................... 19
       2.3.3 Playing fair ........................................................................................................................... 21
       2.3.4 Time is money ...................................................................................................................... 22
   2.4 Research proposition .................................................................................................................... 23

3 Methodology ....................................................................................................................................... 25

4 Findings ............................................................................................................................................... 30
   4.1 Price fairness perception of competitive freemium mobile games ........................................... 30
   4.2 Pay-to-win ..................................................................................................................................... 30
   4.3 Service quality .............................................................................................................................. 35
   4.4 Free-to-start ................................................................................................................................. 37
   4.5 Perceived value of time and effort ............................................................................................ 39
   4.6 Perceived value of microtransactions ....................................................................................... 40
4.7 Referencing other games........................................................................................................ 41
4.8 Price fairness perceptions in high-cost situations.................................................................. 45
4.9 Income levels.......................................................................................................................... 46
4.10 Sacrificing reputation............................................................................................................. 47
4.11 Changing prices and upgrade times...................................................................................... 48
4.12 Trust....................................................................................................................................... 49
4.13 Balance between monetary and non-monetary prices ......................................................... 51
5 Discussion and theoretical contributions.................................................................................... 53
6 Managerial implications.............................................................................................................. 59
7 Limitations and future research opportunities............................................................................ 61
References..................................................................................................................................... 63
1 Introduction

Freemium business model generated US$64.4 billion worldwide in 2019, roughly 80% of the total revenue generated by mobile games the same year (Richter, 2020). The mobile game industry has been growing rapidly. A decade ago, a research and consulting firm Flurry reported that mobile market was set to generate ten billion US dollars in 2012. The report also stated that freemium business model was the most prolific monetization model in the digital era (LeJacq, 2012). In the current year of 2021, mobile games are expected to generate US$109 billion (Capcom, 2021) and the freemium business model keeps bringing in money for many mobile games.

Despite its proven success, freemium business model has caused a great deal of controversy in the gaming world. Freemium is a broad term that can be interpreted as “type of business model that offers basic features to users at no cost and charges a premium for supplemental or advanced features” (Segal, 2021). In case of mobile games, freemium model usually means that a game is free to play but has some features/resources available through in-game microtransactions. Thus, to describe mobile games that employ freemium business model, a term “free-to-play” is often used. Gaming related news websites, magazines and forums contain numerous articles and discussions that are highly critical of the free-to-play business model. It is often criticized for worsening the quality of mobile games, taking fun out of it, making competitive games unfair, tricking players into spending money and so on. One of the frequent criticisms of the model argues that it is deceiving and should not be called free-to-play. A famous American animated sit-com South Park dedicated a whole episode to freemium mobile games. In that episode, they addressed the popular criticism of the business model and jokingly defined the word freemium as a combination of two words “free“ and the Latin word “mium” which means “not really” (Parker and Stone, 2014). This as a good example of how widespread the criticism of freemium mobile games had become by 2014. In 2015, Nintendo CEO criticized the term free-to-play: “I do not like to use the term free-to-play, I have come to realize that there is a degree of insincerity to consumers with this terminology, since so-called free-to-play should be referred to more accurately as free-to-start” (Pereira, 2020).

To understand what leads to negative opinions about free-to-play mobile games it is necessary to understand why so many find in-game microtransactions unfair. The purpose
of this research is to study consumer experiences of in-app purchases in freemium model competitive mobile games. It is important to note that most of the mobile games are competitive. Aside player versus player rivalry, competition in mobile games may take the form of comparing achievements among friends, community and worldwide. In-game microtransactions may influence the outcome of competition in some mobile games, thus create more possible reasons for resenting the microtransactions. This study focuses on competitive mobile games.

One of the most obvious reasons why someone may criticize a transaction offer is amid perceived unfairness of the price he/she is asked to pay. But the whole idea of a freemium game is that it is free to play, and one does not have to pay anything. Yet, mobile game developers manage to motivate some of the players to spend money. During the research process of this study, it became apparent that in freemium mobile games players who do not spend money on microtransactions often end up spending more time and effort than players who pay for microtransactions do to achieve the same results. Sacrifice of time does not always mean time spent on playing the game. Often players must wait for certain upgrades of weapons, constructions, or some other resources in the game. So, in order to compete and progress in a competitive freemium mobile game, people may have to pay a monetary price for microtransactions or pay the non-monetary price (make the non-monetary sacrifice in the form of time and effort) to avoid spending money on the microtransactions. This study uses terms non-monetary sacrifice and non-monetary price interchangeably.

Different factors that influence price fairness perceptions have been studied in marketing literature. Most of the factors are usually separated in two groups – distributive and procedural (Ferguson, Ellen, and Bearden, 2013). Distributive fairness has to do with price comparisons. In the case of freemium mobile games, one may compare a price of a microtransaction in one game to a price of a microtransaction in another game, or a price of a microtransaction to the non-monetary price required to compete/progress in the game without spending money on the microtransaction and so on. Procedural fairness deals with perceptions of how fairly price was set or how fair was price change amid different market conditions (Dickson and Kalapurakal, 1994). In free-to-play mobile games procedural fairness may apply to fairness judgements on what and how is monetized and to the fairness judgements on the changing prices of microtransactions and/or changes in
amounts of time and effort needed to compete/progress in a game without spending money on microtransactions. Other factors addressed in price fairness literature include buyer-seller trust (e.g. Mayer, Davis and Schoorman, 1995), quality of what is sold (e.g. Monroe, 1973), income (e.g. Martins and Monroe, 1994), non-monetary sacrifice needed to attain a promoted price (e.g. Xia, Kukar-Kinney, and Monroe, 2010), and so on.

Free-to-play mobile games have also been researched before. Mobile games are associated with the academic literature on games and play. The literature on games and play is vast and encompasses different academic fields (Grayson, 1999). Concepts of play and fairness are closely associated with and are influenced by morality in general (Bekoff, 2001). Mobile game rules are affected by real world culture (Lastowka, 2009) and having an unfair advantage is perceived as a violation of fair play in any game, digital or not. Part of the literature also addresses monetization systems in free-to-play games including the origins and development of the microtransaction-based freemium business models (Hart, 2017), mechanics employed to sell microtransactions (King et al., 2019) and some of the reasons why microtransactions in freemium games are criticized (e.g. Chou and Wang, 2017).

In case of freemium model competitive mobile games the price literature falls short of explaining the influence that sacrificing time and effort in order to attain a promoted price of zero has on the price fairness perceptions. Plus, gaming is a continuous form of consumption which complicates the application of the perceived price fairness factors studied before. It is also hard to compare microtransaction prices of unique mobile games or to assume costs involved in the development of mobile games that may be designed anywhere in the world. The literature on acceptance of microtransactions in freemium mobile games does not address the perceived fairness of both non-monetary and monetary sacrifices involved with microtransactions. The changes in what and how is sold through microtransactions and how these changes affect criticism of microtransactions is also under-researched by the academic studies on freemium mobile games.

To address this gap and answer the research question posed above, this study employed an ethnographic method of research. Online conversations related to criticism of microtransactions in a mobile game Clash of Clans were explored and the circumstances under which the microtransactions were more or less resented were identified. The
circumstances that may negatively affect consumers’ price fairness perceptions and consequently affect attitudes towards microtransactions include whether and to what extent one may perceive that he/she needs to pay money to win/progress in a game, how one values time and effort needed to win/progress in a game without spending on microtransactions, how one perceives fairness of monetary and non-monetary sacrifices involved with microtransactions in comparison to same kind of sacrifices in other games, how comparable is the referenced microtransaction in terms of the game platform, genre and sub-genre, how easy it is to understand the value of a microtransaction offer, what is the perceived price discrepancy of a high cost microtransaction, how one perceives his/her reputation will be affected by paying for microtransactions, what are the fairness perceptions of new and advanced players in regards to changes in microtransaction prices and in regards to changes in amounts of upgrade times or other non-monetary sacrifices needed to win/progress in the game. In lesser words, how well the microtransactions and non-monetary prices are balanced and how they compare to similar mobile games modify price fairness perceptions and attitudes towards microtransactions.

The next part of this thesis paper reviews academic literature on price fairness perceptions and freemium mobile games. The literature review is followed by methodology section where the data collection and the research method are discussed. In the following parts, the insights gained from the data analyses are presented and the findings and theoretical contributions are discussed. Afterwards, practical implications of the study are mentioned. Finally, limitations of the study and future research opportunities are addressed.
2 Literature review

2.1 Introduction to literature review

The literature review is organized in the following manner. First, the concept of perceived price fairness is introduced. Next, the two major branches of price fairness literature, procedural price fairness and distributive price fairness are addressed. Afterwards, academic literature on effects of product and service quality, buyer-seller trust, income levels, non-monetary sacrifice on perceived price fairness and the consequences of perceived price unfairness are discussed.

The second part of the review deals with the academic literature related to consumption of free-to-play games. At start, the shift to free-to-play business model in mobile games market is addressed. Next, the concepts of play and games are introduced to demonstrate the importance of play for people, its interconnection with culture and that culture, including rules of play, spills over from mobile games to real life, and vice versa. Afterwards, the academic literature on the significance of fairness rules in games is discussed. Then, the importance of effect that perceived fairness of the amount of time and effort needed to progress/win at freemium games without spending any money has on the perceived fairness of microtransaction in free-to-play games is supported by existing academic literature. Finally, previously unresearched factors that may influence perceived price fairness on microtransactions in free-to-play games are mentioned and the importance of researching these factors is underscored. In the conclusion of the literature review, research proposition is made.

2.2 Perceived Price fairness

2.2.1 Price fairness and factors that influence its perception

Price fairness is a well-researched topic in marketing literature. The concept of price fairness is rooted in equity research (Matins and Monroe, 1994). According to Xia et al. (2004) price fairness is a “consumer’s assessment and associated emotions of whether the difference (or lack of difference) between a seller’s price and the price of a comparative other party is reasonable, acceptable, or justifiable. “ Whether or not a price is fair, may
also be judged by procedural price fairness perceptions. Procedural price fairness can be defined as fairness assessment of the process used by a retailer to set a price (Ferguson et al., 2014).

Other less addressed factors in the literature that may influence buyer’s perceived price fairness include - how much a buyer trusts the seller (Mayer et al., 1995; Campbell, 1999; Maxwell, 2007; Bechwati, Sisodia and Sheth, 2009; Xia et al., 2010), non-monetary sacrifice buyer has made to get the promoted price (Xia et al., 2010), a buyer’s perception of how price relates to quality of what is sold (Monroe, 1973; Zeithaml, 1988; Martins and Monroe, 1994; Bei and Chiao, 2001; Bolton, Warlop and Alba, 2003), and a buyer’s income levels (Martins and Monroe, 1994; Malc, Mumel and Pisnik, 2016).

2.2.2 Procedural price fairness

Initial price research was related to economic aspects of price-setting. Later, price fairness was a part of the research that investigated effects of various price perceptions on price – acceptability relationship (Kamen and Toman, 1970). Research on the relationship of price and quality in the marketing field (Monroe, 1973) showed that inverse price - demand relationship did not always hold true amid quality perceptions. Further research (Kahneman, Knetsch and Thaler, 1986a) demonstrated that community norms (reference prices) play role in a consumer’s perception of price fairness and that these norms are governed by dual entitlement principle (Kahneman, Knetsch and Thaler, 1986b).

According to dual entitlement principle it is fair for a seller to increase price when his/her costs increase, but not to decrease price when his/her costs are reduced. So, seller and buyer involved in a transaction are entitled to the profit and price terms, respectively. This implies that when the market power of a seller grows (e.g. higher demand) it is not fair for him/her to exploit the market, same as it is not fair for price to decrease amid higher supply (Kalapurakal, Dickson, and Urbany, 1991).

But how fair is it really that sellers enjoy higher profits when their costs decrease but maintain the reference profits at the expense of their customers when the costs increase? In other words, why is it unfair for buyers to keep paying the reference prices at the expense of the sellers making less profit? Later study (Dickson and Kalapurakal, 1994) showed that a buffer rule (where the seller does not pass on the cost increases) and a cost-
plus rule (output price should be related to input costs) were both perceived as fairer than the dual entitlement principle. The same researchers also raised the question whether any general norms exist in price fairness perception by demonstrating how sensitive judgements of fairness are to situational elements, such as, “information about the seller's past pricing strategies and whether the passing on of a cost increase was initiated by the seller or was a competitive response” (Kalapurakal et al., 1991, p. 789).

Consumers evaluate fairness by starting from a fair price (Frey and Pommerehne, 1993). But consumers generally tend to think that an offered price of a good or a service is substantially higher than its fair price and are likely to ignore costs other than costs of goods sold (Bolton et al., 2003). When customers try to find the causes of perceived inequitable price, they are inclined to hold the seller responsible unless there is evidence that proves that seller is not responsible (Xia et al, 2004). Consumers’ perceived fairness of increase in price depends on whether the increase happened amid increase in cost and on how easy it is to associate the costs in question to the subsequent price of the product or the service. The more alignable a cost and a price are, the higher the perceived fairness of the increase in price (Bolton and Alba, 2006). Subsequently, intangible costs are more likely to be overlooked than tangible costs. Furthermore, “when a cost increase is non-alignable, consumers will be more receptive to a service price increase than to goods price increase (Bolton and Alba, 2006). For example, if a price increase is affected by extensive marketing costs, consumers will be inclined to perceive the price as unfair (Bechwati et al., 2009). Even when informed about the other costs, “consumers’ profit estimates appear to be high and sticky” (Bolton et al, 2003). But not knowing how the prices were decided negatively effects the price fairness perception whether it is inability to understand the price changes, estimate underlying costs or assess the value of the product or the service (Bechwati et al., 2009).

2.2.3 Distributive price fairness

Few would disagree that one of the common reasons for perceiving a price of a product or a service as unfair is finding out that someone else is buying or selling the same or comparable product or service for a smaller price, especially when the price difference is considerable. The social comparisons and comparisons to past purchases have the largest
influence on price fairness perceptions (Xia et al., 2004). The literature on distributive justice deals with such cases of perceived unfairness. Distributive justice refers to a comparison a person makes of his or her outcome to another’s outcome (Ferguson et al. 2014) and is based on the equity theory. Equity theory suggests that “persons in social exchange relationships compare with each other the ratios of their inputs into the exchange to their outcomes from the exchange” (Huppertz, Arenson and Evans, 1978). The extent of perceived unfairness of a price also depends on how high the cost of the given product or a service is (Huppertz et al. 1978). But consumers are inclined to attribute price difference between two reference prices to profits rather than to costs (Bolton et al., 2003). Part of the marketing literature on price fairness is closely related to the distributive justice theory, for example: Martins and Monroe, 1994; Bolton et al. 2003; Xia, Monroe, and Cox, 2004; Ferguson et al. 2014; Malc et al. 2016 and others.

Consumers might also make price fairness judgements when faced with rising prices over time. Consumers tend to suspect seller gouging to be a reason for rising prices over time and are inclined to underestimate the effects of inflation. Thus, it is reasonable to suggest that rising prices are likely to be judged as unfair by consumers, even when the price increased amid inflation (Bolton et al. 2003).

When comparing prices, different causes and conditions lead to different levels of perceived price unfairness. The more alike conditions of two transactions are, the higher the perceived unfairness caused by price discrepancy between the two transactions. When there is a difference in price between two analogous transactions, “the other customer comparison has a greater effect on perceived price unfairness than does the buyer’s self-reference” (Xia et al. 2004). The social comparisons have the largest influence on price fairness perceptions when consumers compare their price with a price paid by someone close to them (Mac et al., 2016). If reference prices are same or a buyer has no information to refer to, he/she reserves to inferring the procedural price fairness (Maxwell, 2002).

Consumers might also compare a price of a complementary product to the price of the main one and find the price of the complementary product unfair if they perceive it to be too high compared to the price of the main product (Bechwati et al., 2009). Discounted price is another less researched reference that effects perceived price unfairness. If the discounts are frequent and considerable (for example, 70%) it might lead to customers
believing that the normal price was too high and unfair to begin with (Bechwati et al., 2009). It is reasonable to assume that such feelings would decrease a consumer’s trust in the seller.

2.2.4 Effects of product and service quality on price fairness perception

Besides procedural and distributive factors, quality assessment may also affect price fairness. Perceived quality can be defined as a buyer’s judgement about a product’s overall excellence and preeminence (Zeithaml, 1988). Quality is closely related to perceived value of a product. Product’s value is a “tradeoff between the perceived benefits, or quality, offered by the product, and the sacrifice, both monetary and non-monetary, perceived as necessary to acquire it” (Martins and Monroe, 1994, pg. 75). Consumers are likely to perceive a price of a product to be unfair if they pay the same price as their reference but receive a product of a lesser quality (Martins and Monroe, 1994). Consumers find price deference as fair(est) if it can be attributed to difference in quality (Bolton et al., 2003). Customers’ perceptions about fairness of price and quality of a product and/or a service equally affects his/her satisfaction with the product or the service (Bei and Chiao, 2001).

2.2.5 Effects of buyer-seller trust on price fairness perception

Consumer’s trust in a seller is another factor addressed in price fairness research (Campbell, 1999; Xia et al., 2010; Bechwati et al., 2009; Maxwell, 2007). Trust is an important factor in buyer-seller relationships, and it affects fairness perceptions (Xia et al., 2004). Trust can be defined as “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party” (Mayer, Davis, and Schoorman 1995, p. 712).

Trust may differently influence the price fairness perceptions at different stages of buyer-seller relationship (Xia et al., 2004). At later stages of the relationship trust is developed through repeated transactions between a seller and a buyer, while at the initial stage it could be based on a seller’s reputation or other cues, such as store display and product assortment, or a seller’s publicized goodwill (Xia et al., 2004).
When judging a price or a price increase, consumer may infer the motive of a seller for setting or raising the price. Inferred motive effects price fairness judgement of a consumer, and a seller’s reputation has an important influence on the inferred motive (Campbell, 1999). Therefore, a deduction that a seller’s reputation influences buyer’s price fairness perceptions can be made. In case a seller has good reputation with a buyer, later may infer good motives when judging the price increase by the seller, even when the situation suggests otherwise. But, if a consumer infers that a seller’s relative profit is high, inferred motive will be negative, regardless the seller’s reputation (Campbell, 1999).

When trust is built up through repeated transactions, buyers get to know more about the seller and trust becomes more interpersonal. At this stage buyers might consider themselves as loyal customers (Xia et al., 2004). Perceived price fairness influences customer loyalty and the latter is an important antecedent of price acceptance (Martin-Consuegra, Molina and Esteban, 2007). However, when loyal buyers pay a price that is higher than their comparative standard, they might feel betrayed and experience stronger perceived price unfairness.

At the most advanced stage, buyer-seller relationship is based on identification as they share values, desires, and intentions. Such trust may overcome strong challenges and serve as a “buffer to decrease the negative effect of a comparatively disadvantaged price on price unfairness perceptions” (Xia et al., 2004). So, how trust influences price fairness perceptions depends on how much trust the consumer has and whether the price is advantages, disadvantages or neutral. When consumers’ reference price is same or less than what they paid, trust in the seller positively effects price fairness perceptions. When consumers’ reference price is higher than what they paid, trust in the seller effects the price fairness perceptions in a U-shaped manner (Xia et al., 2004).

2.2.6 Effects of buyer’s income level on price fairness perception

One of the less researched factors that may influence perceived price fairness is an income level. Nevertheless, there are some conclusions made about the income factor. In case one compares a price he/she was offered to the price offered to another person and finds inequity, perceived price unfairness is more likely to occur when their incomes are similar than when their incomes are different (Martins and Monroe, 1994). Low-income
consumers being offered favorable prices for basic necessity products (food or transportation) is more likely to be perceived as fair than when they are offered favorable prices for non-necessary products (Martins and Monroe, 1994). Later research (Malc et al., 2016) demonstrated that income levels affect not only the comparison process, but the customers’ price fairness perceptions. Consumers with different income levels differ in their price fairness perceptions. People with higher levels of income generally perceive price differences as fairer compared to perceptions of people with lower income levels.

2.2.7 Effects of non-monetary sacrifice on price fairness perception

While paying a price usually means making monetary sacrifice, in some cases consumers make non-monetary sacrifices which usually gets them a promoted price (decreases the amount of the monetary sacrifice they must make). The amount of non-monetary sacrifice made for obtaining the lower price matters the most when the promotion is denied and it results in lower price fairness perceptions (Xia et al., 2010). This happens because making a non-monetary sacrifice or in other words, exerting effort to obtain the promoted price leads the consumers feeling entitled and deserving to receive the promotion. Hence, when the promotion is denied or decreased, consumers feel that their entitlement is violated, and they perceive the price to be unfair (Xia et al., 2010).

2.2.8 Consequences of perceived unfair price

Part of the price fairness research addresses the consequences of perceived price unfairness. How perceived price unfairness may affect consumers’ feelings and behavior depends on different antecedents. Price fairness perception affects satisfaction in an exchange situation and satisfaction effects one’s intention to buy (Oliver and Swan, 1989). Perceived price fairness influences the customer satisfaction (Oliver and Swan, 1989; Herrmann, Xia, Monroe, and Huber, 2007; Martin – Consuegra et al. 2007). Satisfaction in turn effects intention to buy (Oliver and Swant, 1989) and loyalty (Martin – Consuegra et al. 2007). Price satisfaction and loyalty are important antecedents of price acceptance (Martin – Consuegra et al. 2007).
When faced with high price inequity in a brick-and-mortar store many consumers are likely to leave while some of them would complain to the management. If the consumers are frequent shoppers at the store, they are more likely to leave and / or complain (Huppertz et al., 1978). Leaving and complaining behaviors are also more likely to occur when the item is high cost (Huppertz et al. 1978). Later study (Campbell, 1999) demonstrated that fairness perceptions influence shopping intentions by establishing a link between reputation, inferred motive (why consumer thinks the seller increased price), perceived price fairness and shopping intentions. Similar results were yielded by a study on rule-based price fairness and its effect on willingness to purchase (Maxwell, 2002). Interestingly, the same study also found that when a seller’s power is augmented, perceived unfairness of the price and the pricing process increases, but the willingness to purchase is also greater. This leads to a conclusion that when they must, consumers will make the purchase but might feel resentment towards the seller.

Emotions that accompany perceived price unfairness (e.g. disappointment, anger, or outrage) may vary both in intensity and resulting behavioural reactions. Intense emotions are more likely to lead to buyers acting (Xia et al., 2004). Generally, behavioural reactions to perceived unfair price may be distinguished based on the objectives of the actions taken. The most common objectives include consumers protecting themselves financially, seeking monetary compensation, and coping with negative emotions (Xia et al., 2004). Sometimes, price unfairness perception is not intense enough to motivate a buyer into complaining or switching to a different seller, especially when switching costs are high or the buyer may not be able to find a better deal. Nevertheless, a buyer harbouring negative emotions might still spread negative word-of-mouth about the seller. If the buyer experiences more intense perception of price unfairness, he/she is more likely to engage in self-protecting behaviour, such as, asking for a refund and switching to another seller. Which of these actions a buyer will pursue depends on his/her assessment of which action is most likely to restore equity with the least sacrifice (Xia et al., 2004). When perceived price unfairness leads to very strong emotions such as anger and outrage, a consumer may try to revenge, even if the taken actions do not bring monetary benefit or do require additional sacrifice. For example, a buyer may switch to another seller even if it does not make financial sense amid high switching costs, he/she is also more likely to spread negative word-of-mouth within his/her network or use media and other ways of
reaching wider public, he/she might pursue legal actions or report the seller to regulatory agencies (Xia et al., 2004). In some cases, a consumer may even find illegal actions to be justified ways of revenge. For example, some may approve of music piracy because they perceive prices charged by production companies to be unfair (Bechwati et al., 2009). A more recent empirical study (Malc et al., 2016) confirmed Xia et al.’s (2004) findings that price fairness influences both the intention and the forms of negative behaviours that harm the seller, e.g., spreading negative word of mouth, complaining, and leaving the seller. The study also confirms that severity of consequences (no action, self-protection, revenge) depend on the intensity of price fairness perception. Another factor influencing the severity of consequences of the perceived price unfairness is the income level of the buyer. Compared to lower income consumers, buyers with higher personal incomes are less likely to pursue intense behavioural actions in order to protect themselves or revenge against the seller (Malc et al., 2016).

2.3 Free-to-play

2.3.1 Shift to free-to-play business model

Free-to-play model is a great shift in the digital game business and selling in-game items through microtransactions has become the major source of income for the developers. Microtransaction based business model has its origins in additional monetization methods implemented by games on mobile and other platforms. The methods mainly included charging for subscription fees, expansion packs and shareware (Hart, 2017). While these methods were additional means of income for most of the games, microtransactions are the main source of monetization in freemium games. Microtransaction-based business models are frequently viewed as unacceptable by players and gaming media in general (Chou and Wang, 2017).

An empirical study (Yee, 2007) found that accomplishment, communal and engagement are main kinds of motivations for play in online games. Unsurprisingly, making a game a long process and monetizing the resources that can help satisfy the social and achievement related desires proved to be a formula for success. The shift to free-to-play business model resulted in players perceiving themselves more as consumers than as
gamers and influences their experiences in terms of fairness and fun (Lin and Sun, 2011). All the above makes it an interesting for marketers to understand the factors influencing price fairness perceptions of microtransactions in games that are free for consumption.

2.3.2 Playing games

Consuming games means playing games. Play is a hard word to define. Early 20th century historian and a linguist, Johan Huizinga, wrote a renowned book on play called *Homo Ludens*. In this book Huizinga (1955) stated that human culture originated in play. He also famously defined play as

> free activity standing quite consciously outside ordinary life as being not serious, but at the same time absorbing the player intensely and utterly. It is an activity connected with no material interest, and no profit can be gained by it. It proceeds within its own proper boundaries of time and space according to fixed rules and in an orderly manner. (pg. 13)

But the word play can be used in different ways. One might play a mobile game, play a guitar, play a role, play along, or play into one’s hands. Unsurprisingly, play has been studied by sociologists, anthropologists, literary theorists, psychologists, performance theorists, and neurophysiologists (Grayson, 1999). Huizinga’s description of play as an activity that takes place outside ordinary life was problematic for anthropologists whose work demonstrated that some societies did not distinguish work from play and that play can be part of any activity (Malaby, 2007). From numerous definitions of play, Grayson (1999) finds that most scholars agree on the following three dimensions: activity is not play unless it is pursued for its own sake, people play for a self-oriented reward, such as fun and play requires engagement, physical and/or mental.

It is important to distinguish a game from play. There are many definitions of the word game and neither of them has been accepted universally. In their book, *Rules of play: Game design fundamentals*, Tekinbaş and Zimmerman review eight definitions of games and find that rules and goals are the only components that majority of authors agree on. Same cannot be said about definitions of play as Grayson (1999) did not find rules and goals to be components of play that majority of scholars include in their definitions.
Tekinbaş and Zimmerman define games as “systems, in which players engage in an artificial conflict, defined by rules, that results in quantifiable outcomes” (2004, pg. 83). They also note that some role-playing multiplayer games (RPGs) do not possess a quantifiable outcome or have different quantifiable goals but not necessarily a single overriding outcome. Even the relationship between games and play is controversial. Games could be considered a subset of play. There are different kinds of playful activities, some of them are games and others are not. But play could also be considered as subset of games. Phenomenon of games include aspects such as rules, play and culture. In this sense, play is a subset of games (Tekinbaş and Zimmerman, 2004).

From the different definitions of games and play two approaches can be observed. One that sees games and play to take place in their own space, or in other words, within a „magic circle“ (Tekinbaş and Zimmerman, 2004) that is not a part of the real life and the second approach that sees games and play as part of almost every activity in life. Malaby (2007) finds both approaches to be exceptionalistic and suggests a new definition: “A game is a semi bounded and socially legitimate domain of contrived contingency that generates interpretable outcomes (pg.96).” He sees games as social artifacts that are always in the process of becoming and suggests that there is not much benefit from conceptual categorization of games. Malaby’s (2007) approach to understanding games is helpful when researching issues connected with mobile games. Mobile games can differ from one another so drastically that it is difficult to contain them in one category of games or play. Also, many mobile games do not necessarily fit any single definition of games. Thus, it is better to be reasoning from actual experiences of gaming process than drawing conclusions based on the categories and definitions.

Many competitive mobile games are played online. One may assume that online games fit Huizinga’s view of play as an activity detached from real life. Whether online games can be viewed as an activity happening within a magic circle depends on the context we view the games in. There are rules in online games that only apply to the games and do not need to be followed outside the magic circle. Online mobile games are plaid online with a mobile (or a Pad) and cannot be plaid elsewhere. But, the rules, the design of the game environment and the gameplay is usually influenced by the culture and the rules of the real life (Taylor, 2006). “We do not shed culture when we go online and enter game worlds, nor do designers create these incredible spaces in a vacuum” (Taylor, 2006. pg.
Cosplay is a good example how culture and design of an online game may spill over into real life. Designing costumes based on virtual characters, attending cosplay events and other relating activities may affect cosplayers’ real-life finances, time, and communal status (Seregina and Weijo, 2016).

2.3.3 Playing fair

Besides design, the spillover of offline (real world) culture into virtual games can happen through different rules of play. Few would disagree that part of the play rules serve a purpose of making games fair for its participants. In his article Bekoff (2001) argued that rules of social behavior that regulate what is allowed and what is disallowed during mammalian play relate to the evolution of social morality. One of the common rules of play requires players not to engage in activity that would give them unfair advantage, such as employing mechanical aid in games that depend on physical skills or using computer in the games based on mental skills (Lastowka, 2009). In some free-to-play online mobile games, players can gain advantage by paying for resources or for other items enhancing their competitiveness. Usually, players can gain the same advantage through spending more time on the game. Some of the free-to-play games are deemed as unfair and are blamed for making it impossible or too hard to win/advance in the game without paying. Logically this violates the common rule of play against unfair advantage and could lead to negative price fairness perceptions because the non-monetary sacrifice to attain the promoted (free) price is too great or just impossible to make. One study asked a freemium mobile game players to identify cheats in the game. The players named some technical cheats and identified some of the available microtransactions to be cheats as well (Carter, Björk, Leaver and Wilson, 2016). The assumption that microtransactions are often perceived as unfair because they grant unfair advantage is supported by the finding that negative price fairness judgements are less frequent when it comes to the prices of cosmetic in-game items. This is caused by the perception that items of functional utility make the game unbalanced while aesthetic items do not (Palmeira, 2021; Chua, Kainama, Adjì and Feranita, 2019).

To investigate what factors influence the price fairness perceptions in free-to-play games, it is useful to understand how the prices are set and promoted. Game developers
make use of the player data to tailor sale offers to individual players. Some of the most popular methods of doing so in free-to-play games are (King et al., 2019):

- Matching an experienced player with a new player to motivate the later to spend more money and catch up faster.
- Offering discounts or other kinds of promotions more often to the players that lose or quit more frequently than others.
- Players are classified according to different payment levels. A player who does not spend money is targeted with offers at the same price level as a player who spends money and engages in similar in-game behaviors.
- Players’ behavioral data (including their progress, win-loss ratio, paying habits and so on) is analyzed and the offers are tailored accordingly.
- A new player is targeted with an offer upon starting the game that is often available for brief amount of time and is not offered to advanced players.
- Players are offered the same items for different prices depending on their previous spending behavior.
- Players are offered reduction of waiting period (e.g., waiting period for a virtual in-game construction to finish) without being informed how much time will actually be saved by accepting the offer.
- Players are offered mystery boxes (not knowing how much and what resources they will get from the purchase) that are adjusted to their past spending behavior.
- Players are incentivized to buy an item faster by decreasing the value of the offer based on the number and speed of the initial sales of the item to other players.

2.3.4 Time is money

Such methods make it even more difficult for players to compare prices of in-game items across different games or to base price fairness judgements on assumed costs, value or any other known factors that influence price fairness perceptions. It also shows how connected time and effort spent on free-to-play games are with the prices of the microtransactions. In addition to this, it has been found that only 0.2 % of players are responsible for 60 percent
of freemium games’ revenue, while most players spend nothing (Hart, 2017). The tiny fraction of the players responsible for the majority of the revenue generated from microtransactions in free-to-play games are often referred as “whales” in gaming related discussions and articles (e.g. Dreier et al. 2017; Hart, 2017). The rest of the players need to spend more time and effort to attain the same items (some games have items only available for paying customers) that are purchased by the whales.

2.4 Research proposition

Greatly increasing revenues of mobile games and the domination of free-to-play business model makes it interesting for marketing researchers and practitioners to understand which factors and to what extent lead to resentment of microtransactions in free-to-play competitive mobile games. One of the obvious reasons why a player may resent an in-game microtransaction is perceived unfairness of the price offered in the microtransaction. Understanding perceived fairness of prices of microtransactions in free-to-play mobile games cannot be achieved by just utilizing the existing price fairness research amid combination of several unique circumstances involving microtransactions in these games.

It is difficult to apply procedural fairness when determining the price fairness of microtransactions because a consumer must take into consideration the production costs of the game which vary drastically as the games are designed in different countries and require very different amount of time and skills to be developed. Plus, freemium games may sell resources that help with advancing in the game, grant access to some exclusive features and/or cosmetic items. Understanding the procedural fairness of these different transactions may be very confusing for most. Promotions and price fluctuations add to the confusion.

Each mobile game is unique. Prices of microtransactions of different mobile games are hard to compare unless the price difference is very large. Also, one does not necessarily know about the prices of microtransactions in comparable (to some extent) games. In addition to these complications, previously unresearched factors, time and effort needed to attain for free what is sold as a microtransaction, may influence the perceived fairness of the prices of microtransactions. Review of the existing research on free-to-play games and
analyses of related statistics and designs of microtransaction promotions suggest that time and effort spent on playing a game and time spent on waiting for in-game upgrades is the non-monetary sacrifice that players are often expected to make if they do not spend money on microtransactions. In other words, time and effort is the non-monetary price one may have to pay in order consume a freemium game. Study of effects of non-monetary sacrifice on perceptions of price fairness (Xia et al., 2010) does not address situations where consumers already get some reward for their non-monetary sacrifice (e.g., playing experience), the promoted price equals zero and the transaction is a continuous process.

With some freemium games, consumers may feel that engaging with the microtransaction is the only way to progress or win in the game. In this case, players would feel that they are forced to pay for microtransactions. Such circumstance may also have a unique influence on the fairness perceptions of microtransactions.

Negative feedback motivated by resentment of microtransactions may have significantly damaging impact on a popularity of a freemium mobile game as consumers have wide options of platforms for giving poor rating or spreading negative word-of-mouth. On the platforms where mobile games are viewed and downloaded, consumer ratings and feedback are usually included. Consequently, better understanding the factors that lead to resentment of microtransactions in freemium competitive mobile games may help with more successful design of microtransaction offers and avoidance of negative feedback.
3 Methodology

This study used an ethnographic approach of exploring consumer communications to research attitudes towards in-app purchases in competitive freemium mobile games. Most freemium games are played online, and the players are usually based in different countries and continents. To share their opinions related to particular freemium game or any gaming related topics the players often use internet forums such as Reddit, Quora or a game-specific forum. The following study was focused on Reddit discussions related to fairness judgements of microtransactions in a freemium mobile game called Clash of Clans. Since this study explores digital public conversations, it belongs to a specific ethnographic research method known as “netnography”. Netnography as an online marketing research technique for studying consumer insights was developed by Robert Kozinets (2002). He defined netnography as “a new qualitative research methodology that adapts ethnographic research techniques to the study of cultures and communities emerging through electronic networks.” (2002, p. 62). Since then, netnography has been used as a research method in different fields of academic research including business, education, digital journalism, geography, health, knowledge management, sport, tourism and so on (Costello, McDermott and Wallace, 2017). Netnography has become a popular tool for understanding customers. Heinon and Medberg (2018) reviewed 321 netnography studies published in marketing journals between 1997 and 2017. They concluded that netnography is a recognized qualitative methodology among marketing researchers. Reviewing netnography studies in marketing field (Heinon and Medberg, 2018) demonstrated that online virtual communities have been in the centre of netnographic studies and that many marketing researchers found netnography to be increasingly useful in researching consumption experiences. There are number of benefits in employing netnographic research method for understanding why consumers resent microtransactions in competitive freemium mobile games. Freemium business model has gone mainstream during last decade in mobile games. While a term freemium applies to any mobile game that only charges for microtransactions, there are constant innovations in what and how is sold through microtransactions in freemium mobile games. Netnography is especially useful in exploring consumer reactions to innovative products and services as it is unintrusive, sensitive to unique, innovative data and provides opportunity to gain rich insights into
current word – of – mouth communication among members of virtual communities (Costello, McDermott, and Wallace, 2017).

The mobile game *Clash of Clans* was chosen amid several reasons. It represents a popular mobile gaming genre of strategic games. *Clash of Clans* was first released in 2012 and has undergone several important changes, including changes related to microtransaction prices and the amounts of time and effort needed to progress in the game without paying for the microtransactions. Thus, the analysed data contains discussions that took place at different times and covers the reactions to the upper-mentioned changes both form new and loyal consumers. *Clash of Clans* has hundreds of millions of downloads and has made billions in profits (AppMagic, 2021). Preliminary research showed that the opinions on the fairness of microtransactions in *Clash of Clans* were divided, which led to rigorous discussions what is fair and unfair in regards of microtransactions. Table 1 displays the chosen Reddit posts, number of comments under each post, the Reddit communities where the posts were made and the dates of posting.

The discussions this study is focused on were identified based on the results yielded after inserting different keywords and different combinations of keywords related to the research question into the Google search engine. The yielded results were examined to reveal possible keywords that were not searched for before. The search process resulted in finding related discussions mainly from three different online forums: Reddit, Quora and the *Clash of Clans* own forum. The related Reddit and Quora communities were examined to find the discussions not included in the Google search results. Each forum was also separately researched for related posts using the forums’ own search options. Employing multiple ways of searching for data helped identify the posts that did not mention *Clash of Clans* in the body of the forum post but the contents were related different reasons why people resent microtransactions in freemium games and the posts were published in *Clash of Clans* related forum subgroups. The choice was made to research data gathered from the Reddit posts and comments. In order to avoid bias all the 15 Reddit posts yielded by preliminary research were included in the study. The posts were published in different gaming related communities of Reddit, which makes the data more representative of general attitudes towards microtransactions in freemium games. One of the Reddit posts was not published in a *Clash of Clans* related Reddit community and did not include *Clash of Clans* in the body of the post, but the comments offered a lot of insight into the reason
why some resent microtransactions in *Clash of Clans* mobile game. Reason why posts from Reddit were preferred over posts from other sources was because the Reddit posts were highest in number and richest in content. In total the data consists of 15 posts and 1038 comments.

The process of analyses was explorative and focused on finding the factors that affect price fairness perceptions of microtransactions in *Clash of Clans* and other mobile freemium games mentioned in the data. First, each post with following commentary was analysed separately. Many of the circumstances that may lead to resentment of microtransactions were directly named in the posts and comments by the forum participants. Some of the factors were recognised based on the commenters’ reactions to other people’s opinions. The upvotes and downvotes of the posts and comments were also taken into consideration. After separately analysing each post with following commentary, the comments and posts focused on the similar circumstances from the whole data set were grouped together. Some of the comments were included in more than one group as they were related to more than one factor that may contribute to the resentment of microtransactions. The next stage of research analysed the grouped comments and posts to see which circumstances and to what extent are most likely to lead to perceived unfairness of both microtransaction prices and amounts of time and effort needed to progress/win in freemium competitive mobile games without spending money on microtransactions.

To better understand the Reddit discussions analysed in this study it is helpful to have a general idea about the game of *Clash of Clans*. The game was developed and published by a Finnish mobile game developer Supercell. In the game, a player starts with creating a village. Villages consist of different buildings including builder huts, defences, gold mines, elixir collectors and others. The central building is called a Town Hall. There are 14 levels of Town Halls in the game and each level offers harsher competition than the previous one. A player uses the resources produced by the village to progress and build an army. The army is used to attack other players’ villages and gain more resources. Players may build walls around their villages to strengthen the defences. Players may unite in so called clans and compete with other clans. It takes time to upgrade different buildings. The upgrade times get longer with each Town Hall level. Microtransactions sell resources and offer deductions in upgrade times. When player is active his/her village may not be
attacked. Microtransactions also sell a timed protection from being attacked when a player is offline.
Table 1. Description of the research data

<table>
<thead>
<tr>
<th>Title of the post</th>
<th>Community</th>
<th>Number of Comments</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>A game like Coc without the waiting?</td>
<td>r/AndroidGaming</td>
<td>13</td>
<td>2016</td>
</tr>
<tr>
<td>CoC pay to win ppl.</td>
<td>r/ClashofClans</td>
<td>12</td>
<td>2020</td>
</tr>
<tr>
<td>Does anyone feel cheated by SuperCell?</td>
<td>r/ClashofClans</td>
<td>31</td>
<td>2018</td>
</tr>
<tr>
<td>Games like Clash of Clans with a serious theme and/or not pay to win?</td>
<td>r/AndroidGaming</td>
<td>45</td>
<td>2015</td>
</tr>
<tr>
<td>How Clash of Clans puts a price on time - pricing formula explained in depth</td>
<td>r/Gamedev</td>
<td>124</td>
<td>2014</td>
</tr>
<tr>
<td>How fun is Clash of Clans if you play it F2P?</td>
<td>r/AndroidGaming</td>
<td>14</td>
<td>2019</td>
</tr>
<tr>
<td>In pay-to-win mobile games, the top scoreboard is filled with losers instead of winners.</td>
<td>r/Showerthoughts</td>
<td>224</td>
<td>2019</td>
</tr>
<tr>
<td>Clash Of Clans is Freemium, PERIOD</td>
<td>r/ClashofClans</td>
<td>22</td>
<td>2020</td>
</tr>
<tr>
<td>The price one guy paid to be the top Clash of Clans player in the world</td>
<td>r/Games</td>
<td>439</td>
<td>2014</td>
</tr>
<tr>
<td>Upgrade price reduction spring update 2020...</td>
<td>r/ClashofClans</td>
<td>15</td>
<td>2020</td>
</tr>
<tr>
<td>upgrade times are waaayy too long</td>
<td>r/ClashofClans</td>
<td>13</td>
<td>2020</td>
</tr>
<tr>
<td>What exactly do you think is pay to win?.</td>
<td>r/truegaming</td>
<td>28</td>
<td>2020</td>
</tr>
<tr>
<td>What is the longest wait time in CoC?</td>
<td>r/ClashofClans</td>
<td>17</td>
<td>2014</td>
</tr>
<tr>
<td>why do so many people believe clash of clans is p2w?</td>
<td>r/ClashOfClans</td>
<td>13</td>
<td>2021</td>
</tr>
<tr>
<td>Why wikipedia says that Clash of clans is pay to win? This info is false, its the best mobile game ever!</td>
<td>r/ClashOfClans</td>
<td>28</td>
<td>2020</td>
</tr>
</tbody>
</table>
4 Findings

4.1 Price fairness perception of competitive freemium mobile games

Freemium games are known as such because the price to start playing one is zero. As discussed in the literate review, people play games for self-oriented reward, such as fun (Grayson, 1999) and games usually have quantifiable outcomes (Tekinbaş and Zimmerman, 2004). Few would disagree that when rules of a game are violated, playing is not fun anymore. The most common rules of free-to-play games are that the price to play the game is zero and some resources may be bought in the game.

The approach of this study to investigating the factors that lead to resentment of microtransactions in freemium competitive mobile games is to research the price fairness perceptions of free-to-play mobile games. This includes the prices of microtransactions, the non-monetary prices in the form of sacrificing time and effort, and the price of a game itself. But how do we understand price fairness of something that costs nothing?

Only a tiny fraction of consumers is responsible for most of the money generated by microtransactions in freemium mobile games and most players spend nothing (Hart, 2017). Nevertheless, without that majority freemium games would not exist. The price that the non-spending majority of gamers sacrifice to compete with each other and with the paying players are the time and effort spent on the game. Reddit discussions analyzed in this study show that fairness perceptions of time and effort spent on free-to-play games directly affects fairness perceptions of microtransactions. Just like monetary sacrifice, perceived fairness of time and effort spent on a game is affected by distributive and procedural fairness perceptions and other factors that typically influence price fairness perceptions. Rest of this chapter deals with the circumstances that affect consumer attitudes towards in-app purchases in competitive freemium mobile games.

4.2 Pay-to-win

One of the most common terms used to describe free-to-play games as not fair for non-paying customers is “pay-to-win”. The data included in the study demonstrates that perceiving a game to be pay-to-win often leads to resentment of microtransactions offered
by *Clash of Clans* and other freemium mobile games’ players. What makes a freemium game pay-to-win is a very contradictory subject and is affected by some procedural and distributive price fairness factors. Understanding what factors and to what extent influence the perceptions of a freemium game being pay-to-win is important part of analyzing the circumstances that lead to resentment of microtransactions in freemium mobile games. Much like the concepts of play and game, pay-to-win has no universal definition. The following insights emerged from the posts and comments analyzed in this study.

While some of the communities’ members acknowledge that it is hard to define what pay-to-win means, many attempt to do so. The differences and similarities among these definitions portray an overall picture of what makes freemium games and in particular *Clash of Clans* more-or-less pay-to-win. Some gamers have more radical approach than others. This radical approach is often based on the perceived distributive injustice:

In general, a game is considered pay-to-win when a player can gain any gameplay advantage over their non-paying peers. Now not all pay-to-win games need to have stark differences between the paying community and the freeloaders. COC [*Clash of Clans*] is pay-to-win because it gives a huge boost in saving time with the 20% reduction and several magic items that allow for much faster progression towards the end goal. (DavisAF, 2020)

This comment does not represent the majority’s judgement of whether *Clash of Clans* is pay-to-win, but it does embody the main themes that such judgements are based on – comparison of what you get for making monetary sacrifice versus what you get for making non-monetary sacrifice.

In earlier freemium games the monetization mechanics seemed to be less complicated, which made it easier to define pay-to-win. If some resources available through microtransactions are impossible to attain by sacrificing time and effort and the advantage gained from them cannot be matched by any resources attainable without paying, distributive price fairness is violated and microtransactions are perceived as unfair:

It used to be really easy to say which games were pay to win and which were not. If you could ONLY buy an item with real money and it was better then the items you'd normally get it was pay-to-win, Nice and simple. (herrabanani, 2018)
The commenter highlighted word “only” with capital letters to underscore the fact that if no matter how much time and effort one invests in some games, he/she will not be able to get the products that are not inferior to the ones offered through in-game microtransactions, then the game is pay-to-win. Such interpretation of what pay-to-win means and how it is unfair was frequently mentioned by the community members. In the application stores dedicated to mobile games freemium games are offered for free and the existence of microtransactions in mentioned in the description. A consumer who downloads the game may expect that by investing time and effort it should be possible to win in the game. How much time and effort must be enough to compete with paying customers is subjective. The data suggests that most of the consumers find some amount of time and effort to be worth same reward as one would get by paying money for microtransactions. When this reward is denied, consumers perceive the price they paid, in other words the amount of non-monetary sacrifice they made, to be unfair. In the early days of pay-to-win the differences between what you got through microtransactions and what you got through investing time and effort were often much greater than the same differences in modern freemium games and therefore it was easier to identify which games were pay-to-win and which were not.

The data revealed that “paywalling” is another practice closely associated with pay-to-win games. Paywalling means making progress in a game impossible without paying. Paywall usually occurs after a player is already advanced to some level in a game. Such practice is often perceived as both distributive and procedural price unfairness. Players resent that only the consumers who pay money can progress further while their own non-monetary price has no value, and they also feel angry at the game developers whom they perceive as cheaters for introducing the game as free-to-play, having them invest time and effort in progressing and then leaving them no choice but to pay money if they want to continue their progression through the game. Paywalling is a cause of much anger among players. Some comments suggested that games that use paywalling monetization scheme should not exist: “If the term ‘paywall’ applies to your ‘game,’ you shouldn't be making games” (joekeyboard, 2014). One gamer who claims to be a beginner game developer and to have attended couple of meetings with game developers said he/she approached them and:
asked them if they like to play their own [freemium] games and almost all of them say the same thing, ‘these aren't games, they are systems carefully crafted to move the player towards a paywall.’ And then talk about how they don't really play their own games in their free time. This has always been why I can't play games like these. (floydisanspiral, 2014)

The above comments are demonstrative of the popular attitude towards paywalling present in the different communities and different posts analyzed in the study. There was no single comment that even slightly justified the practice. The strong resentment of in-game microtransactions amid paywalling mechanics can be explained by Frey and Pommerehne’s (1993) observation that consumers evaluate fairness by starting from a fair price. In case of freemium mobile games, the starting monetary price of a game is 0, so when one is not able to continue consuming the service at the initially offered price he/she may find the price of the microtransaction needed to progress past the paywall to be unfair. From a seller’s perspective, paywalling can be interpreted as price set based on the costs of providing some amount of the service for free. From the players’ perspective the time and effort invested in the game to achieve some progress is the non-monetary sacrifice that is wasted unless they start paying for microtransactions.

Some microtransactions offer cosmetic in-game items. The following comment mentions “paywalled cosmetics”. Such use of a word paywall does not represent the usual practice that people describe as paywalling. In this case, a paywall means the items are only available through microtransactions:

Definitions of pay to win are really varied. But it's [Clash of Clans] definitely not pay to win because at the end everyone reaches the same exact levels and no content is pay-walled except cosmetics (which does not affect actual gameplay).
(Dunkjoe, 2020)

The positive attitude towards practice of monetizing in-game cosmetic items depicted in the above comment were observed across different posts and Reddit communities. When arguing against the people who claim that Clash of Clans is not pay-to-win, games that only charge for cosmetics (often referred as “skins”) were frequently brought up as better examples of free-to-play mobile games: “You shouldn't gain a competitive edge with cash payments. That's cheating, I really like the "pay for skins"
approach of TFZ, Data 2 and LoL” (protestor, 2014). Above comments explain the reason why microtransaction prices for in-game cosmetic items are perceived as fair in the gaming context. Most of the other comments mentioning cosmetic items sold through microtransactions also found it a fair practice since these items do not give any functional advantage and are not necessary to progress in the game. While playing a mobile game is a hedonic experience, the items sold through the in-game microtransactions can be divided as utilitarian and hedonic ones. The items that are necessary to progress or give some in-game advantages are utilitarian and the cosmetic items are hedonic. This study found that prices of utilitarian items are a lot more likely to be perceived as unfair, then the prices of hedonic in-game items.

The main arguments mentioned by the people who perceive Clash of Clans as a fair game is that it is possible to progress in the game all the way without paying any money, without skill, spending money on microtransactions does not guarantee winning, and by investing enough time and effort you may gain the same resources as offered for money in microtransactions. One of the posts on Reddit, called Clash of Clans is Freemium, PERIOD mentions many of such arguments and represents the strong opinion of part of the consumers who are against the idea of Clash of Clans being pay-to-win:

You can play this game for free and still progress. … If you feel like you are getting left behind then either spend more time and be efficient or pick up $$ to invest and get ahead… Spending money may improve the game for the user and everyone. You either spend more time or money. Your choice, your actions.
(EddyTheGhost, 2020)

The above comment makes it simple and clear by saying that you either spend more time or money and is yet another example of using non-monetary price as a reference price when judging the fairness of microtransaction prices. The fairness perceptions of the amounts of time and effort needed to progress/win in a freemium competitive mobile game are subjective. There are many examples in the data indicating that when people perceive free-to-play games to be pay-to-win their fairness perceptions of these games may still differ. The games that make it impossible to progress or win without paying are perceived as most pay-to-win. The finer differences among free-to-play games are often centered around the perceived fairness of non-monetary prices of competing against paying players.
For example, the following comment praises *Clash of Clans* because time needed to progress without paying for microtransactions are not as high as in some games:

> I’ve played a LOT of free-to-play games and CoC [Clash of Clans] is by far the most accessible to fully FTP [free-to-play] players, especially recently. There are games out there where you literally can’t play the game unless you either grind for 8 months or fork over some cash. (consonanttrequiem, 2020)

### 4.3 Service quality

*Clash of Clans*, alike many other freemium mobile games, offers faster in-game progress in exchange for real world money. Games that employ such monetization strategy are often referred to as “pay-to-progress faster” and based on the data, occupy space somewhere between the games that people think are definitely free-to-play, for example ones that only sell cosmetics, and games that most of the people call pay-to-win, for example ones that use the above-described paywall mechanics. *Clash of Clans* was often included in this middle category: “The game is not “pay to win”. It’s more like “pay to progress fasterr” (CreepySpaghetti. 2020).

Some challenge this assessment of *Clash of Clans* because they believe that all the very top players spend money so the game should be called pay-to-win. Nevertheless, the term pay-to-progress faster was used to describe monetization of *Clash of Clans* repeatedly in different discussions under different Reddit posts. According to some commenters just because you can pay money does not make a game pay-to-win. Just like the above comment, the following one argues that pay-to-progress faster is a fairer description of *Clash of Clans* monetization strategy: “Because all the top players pay money, it simply is not pay-to-win, but pay to progress faster” (Dev-Donny, 2021).

A game perceived to be pay-to-progress faster usually offers different quality of experience to paying and non-paying players. Mobile gaming is a continues form of service consumption and it may take years to progress all the way in one of them. In general, service quality is often judged by the time that the service takes. An empirical study in a service sector (Martin-Consuegra et al. 2007) found that service price fairness affects customer loyalty and satisfaction, and that customer loyalty and satisfaction are
important antecedents of price acceptance. According to Bei and Chiao (2001), a consumer’s perceptions about the fairness of price and service/product quality equally influences his/her satisfaction with a product or a service. Thus, analysing the perceived price fairness of the service quality offered to freemium mobile games’ paying and not paying customers is important part of learning about the circumstances that lead to resentment of in-game microtransactions. Price and quality fairness judgements involving the mobile games perceived as free-to-progress are often based on the comparisons between the amount of time it takes to progress compared to how much faster the microtransactions may make the same progress possible.

In the data analyzed for this study, the general fairness of pay-to-progress faster monetization is disputed. Some believe that such monetization schemes take away the fun of playing because the waiting times are too long. They often found pay-to-progress faster to be less fair than the standard business model of paying once to get the game or only charge for hedonic items. In response to comments claiming that paying to progress faster is fair, one replied:

I came to realize that after a month or so of play time (which usually results to a total of a few hours of gameplay) it became impossible to really get anything out of the experience without waiting for an extremely large amount of time. … People will talk about how clash of clans is really "fun" but it pales in comparison to the standard games offered on other platforms in similar genres (most notably because you can't progress without waiting weeks or spending money). (theBMB, 2014)

The above comment is a good representation of the criticism that pay-to-progress business model gets. The comment mentions that when waiting periods are large, playing is not fun anymore. According to Grayson (1999) most scholars who researched play agree that the goal of playing is to have fun. Thus, when one perceives the amount of time he/she needs to wait for progress in a freemium mobile game to be too high, it negatively affects the main reward that he/she expects to receive from the freemium mobile game service. The data suggests most consumers realize that the ultimate reason why pay-to-progress faster and/or pay-to-win systems exist is to motivate players engage in microtransactions. Thus, when the non-monetary price associated with such monetization strategies is
perceived as unfair, it may negatively affect player’s service experience and lead to resentment of microtransactions.

Several comments in the data suggested that freemium business model had negatively affected the quality of mobile gaming service in general. For example, strategy genre is very popular on mobile and anyone with slightest knowledge of the market would agree that the competition is fierce. Some of the strategy games, such as *Clash of Clans* and *Clash Royale* are designed around free-to-play model. Some strategy games that are or were popular on other platforms developed mobile versions that are usually based on the original game concept. This is very well in line with the trend of mobile games attracting more and more gamers away from other platforms. According to the data, part of the reason why people resent free-to-play games, aside from finding microtransaction prices and the time and effort needed to progress/win unfair, is the quality of what you get by spending money and/or time on these games compared to the experience of playing strategy games on other platforms:

The saddest thing to me playing Clash of Clans was realizing how tiny a glimpse it was into the world of "real" RTS games, and here we have a generation of people growing up on CoC: rather than Warcraft3, etc. (Valued Rug, 2014)

The above comment mentions *Warcraft*, one of the most popular strategy games in history. It would be impossible to monetize *Warcraft* in the same way as *Clash of Clans* is monetized without completely altering the gameplay. Therefore, some of the commenters blamed the freemium model for adversely affecting the quality of mobile games. Such opinions may negatively affect perceived price fairness of freemium mobile games since gameplay quality may be seen as another non-monetary sacrifice required to avoid spending money on playing a digital game.

4.4 Free-to-start

The other terms used to describe *Clash of Clans* and games with comparable monetization tactics include “free-to-start” and “pay as you play”. According to the data, these terms are less frequently used than pay-to-progress faster, but they do convey one of the main issues that people have with freemium games – the fact that they are advertised as free to play but
may not be perceived as such by consumers who start playing them: “Players must pay money either to play uninterrupted, or to reach certain levels of progress. … If these companies were more honest they would name it "pay>as-you-play" (“How Clash of Clans puts,” 2014). The above comment mentions the term pay-as-you play. This term represents what many more commenters said in different words. These commenters find that process of setting the amount of non-monetary sacrifice needed to stay competitive in Clash of Clans unfair. They feel that the tactics are predatory and that the game should not be sold as free-to-play the first place. They do not necessary complain about the difficulty to compete versus paying players, but rather underscore the procedural unfairness of the freemium game monetization mechanics:

What people dislike about the ironically named 'free-to-play' segment of the industry is the way the gameplay itself is monetized.. What makes it so insidious is the claim that these games are somehow "free", juxtaposed against the incessant demands for money. (“How Clash of Clans puts”, 2014)

Xia et al. (2010) found that when consumers invest effort to obtain promoted price, they feel entitled to the promotion. Denial of the promotion leads to negative price fairness perceptions. In case of freemium mobile games, the promoted price is 0, but in order to get the promotion, or in other words, keep playing for free, the players’ need to invest time and effort. Many of the comments demonstrated that the commenters felt entitled to the promoted price of 0 after investing time and effort in the game. If they had started playing and somewhat advanced in the game and then were either paywalled or they perceived the amount time and effort needed to keep playing the game for free to be too high, it led to perceived unfairness of the monetary price of getting pass the paywall.

Based on the new terms emerging to describe Clash-of-Clans and similar modern freemium competitive mobile games’ monetization systems and based on reviewing comments arguing what is and what is not free-to-play, it is evident that the term pay-to-win is becoming increasingly contradictory as it tends to oversimplify the complex monetization systems that changed greatly over time and significantly differ from one another. One of the commenters even suggested that pay-to-win is an obsolete term:

It's an outdated term, it comes from a time when there were games where you could shell out a few dollars and demolish players who didn't. Today, most big "free 2
“play” games have moved away from this model. We do not need to further redefine a term when we have other, more modern terms. (Buddy_Dacote, 2018)

The above comment represents opinion of the commenters who seemed irritated from the endless debate on what pay-to-win means and whether it applies to Clash-of-Clans. Numerousness of the comments debating whether Clash of Clans or other games are pay-to-win or free-to-play may create an impression that games can be either free-to-play or pay-to-win. Mainly because the commenters often say that a game is not free-to-play but pay-to-win or vice versa. But the changing business model of freemium games made these two terms not necessarily mutually exclusive. This is because the games where full progress is possible without spending any money but microtransactions offer functional advantages not available otherwise could be considered both free-to-play and pay-to-win. For example, referring to Clash of Clans, one of the commenters said: “This game is the most free to play, pay to win game I have ever played” (SpunkyBanana3, 2020). There are other comments that repeated the same idea by stating that Clash-of-Clans is both, pay-to-win and free-to-play. Therefore price fairness perceptions of freemium mobile games’ microtransactions depend on varying factors including perceived fairness of both monetary and non-monetary prices and the procedural fairness of how these prices were set.

4.5 Perceived value of time and effort

Lot of the fairness judgements of amounts of time and effort needed to sacrifice in freemium mobile games are based on the references to the corresponding microtransaction prices. In fact, there are resources online where one can convert time needed to gain certain amount of Clash of Clans in-game currencies and time needed to achieve certain progress into real world money. One of such resources was introduced in a Reddit post called How Clash of Clans puts a price on time - pricing formula explained in depth. Comments on the post provide insights into the important influence of time and effort factors on the fairness judgments of microtransaction prices. The purpose of the post’s author, based on his/her own admission, was understanding what Supercell thinks players’ time is worth. But the value of one’s time is very subjective and that is one of the reasons why the commenters on the post have varying perceptions of fairness of how Supercell puts price
on their time. For example, one of the comments with 14 upvotes said the following: “Been playing for over a year. Haven't paid a dime and probably wont make it to elite for over another year. So it's a grind” (“How Clash of Clans puts,” 2014). The first reply to this comment has 16 upvotes and questions whether the game is worth years of play time and gives the commenter’s own opinion on that: “Personally, I'd say no. In that case, mobile free-to-grind games are a waste of time for me” (Amadameus, 2014). The almost same number of upvotes on these comments is a demonstrative of how much people’s perceptions vary on the subject. When it comes to perceived price fairness, income levels of consumers may have some affect (Martins and Monroe, 1994; Malc et al., 2016). In other words, having more or a less money may affect how people value the monetary sacrifice required to attain a product or a service. The data suggests that same may apply to the non-monetary sacrifice that freemium mobile games require from the non-paying consumers, because people’s subjective value of their time may depend on how much time they can afford to spend on a game.

4.6 Perceived value of microtransactions

Assessing the exact value one gets by paying for the microtransaction in Clash of Clans is not an easy task. There are 124 comments and 204 upvotes on the upper mentioned Reddit post that introduces a formula for calculating the value one gets by spending money on the game’s microtransactions. Clash of Clans has hundreds of millions of downloads. There is no way to calculate exactly how many people have viewed the Reddit post or how many have used the couple of other monetization tables of Clash of Clans available on the internet, but few would dispute that overwhelming majority of the game’s consumers, including the ones that spend money on it, have not used these conversion resources. The price literature research reviewed in the study mentions that lack of information on how the prices are set negatively affects the price fairness judgements (Bolton and Alba, 2006). The posts and comments analyzed in the study support this statement. Clash of Clans, much like most of the other freemium games with microtransactions, uses in-game currencies for pricing in-game offers. These offers may include selling extra resource that would speed up your progress (for example another builder that will speed up constructions) or decreasing/avoiding certain upgrade time. How much in-game currency the offers are
priced at may depend on multiple variables such as the level of the game a player is on, how large the transaction is and so on. The in-game currency can be purchased with real world money through microtransactions. Pricing of microtransactions offering in-game currency for real-world money may also depend on other variables. So, for an average player it is very difficult to understand the monetary value of the in-game offers and of the time spent on the game. It is also hard to compare to the prices of offers in different freemium games:

Free-to-play developers often use indirection (buy gems with money or some other virtual currency, then buy time or items with gems) which makes it harder to evaluate what your real money is actually purchasing. I don't really care how many "gems" something costs because that's an artificial intermediate that can't be compared to other games or used in my own. (bendmorfls, 2014)

The above comments explicitly states that it is difficult to understand what your money buys in freemium mobile games. The data included several comments that convey similar opinions. But there are many comments where players seem confused or disagree with one another about the transaction values of Clash-of-clans’ microtransactions. This confusion is particularly evident when commenters compare what you get for your money in Clash-of-Clans and other freemium mobile games. The commenters who claimed to be confused about the value of microtransactions and the commenters who did not claim so yet seemed to be confused about it, often perceived the microtransactions prices to be unfair. This study found that ambiguity involved with understanding monetary and non-monetary (e.g. in-game resources) value of microtransaction offers negatively impacts the perceived fairness of the microtransaction prices.

4.7 Referencing other games

As demonstrated in price fairness research, one of the most common ways of making price fairness judgements is by comparing the price of a product (or a service) to prices of other similar products (Xia et al., 2004). When it comes to factors that influence price fairness perceptions academics often use products and services interchangeably. The data showed that Clash-of Clans is frequently compared to other freemium mobile games of similar or
different genres, non-freemium mobile games of similar genre or games from other platforms of similar genre. Since most players do not pay for microtransactions but invest time and effort to progress in the game, the non-monetary prices are more frequently used for comparisons than the prices of microtransactions.

Comparison to the games of similar genre on other computer platforms are usually used to support a claim that the business model of spending money once on buying a game is fairer than spending money on microtransactions. Some of the commenters talk about how much less money the traditional business model-based games cost. The following comment compares what would one get by investing 100 dollars in a traditional business model game versus investing the same amount into a freemium one:

Thing is, in times not too long ago 100 bucks would get you EVERYTHING in a game, and maybe it’s expansion pack too. I don't find it all odd that the idea of 100 dollars being a drop in the bucket now when before it was the whole game.
(EatThePath, 2014)

While the above comment criticizes the monetary sacrifice, many of the commenters complain about non-monetary sacrifices associated with playing freemium games. The following comment addresses the fact that traditional business model-based video games do not require waiting times that get increasingly more throughout the game and that they end up costing less:

Most 60USD video games do not constantly asking you to pay up for the shield to prevent people from attacking you, artificially putting waiting time with hopes of you paying or turning a skill game into a money game half way through the game.
(Cheesenium, 2014).

The above comments voice multiple issues related to Clash of Clan’s in-game microtransactions. One of the most important issues, the difference between how much money one may have spent on a game employing traditional business model and how much money one may spend on Clash of Clans’ microtransactions is applicable to the freemium mobile game industry in general. The fact that majority of the commenters who wanted to convey their belief that traditional business model is fairer had to reference games from other platforms is demonstrative of how prevalent the freemium model has become among mobile games, especially the ones that are somewhat like Clash of Clans.
genre. One of the posts included in the data asks about mobile games that are like *Clash of Clans* but do not require waiting. The post author indicates his/her willingness to pay for acquiring such a game:

I get that Clash of Clans wants people to buy gems to avoid the wait, and if I could pay a reasonable one time price I would. I am looking for a game similar to Clash of Clans, Samurai Siege, etc. that I can sit down and play instead of checking in for a couple minutes every now and then… (Utenlok, 2016)

The post was commented on just 13 times and the two of the most upvoted comments include the following statements: “I don't know any, the whole style of the game involves waiting” (mepw, 2016) and “You are going to have a hard time finding that on mobile, since the very core of their monetization revolves around that waiting wall” (SpaceSurfer-, 2016). Some of the comments suggested games that where somewhat similar to *Cash of Clans* but involved less waiting. The three games mentioned in the suggestions were all perceived to be fairer by the ones who suggested them amid some kind of waiting times being shorter than the waiting times in *Clash of Clans*. Nevertheless, the referenced games were still criticized for having progressively long waiting times on advanced stages or being inferior to *Clash of Clans* in terms of gameplay. Similar picture can be seen in another Reddit post that inquires about games that are like *Clash of Clans* with “… a serious theme and/or not pay to win?” (PM_ME_UR_JALAPENOS, 2015). There are 45 comments on the post. The two that have by far the highest number of upvotes state “Good luck with that request...” (Caulidemo, 2015) and “The entire premise of the genre is pay win” (TeurorixAleria, 2015). These comments help to arrive at another important insight that price fairness perceptions of microtransactions in mobile freemium games are less affected by comparisons to prices of games that are not played on mobile than by comparisons to prices of mobile games. It is hard to criticize *Clash of Clans* for how they price their microtransactions or for having microtransactions in general, since overwhelming majority of mobile games are based on freemium business model.

Genre is also an important differentiator among freemium mobile games. As mentioned above, one of the most frequent examples of games that are perceived as having the fairest monetization schemes, or in other words, being the most free-to-play, were the games that only charged for cosmetics. But, what many of the people suggesting that those
games are fairer than *Clash of Clans* did not consider are the genres of the games. For example, *Fortnite* is a first person-shooter game. It is free to play, and all the weapons are also free. So, it makes sense when some would find that fairer than *Clash of Clans* microtransactions because *Fortnite* could also introduce progressively stronger weapons which take time and effort to acquire, and one could pay money to speed up that process. Instead *Fortnite* only monetized cosmetic items most of which are not available for non-paying customers. The problem is that it would be much harder for a strategy game like *Clash of Clans* to motivate players spend on cosmetics or to even come up with enough cosmetic items, while for a first-person shooter it is much easier to sell cloth, vehicle and weapon designs to the players who want to create their image in the game. This partly explains why some people strongly disagree when *Clash of Clans* is accused of employing unfair monetization tactics while others feel angry when the game is perceived to be treating non-paying customers fairly. A comment that considers the monetization strategies of other freemium mobile games positively assessed the free-to-play model of *Clash of Clans*: “Clash of clans is probs the most generous free to play game on the market. Free gems, events, clan games, war gold, loot cart, etc etc” (exOrsistx, 2020). While another commenter who brought up freemium mobile games of different genre seemed outraged that *Clash of Clans* is mentioned as a good example of a free-to-play game: “That's beyond bullshit. League of Legends, DotA, and Path of Exile are all far better on the free-2-play front, ignoring genre...” (Godskook, 2020).

*Clash of Clans* is a mobile strategy game. But the genre itself applies to games that may significantly vary in terms of gameplay and design. Number of the participants of different Reddit forums analyzed in the study commented how *Clash of Clans* gameplay is not meant for continuous playtime and it cannot be compared to the games that are: “Yeah, they're called RTS, but they only make them on PC. As others have said, the whole POINT of CoC is to login a few minutes at a time and then wait” (“A game like CoC,” 2016).

*RTS* means real time strategy game. It is a sub-genre of strategy games and applies to strategy games where players develop their resources and engage in competition in real time. The other sub-genre of strategy games that is principally different is TBS. TBS stands for turn based strategy games, which means that players take turns to play. *Clash of Clans* is different from both traditional TBS and RTS games on PC, PlayStation, and X-box platforms. One may say that *Clash of Clans*, much like many successful freemium
mobile games are designed around the monetization systems and not vice versa. This leads to another important factor that effects fairness judgements of freemium mobile games’ players - what they expect from the genre that the game belongs to.

So, it may be concluded that service comparison-based price fairness perception of microtransactions is modified by how comparable the games that offer these microtransactions are in terms of the platforms they are played on, and genre and sub-genre they belong to.

4.8 Price fairness perceptions in high cost situations

While there are many comments demonstrating what the commenters think it takes to be one of the best at Clash of Clans and similar games, one post The price one guy paid to be the top Clash of Clans player (Auirlbiaze, 2014), offers a great insight into a life of Clash of Clans player who was ranked number one in the game for months. The post references The New York Times’ article “Master of his virtual domain” (Bai, 2013). The player who maintained the top ranking in Clash of Clans for 6 straight months, George Yao, had to invest a lot of time, effort, and money to reach and stay at the top. According to his own admission, after a while, playing the game “felt more like a job than anything else. It really took fun out of the game” (Bai, 2013). Only time George left the apartment was when he went to his job or to shop at a grocery store. He took over accounts of his clan mates who left the game and used them to keep himself and his clan at the top. He had several tablets and took one with him even when taking a shower. In addition to time that George Yao invested in the game, he had to spend about 250 dollars every week. He told the New York Times reporter that his life was the game and that “looking back, I think I must have been insane” (Bai, 2013).

The Reddit post referencing the article about George Yao was popular with 439 comments and almost 2 thousand upvotes. The commenters often perceived time, money and effort George had to put in the game as unfair. One important point when it comes to investing time and money into being the best at Clash of Clans or other free-to-play mobile games is that the very top players spend most of their time playing. Same could be said about almost any competitive game on mobile or other platforms. But, if George Yao spent more
money on the game, he could have afforded to spend less time. The perceived unfairness of
the microtransaction prices that George had to pay and of the amount time and effort he had
to invest was very high among the commenters. The data contains other Reddit threads where
commenters criticize *Clash of Clans* for excessive non-monetary sacrifices or high
microtransaction prices. But these criticisms are not usually as harsh as the comments that
criticized the sacrifices that George made while being number one or the sacrifices that top
players make to reach and maintain their positions. It may be concluded that discrepancies
in both monetary and non-monetary prices are perceived as more unfair in case of higher
cost situations. This may be explained by consumers’ inferring that game developers make
higher profits from top/advanced players than from less advanced players. In addition, some
people criticized *Clash of Clans*’ monetization system that charged increasingly high prices
for microtransactions as players advance through the game. The following comment is a
good representation of this perceived procedural injustice of the microtransaction prices at
advanced levels: “The exponential pay curve is seriously oppressive. Look at Jorge Yao!”
(Terranaform, 2019).

4.9 Income levels

Another post analyzed in the data offered an insight into the resentment of the people who
lead the top ranks of perceived pay-to-win mobile games. The post was very popular,
upvoted 8.5 thousand times and commented on 224 times. It consisted of a single sentence:
“In pay-to-win mobile games, the top scoreboard is filled with losers instead of winners.”
The most popular comment on the post had 2 thousand upvotes and also consisted of one
sentence: “Sounds like somebody had a bad time playing clash of clans” (SupaSoulia,
2019). A debate on *Clash of Clans* being pay-to-win or not followed the comment. More
interestingly the comments showed that reasons why people had negative opinions about
the top players in the games that they perceived as pay-to-win varied. But more people
seemed to envy the top players not because of them ranking at the top, but because the top
players could afford paying for microtransactions. This becomes evident after reading the
comments that, in one way or another, call the people who spent a lot of money on these
games losers, yet envy them: “They're losers for losing that money. I want to be like them,
except without spending the money on pay-to-win games” (Dcarrier, 2019). There are
more comments in the same thread that find prices of microtransactions too high and display envy of those who can pay. Some of the commenters said that they had spent money on the game because they found microtransaction prices to be quite low in comparison to the amount of time they saved not waiting for upgrades. These comments underscore a connection between not having enough income to afford paying the microtransactions and the perceived price unfairness of the microtransactions. The prices of microtransactions and the upgrade times get exponentially greater throughout the game. Sacrifices, both monetary and non-monetary are especially high if a player wants to reach the top league. The data suggests that income levels affect the perceived fairness of these price differences. Players which claim that they cannot afford paying the monetary price that top players pay, are more likely to find the discrepancy between the microtransaction prices offered to new and more advanced players unfair.

4.10 Sacrificing reputation

One easy deduction that can be made after analyzing different posts and comments covered in the study is that winning without paying is considered to be a greater achievement than winning with the help of microtransactions. Same is true when it comes to progressing in the game. Based on the analyzed data, the following comment is in agreement with the majority opinions on what is considered to be a better accomplishment “It is recognized among this community as a greater achievement to max out as free-to-play. Since it requires more efforts and patience” (EddyTheGhost, 2020).

So, paying for microtransactions may cost a player more than just money, it may negatively affect his/her in-game reputation even when he/she is only paying for speeding up the progress and not for gaining an advantage that would help with winning. Xia and Kukkar-Kinney (2014) found that a preferential treatment of a consumer may lead to him/her perceiving it unfair towards others and feeling embarrassed as a result. The data analyzed in this study suggests that the easier it is to win/progress in a game by paying for microtransactions than by investing time and effort in a game, the higher the perceived unfairness of amount of the non-monetary sacrifice. Considering this observation and the finding of Xia and Kukkar-Kinney (2014) it may be concluded that when a player pays for microtransaction he/she may feel embarrassed, especially if he/she perceives the amount of
non-monetary sacrifice others need to make for getting the same results to be unfairly great. Such feelings may lead to resentment of in-game microtransactions in competitive mobile freemium games.

4.11 Changing prices and upgrade times

Part of the marketing literature on price fairness is concerned with people’s responses to price fluctuations. Usually, prices go up overtime, often amid inflation or increase in costs and the perceived response of the customers may depend on their opinions of why the price increased (Bolton et al. 2003). Price changes in free-to-play games come in two forms, the changes in prices of microtransactions and changes in non-monetary prices. In addition to this difference, free-to-play games’ customers may frequently face decreasing microtransaction prices and decreasing amounts of time and effort needed to progress/win without spending money on microtransactions. In case of Clash of Clans, Supercell cut the upgrade times and microtransaction prices in several updates. The posts and comments covered in the study convey the logical positive reactions to cutting of both monetary and non-monetary prices from some of the players. Since the most players do not pay for microtransactions, the changes in time and effort were more popular topic of discussion than changes in the prices of microtransactions. The comments on a post asking how fun Clash of Clans is when played without paying for microtransactions included replies stating it used to be very boring before amid very long waiting times but Supercell has cut the waiting times significantly and they are now manageable. Even the commenters who thought that the waiting times are still too long agreed that they were decreased significantly. This is what a player who claimed to have played Clash of Clans when it was still newly released had to say:

I played a long time when the game was still new. Became too hard to grind because of troop training time and then I would be attacked instantly when I logged off. I’ve recently jumped back in and I can say it's been a blast. The grind is way less punishing now. (Darkness, 2020)
The sentiment in the above comment was shared by many more commenters. Based on the data, the upgrades led to increased perceived fairness of microtransaction and non-monetary prices.

4.12 Trust

The decreasing prices and upgrade times received negative feedback from players who had already spent money and/or time on the game. A seven-year-old post with a headline *What is the longest wait time in CoC?* received replies stating that on Town Hall 9 (which was the highest level back then) some of the items took two weeks to upgrade. Modern *Clash of Clans* has 14 levels of Town Halls, while the highest waiting time is still two weeks. Which means that the developers had to decrease waiting times throughout different levels. This already made it easier for new players to reach higher levels. Plus, the cuts in the prices of microtransactions meant that less in-game currency is needed to purchase the same items as before. So, the amount of time and effort spent on grinding, or in other worlds acquiring the in-game currencies for free, decreased proportionally. The commenters criticizing the updates varied from being somewhat disappointed to being very angry. The following post finding a recent *Clash of Clans* update very unfair was followed with many comments agreeing with the unfairness perceptions:

Anybody else feeling mad because of all the upgrade reductions happening this spring update? In my opinion it is really unfair. It feels as if all my grinding is for nothing now that so much things have gotten lower prices.(some prices have been lowered by as much as 50%). (JomaZygoma, 2020)

The above reaction and the numerosity of the agreeing comments show that when some *Clash of Clans* players were required to make greater monetary and/or non-monetary sacrifices than others, it led to perceived unfairness of both microtransaction prices and amounts of time and effort required to win-progress in the game without spending money on microtransactions. The commenters who claimed to have been playing the game the longest seemed to be most upset with updated monetary and non-monetary prices. This leads to a conclusion that players who have been loyal to the game developers, experience higher perceived price unfairness amid feelings of violated trust and unappreciated loyalty.
Some of the comments supported the above-mentioned upgrades even when the commenters claimed to be advanced players, or it was unclear for how long they have played the game. The main argument against the unfairness judgement of the updates is that Supercell needs to attract new players to make money and provide new content. Plus, without enough competition it would be difficult to gain resources from attacking other people’s bases:

If they never reduced costs you'd have a very small portion of users at th13, which could possibly make finding bases more difficult. This would also decrease the profitability of end game for Super Cell, which would further reduce their desire to give updates. (Bnb56, 2020)

The above comment infers the motive of the game developer for upgrading microtransaction prices to be attracting more players and making profit necessary for evolving the game. There are more similar comments that seem to trust *Clash of Clans’* motives for changing the prices. It seems that commenters who trust Supercell are more likely to infer positive motives behind changing monetary and non-monetary prices. This study demonstrates that in the case of freemium mobile games, trust towards the seller may have different impacts on a price fairness perception. Trusting consumers are more likely to infer positive motive behind price changes, yet if these are advanced players who feel that their trust has been violated, they may experience higher perceived price unfairness.

Aside of the comments supporting and criticizing the upgrades of microtransaction prices and amount of non-monetary sacrifice needed to win/progress in *Clash of Clans* without spending for microtransactions, the data includes comments that defend Supercell or game developers who sell microtransactions. These comments often employ arguments that freemium mobile games are businesses, and they must cover the costs and make profits. Such assumptions positively affect the price fairness perceptions of microtransaction prices in freemium mobile games.
4.13 Balance between monetary and non-monetary prices

Overall, analyzing the data led to conclusions that support some of the previously known factors that influence fairness judgements of microtransactions in free-to-play mobile games. It has also showed that the fairness perceptions are very subjective and may depend on how one values his/her time, how much one trusts the game developer, how similar is transaction in question to the referenced transaction, what is the quality of the playing experience and so on. The analyses also demonstrated the importance that comparison of microtransaction prices to the non-monetary prices have on the perceptions whether the game is pay-to-win or to what extend it is pay-to-win. The following comment represents popular criticism of the freemium business model in mobile games as it addresses the popularity of the freemium model among mobile games and the increasing demand for time investments from the players who do not pay money:

Almost any F2p game is payZ win. What you should be asking is the time vs money argument Games are becoming a timesink and as gamers age we have less time to spend trying to get the best in a game. (Anansispider, 2018)

Analyses of the posts and comments discussing pay-to-win and free-to-play topics demonstrate that with time, the perceptions of what pay-to-win and free-to-play terms mean have changed. Some monetization schemes, such as making it completely impossible to win/progress in a game without paying for microtransactions and only charging for in-game cosmetics are mostly agreed on to be, respectively pay-to-win and free-to-play. Monetization schemes, such as charging for faster in-game progress effect the service quality and lead to differing fairness perceptions of the amount of time that is required to sacrifice to avoid paying for the microtransactions. Analyzing the related debates leads to a more complex understanding of what factors and to what extent make players perceive microtransactions prices, amounts of non-monetary sacrifice and the procedure behind monetizing the freemium games as unfair. Perceived unfairness of any of the above may lead to resentment of in-game microtransactions. While an over-simplification, the following comment provides a good conclusion of the pay-to-win versus free-to-play debates: “I’d say it's about practicality. a pay to win game is one where winning/doing well without spending money is impractical for most people“ (chentmaster30, 2018). But making winning/doing well without spending money practical for most people and still
generating profits from selling in-game items in the highly competitive free-to-play mobile games market is a very complex issue. A monetization strategy may also require updates depending on the market environment and attitudes of the players. It is impossible to come up with a monetization system and its updates that would please everyone and, at the same time, motivate paying customers to pay and non-paying customers to keep investing their time and effort in the game.

Taken all the above into consideration, it may be concluded that the success of a freemium business model competitive mobile game depends on how well the prices of microtransactions, and time and effort needed to win/progress in the game without paying for microtransactions are balanced. The good balance would moderate the fairness perceptions of both monetary and non-monetary prices and avoid perceived procedural price unfairness that arises from denial of the promoted price of 0 by making full progress in a freemium mobile game possible without paying for microtransactions. Clash of Clans has been one of the most successful cases as it managed to attract hundreds of millions of non-paying players and made billions in profit from selling to the few who pay for the microtransactions. The comments and posts analyzed in the data and financial reports of Clash of Clans suggest that microtransaction prices and amounts of non-monetary sacrifices are both perceived fair enough for the game to keep being highly profitable and enjoyable for most of the players. The following comment is a good assessment of Clash of Clans and of a formula for success for freemium mobile games:

Balancing spenders vs. non-spenders must be an art in and of itself. Non-spenders generate content for the game, and the trick is to make these players keep on playing. In CoC. that is done via the achievement system, which is just as brilliant as the time skipping system. Clearly, somebody at Supercell knows exactly what they are doing ;-) (Irogking, 2014)
5 Discussion and theoretical contributions

Most of the existing price fairness literature is not concerned with effects that non-monetary sacrifice may have on perceived price fairness. Non-monetary sacrifice can be made by both a buyer and a seller. In their study on the application of equity theory in consumer-seller relationship, Huppertz et al. (1978) addressed the impacts of non-monetary sacrifice made by a buyer on the procedural price fairness perceptions of a seller. Later, Xia et al. (2010) researched how consumers making effort to obtain a promoted price effects their price fairness perceptions when the promotion is denied. While the above-mentioned literature shed light on part of the role non-monetary sacrifice may have on price fairness perceptions in the context of procedural fairness, this study adds to existing price fairness literature by investigating the effects of non-monetary sacrifices on price fairness of a service that is promoted at a price of 0 yet offers products associated with the quality of the service for money. It contributes not only to the price fairness research on the effects of non-monetary sacrifice but also to the academic research on distributive price fairness by studying the non-monetary sacrifice as a reference price. Rest of this chapter discusses these and other findings and related contributions to the academic literature on price fairness perceptions and in-app purchases of freemium mobile games.

Finding of this study that many of the freemium mobile game players who invest effort and time into a game feel entitled to the promoted price of 0 monetary sacrifice and perceive need of paying any monetary price to continue playing the game as unfair supports the previous price fairness research (Xia et al., 2010) on the effects of consumers’ efforts on price and promotion fairness perceptions. Xia et al. (2010) found that when consumers invest effort to obtain promoted price, they feel entitled to the promotion and if they are denied the promotion, they perceive the price to be unfair. This study also adds to the Xia et al.’s (2010) research because in the case of freemium mobile games that do not paywall progress in a game, consumers are not denied the promoted monetary price. But the price that the consumers may perceive as unfair is the non-monetary price itself. This is a novel situation because before freemium business model, there was no significant product or service that financially benefited from the consumers who pay nothing to the same extent as the freemium mobile games do. The non-paying consumers make up the majority of the freemium mobile game users (Hart, 2017) and without them the developers
would not be able to popularize their games and sell in-game items to those who are willing to spend money on the game.

This study contributes to procedural price fairness literature by analyzing previously unresearched procedure of price setting known as paywalling. Non-existence of academic literature on perceived price fairness of paywalling mechanics can be explained by the distinctiveness of mobile games as products/services of continuous consumption and the novelty of the paywalling monetization mechanics. The data suggests that paywalling is one of the biggest reasons why players may find a freemium game monetization strategy unfair.

The analyses of why the term pay-to-progress faster is used to describe some of the freemium mobile games showed that consumers may find the amount of time and effort sacrificed to progress in a game to be unfair compared to the speed of progress offered to the players who paid for microtransactions. This supports the Martins and Monroe’s (1994) finding that consumers are prone to perceive a price of a product unfair if they pay the same prices as another consumer but receive a product of an inferior quality. The main difference is that Martinc and Monroe (1994) are talking about two monetary prices, while this study found that the same is true when a consumer perceives that the non-monetary sacrifice he/she made is comparable to the monetary sacrifice that someone else made, yet receives inferior quality service/product.

In support of previous literature (Palmeira, 2021; Chua et al., 2019), this research found that paying for items that do not give any functional advantage (e.g., cosmetics) is mostly perceived as fair, even if these cosmetics cannot be attained by investing any amount of time and effort. The analyses of consumer attitudes towards in-game microtransactions that sell cosmetics also support the previous price literature research (Isabella, Mazzon and Dimoka, 2017) finding that when buyers pay more than others for utilitarian products, they perceive higher price unfairness compared to when they pay more than others for hedonic products. Isabella et al’s (2017) above finding is true when the products are easily observable and not abstract. In case of mobile games, the items are usually visually presented and/or described in the microtransaction offers. Another price fairness study (Maxwell, 2002) found that when a seller’s power is enhanced and the buyers are forced to pay the price, he/she is likely to make a purchase yet resent the seller.
and perceive the price as unfair. This explains why the paywalling mechanics made profits and still do to some extent despite being perceived as unfair by most of the consumers and selling cosmetics is seen as fair since no one is forced to buy them.

The data suggests that inability to understand how the prices of freemium mobile game microtransactions are set negatively affects the perceived fairness of the microtransaction prices. This includes inability to understand the actual value of microtransaction offers. The above observations are in line with Belchwati et al., (2009) study which found that having no knowledge how the prices were set negatively affects price fairness perceptions whether it is inability to understand the price changes, estimate related costs or assess the value of a product or a service.

Analyses of the posts and comments that compared Clash of Clans to other games led to a conclusion that comparisons to games that have similar gameplay, monetization systems, genre and are played on mobile platform have higher effect on price fairness judgements than comparisons to games that are played on other platforms and/or belong to a different genre. This supports Xia et al.’s (2004) finding that the more alike conditions of two transactions are the higher the perceived unfairness caused by price discrepancy between the two transactions. The comments that compared monetary and non-monetary prices associated with strategy freemium mobile games, in other worlds games with similar/same genres, platforms and monetization systems, strongly criticized the games that asked for higher prices. Under the posts that inquired about mobile games like Clash of Clans in terms of gameplay but having different monetization systems, most upvoted comments said that there are no such games. These comments rarely compared monetary and non-monetary prices of the games that are similar to Clash of Clans in terms of gameplay but are not played on mobile or belong to different genre, yet frequently included general criticism of freemium business model that had overtaken the mobile games and employed unfair mechanisms of monetizing in-game items. This supports Maxwell’s (2002) finding that when compared prices are same or a consumer has no information to compare to, he/she is likely to infer procedural price fairness.

Analyses of the data demonstrated that many dislike that amount of non-monetary sacrifice needed to progress/win in a freemium mobile game and the prices of microtransactions increase exponentially throughout the game. The commenters found the
monetary and non-monetary prices that top and/or advanced players pay especially unfair. This supports Oliver and Swan’s (1989) finding that when price discrepancy is high, consumers would perceive high item cost situations less fair than low item cost situations. Oliver and Swan (1989) explained this by suggesting that in the high item cost situations the seller is perceived to be making greater profit than the low item cost situation. This explanation answers why the criticism of Supercell and freemium mobile business model in general were strongest in the thread related to then number one rated Clash of Clans player George Yao. Analyses of the comments and posts discussing the sacrifices that the top players have to make also led to a conclusion that players with lower income levels are more likely to find the difference in the prices of microtransactions offered to players with average progress and ones offered to advanced/top players to be unfair. Such an observation is in line with Malc et al.’s (2016) finding that people with higher levels of income generally perceive price differences as fairer compared to perceptions of people with lower income levels. Interestingly, the data analysis suggests that subjective perception of how unfair the amount of time sacrifice needed to avoid paying for microtransactions is may greatly vary among players and may depend on how much free time one has, or in other words, how much time one can afford to spend on playing the mobile game.

The finding of this study that players who progress/win without paying any money are favored by the community over the players who spend money is in agreement with a survey-based study (Evers et al. 2015) that found players who pay for microtransactions to be judged less positively than those who do not. This is an interesting phenomenon from the perspective of perceived price fairness literature since it deals with previously un researched non-monetary sacrifice of reputation.

Supercell repeatedly decreased both monetary and non-monetary prices that beginning and moderately advanced players are offered in Clash of Clans. The players who were already advanced by paying higher monetary and/or non-monetary prices found the prices that they had paid unfair compared to the updated prices. This is in line with distributive price fairness literature (e.g. Xia et al., 2004). Another factor that affects price fairness perceptions is a buyer-seller trust (Campbell, 1999; Xia et al., 2010). The study found that many advanced Clash of Clans players are dissatisfied with the fact that new players get to advance easier and/or pay less, and this feeling of unappreciated loyalty and
violated trust make the perceived unfairness of the updated prices greater. The commentators who claimed to have been playing the game the longest seemed to be most upset with updated monetary and non-monetary prices. This agrees with the findings of Xia et al. (2004) that at advanced stages of buyer-seller relationship, when trust is based on repeated transactions, buyers may experience stronger perceived price unfairness if they find out that the price they paid is higher than the comparative standard.

Some of the commentators believed that the price changes introduced by Supercell were in everyone’s interest. The data suggests that the commentators who do not claim to be far advanced Clash of Clans players yet demonstrate trust in the game developer’s motives for changing prices, are likely to judge the changes as fair. This agrees with Campbell’s (1999) finding that when judging a price increase consumer’s inferred motive effects his/her price fairness judgement and a seller’s reputation has an important influence on the inferred motive. This study adds to Campbell’s (1999) research by demonstrating that trust towards the seller may have the same effect on the perceived unfairness that arises amid the price paid previously being higher than the current prices other consumers are charged for the same service/products.

The study contributes to the academic literature concerned with business model of freemium games by researching the factors that may lead to perceived unfairness of the competitive freemium mobile games’ microtransactions prices, perceived unfairness of the amounts of non-monetary sacrifices and the perceived procedural unfairness of freemium monetization business model. One of the insights of this research that has not been addressed in the existing literature on freemium mobile games is how new terms, such as pay-to-progress faster, have emerged to describe game mechanics that many believe should not be called pay-to-win because they do not make it impossible for players to gain all the resources that influence gameplay without paying for microtransactions. This study also adds to previous research on acceptance of freemium mobile games’ microtransactions by demonstrating that in the current freemium mobile games market where freemium model is more widespread and varied than ever, players are less likely to judge fairness of a specific game’s microtransactions based on comparisons with games played on other platforms or games of different genre and more likely to take into consideration the monetization limitations that game developers face amid the game genre and competition. Most importantly the study concluded that perceived unfairness of both microtransaction
prices and amounts of the time and effort needed to compete/win in the game without paying for microtransactions may lead to the resentment of microtransactions in competitive freemium mobile games.
6 Managerial implications

Many competitive mobile games are developed or redesigned around freemium business model. The main challenge of a freemium mobile game is to motivate some of the players to spend money on the microtransactions and motivate the rest of the players to spend time and effort on progressing in the game and on competing against each other and the paying players. Taking into considerations the circumstances that may lead to resentment of the in-game microtransactions may help with this challenge.

First of all, it would be wise to avoid monetization strategy known as paywalling (making it impossible to progress in a game without paying). Most of the modern freemium mobile games do not paywall progress at any point in the game which gives them a competitive advantage over the games that do. Another practice that is found highly unfair by the players is selling items that give considerable functional advantage to the players who buy them, while the players who don’t pay money cannot get the same item regardless of the amount of time and effort they invest in the game. Games that practice the above monetization strategies are largely perceived as pay-to-win. While it is essential for game developers to generate profits, they must be aware how player attitude to their game’s microtransactions will affect their reputation in long term (Palmeira, 2021).

Selling cosmetic items that have no functional use is a great way for generating some income for freemium mobile games. This study and the existing academic research (e.g. Palmeira, 2021; Chua et al., 2019) found that monetization of cosmetics items is perceived as fair by most of the consumers. But, depending on the game genre and design, success of monetizing cosmetics items may vary.

Freemium mobile games’ players may be motivated to pay for the microtransactions that speed up progress in the game by cutting or avoiding upgrade times. While the fairness of such monetization strategy is disputed, it is still perceived as fairer than pay-to-win monetization strategy. The success of pay-to-progress faster strategy depends on the balancing the in-game rewards that monetary and non-monetary sacrifices may yield. For example, if upgrading a certain in-game item instantly would cost 1 euro worth of the in-game currency, time that the upgrade takes or the effort that is enough to gain the in-game currency worth of 1-2 euros should not be two weeks or a month. While there are formulas that different freemium mobile games use for monetizing in-game
items, observing the reactions of players and adjusting the microtransaction prices and the amount of non-monetary sacrifices accordingly is necessary. When upgrading the prices, it is important to keep in mind that some of the players have already made monetary and/or non-monetary sacrifices. These may be loyal consumers who are on the advanced stages of the game and may perceive decreased prices that new players are offered to be unfair. Loyal consumers are usually the ones who have advanced in a game and may significantly contribute to the revenue generated from selling microtransactions. Thus, a managerial recommendation mentioned in Martin et al. (2009) that sellers should take note of how their loyal consumers react to price changes is applicable to the case of decreasing prices in freemium mobile games as well.

It is practical to gradually increase microtransaction prices and amounts time and effort needed to win-progress throughout the game. But it is important not to make the prices, either monetary or non-monetary too high, since that may demotivate players for trying to reach the top.

Freemium mobile games include games of varying genres and design. The more alike two games are, the higher the chances that players will choose the game that requires lesser monetary and/or non-monetary sacrifice. So, it is crucial to consider how the most comparable games price their in-game items. If it is hard to compete with microtransaction prices of freemium mobile games belonging to similar genre, it is important to differentiate the monetization strategy and microtransaction offers. This is in line with a recommendation given by Xia et al. (2004) to decrease transaction similarity when price discrepancy is present.
7 Limitations and Research Opportunities

This study focuses on one freemium mobile game. *Clash of Clans* is a strategy game that has been very successful. The games of different genres may employ varying monetization tactics, some of which were not discussed in this research. Investigating failed freemium games may reveal more about the factors that influence perceived fairness of microtransactions. So, research that includes all of the following would be more complete: freemium competitive mobile games of different genres, successful freemium competitive mobile games, and unsuccessful freemium competitive mobile games.

This study does not address how time spent on watching video ads in freemium mobile games may affect one’s perceived fairness of microtransactions. Not-paying players often are forced to or may choose to watch/see in-app ads. Unity’s 2020 “Mobile game monetization report” demonstrates that ad revenue has been growing and has become comparable to revenue generated from in-app purchases. (Unity Technologies, 2020). Watching ads in free-to-play games could be incentivized by offering players items, reductions in waiting times and other benefits (Lee and Shin, 2017). Sacrificing time to watch an ad is a way of substituting cash payments for microtransactions, thus directly connected to sacrificing time in order to gain some progress or advantage in a game. How perceived fairness of amount of time spent on such ads influences one’s attitudes towards microtransactions may be an important factor for better understanding the reasons behind resentment of microtransactions in freemium games. Video ads are also used as an alternative to making cash payments for access to contents on freemium applications (other than gaming) on different platforms. A study that would research this phenomenon may contribute to academic literature on both price fairness and freemium business model in general.

Another important limitation of this study lies in the lack of insight into cultural differences when it comes to factors that lead to resentment of microtransactions. For example, based on the statistics (Richter, 2020), Asians spent more money on freemium games than Europeans and Americans do. This study only researched related Reddit discussions that were posted in English. A study by Bolton, Keh and Alba (2010) argued that collectivist cultures differ from egalitarian cultures when it comes to effects of feeling
unappreciated loyalty amid perceived unfair price offered by a seller. Thus, including Reddit discussions held in different languages may yield globally more applicable results.
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