

THE IMPACT OF IN-APP PURCHASES ON PLAYER'S LOSING INTEREST OF MOBILE DIGITAL GAMING APPLICATIONS

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ABSTRACT

Mobile digital gaming applications are often a short-term pastime in between for many users. People can quickly lose interest. Even though those in-app purchases are often disputed, they have an effect on consumer interaction with the respective mobile digital gaming application. This study finds evidence, that people of the United Kingdom actually quicker lose interest in mobile digital gaming applications with in-app purchases compared to games where there are no in-app purchases. In-app purchases are often seen as a quick skip through of less exciting level content.

Keywords: *Freemium, Digital Gaming, Survey, Interaction, In-App Purchases.*

Introduction

Subject of this paper is the descriptive statistics about the impact of the existence of in-app purchases on player's losing interest of mobile digital gaming applications. This study focuses on data of people from the United Kingdom in July 2019. In-app purchases and digital games in general were often disputed in the last years [1][2][3][4][5][6][7]. Many politicians and user of mobile digital games often see games crossing the line between a skill-based game and gambling [8][9]. There were other reasons like instability in virtual economies [10], that gave mobile digital games a bad reputation in the last years. In-app purchases have an effect on user interaction. If people do not progress fast enough inside a mobile digital gaming application, they might lose interest. In-app purchases are a way to increase game progression speed. This study describes this effect.

In the context of this paper digital games are treated as fully digital goods in the sense of Stelzer's definition. According to Stelzer, digital goods are „immaterial ways to satisfy needs that can be developed, distributed or applied through an information system. Digital goods are products or services that can be represented, transmitted and processed in the form of binary data“[11].

The games industry - especially the field of mobile gaming - has changed significantly in recent years. Paid offers are becoming less common [12]. There is an increase in free mobile digital games. According to Spencer free games generate the highest revenue in respective online portals (App-Store, Play Store, etc.) [12]. These games can be categorized as freemium games. "Freemium" is a term composed of the words "Free" and "Premium". In a freemium business model companies provide a substantial portion of their offer for free. Revenue is made by in-app-purchases for additional services. Thus, freemium is a combination of free and paid offers.

The freemium revenue model is a form of price differentiation. The game publishing companies no longer try to sell as many copies of the games as possible. Instead, these games maximize user numbers and try to get their users to make in-app purchases. These purchases give players an advantage within the game or are cosmetic changes to the game (skins).

The global mobile gaming market in 2019 according to the global digital games analytics portal Newzoo will be even bigger than the global gaming market for PC or console games [13]. It is estimated that the global mobile gaming market will have the volume of \$68.5 Bn. For example, according to Takahashi, the mobile games "Clash of Clans" and "Clash Royal" from publisher Super cell together generated \$2.3 billion worldwide revenue in 2016 [14].

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Revenue is often generated by loot boxes. Loot boxes are virtual items that give the user another random virtual item. Loot boxes can often be bought inside a game for a real or virtual currency. Virtual currencies can be earned inside the game or be bought for a real world currency. The excessive usage of loot boxes in the stationary digital game "Star Wars Battlefront 2" started a discussion of loot boxes in general [4]. Many people see a connection between loot boxes and gambling because of the element of chance. Regulations for loot boxes are discussed by different institutions [10] and in many different parliaments [2][3]. Some countries already have implemented regulations for loot boxes in their national law.

Newspaper articles have been piling up in recent years, reporting many in-app purchases by minors and adults in a short period of time [5][7]. In individual cases, these in-app purchases have led to very high costs. Because of this, criticism of in-app purchases increased.

Literature Review

There is a public discussion about excessive usage behaviour of mobile digital games [2][3][6]. This discussion is held in many different countries all over the world and is still going on. The central question is, what motivates people to make in-app purchases and how do in-app purchases affect the interaction between the respective game and its user. This study shows, how often account sharing of mobile digital games happens in the United Kingdom and gives a descriptive overview of central characteristics.

Games are no longer just products. They changed to services. People use games over a longer period of time and the game publishers keep updating the game. In 2014 Oscar Clark has discussed this phenomenon in his book "Games as a service. How free to play can make better games" [15]. In 2014 Dimitar Draganov has published his book "Freemium mobile games - Design & Monetization" [16]. He discussed how game design can keep people interacting with a game over a longer period of time and how to convert players of a game into paying customers. Tim Fields published his book "Mobile & Social Game Design - Monetization, Methods and Mechanics" in 2014 [17]. He also discussed effects of game design on converting players into customers. Field's book focuses on key performance indicators. According to Fields, if there is a low ratio of daily active users relative to monthly active users then the game has a problem getting players back into the game. Fowelin published in 2015 a general article about how and why game publishing companies use freemium as a monetization for their games [18]. His research method was qualitative and quantitative. The author sees freemium as a competitive strategy or a marketing tool.

Research Method

The research method of this study is empirical. In July 2019 an online survey in social was done. The survey was promoted with ads in social media (Facebook and Instagram). The presented data of this study is part of a bigger survey. The survey was done in many countries all over the world. The presented data in this study is relevant for mobile digital games. 97 people from the United Kingdom participated in this mobile gaming related survey. The survey asked its participants for their usage behavior of in-app or in-game purchases. The presented data in this study show the responses from the United Kingdom.

For this study there were two relevant statements in the survey. Participants could respond to these statements with answers from one to seven. One stands for "Do not agree at all" and seven stands for "Completely agree". A pre-test has been done in June 2019 with seven people. During pre-test attention was paid to get a balanced gender ratio. Four men and three women participated in the pre-test. There is a possible bias for people who do not use social media. Running ads inside games is not possible in many cases. The social media bias is a bias that couldn't be avoided. Running ads on social media randomly shows ads to people who have an interest in gaming. Ads have been targeted specifically to each country or region.

Findings and Discussion

There are two relevant statements of the survey for this study. The participants of the survey were asked for their responses to statements. These statements asked the survey participants, if they quickly lose interest in a game with or without in-app purchases. The statements shown to the people were:

- If I do not progress in a free game WITHOUT in-app purchases, I quickly lose interest.
- If I do not progress in a free game WITH in-app purchases, I quickly lose interest.

Figure 1 shows the survey responses to both statements. On the X-Axis are the possible responses from one ("Do not agree at all") to seven ("Completely agree") and on the y-axis the respond percentages.

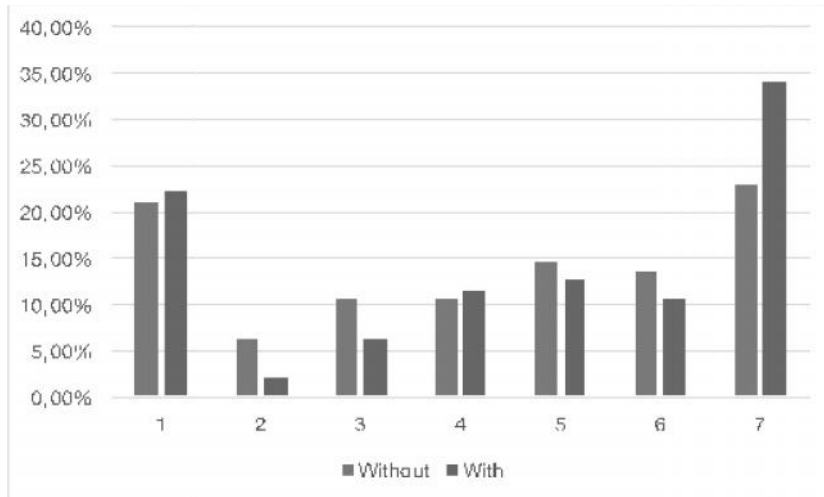


Figure 1: Survey responds to the statements "If I do not progress in a free game WITH / WITHOUT in-app purchases, I quickly lose interest" in relative numbers (own data)

The most responses were given to the complete agreement of the statement "If I do not progress in a free game WITH in-app purchases, I quickly lose interest". 34.04% agreed to this statement for games with in-app purchases and 23.16% completely agreed to it for games without in-app purchases. Looking at the overall agreement for both statements the answers are closer together and 57.45% responded to the statement with in-app purchases with a five or higher. 51.58% responded to the statement regarding the participants attitude towards games without in-app purchases with a five or higher. 30.85% disagreed to this statement for games with in-app purchases and 37.89% disagreed to this statement for games without in-app purchases by responding to this statement with a three or lower. The neutral answers are in both groups almost the same. 11.70% responded with a neutral response for games with in-app purchases and 10.53% responded with a neutral answer for games without in-app purchases.

The figure 2 shows the absolute differences for each survey participant for these two statements. A difference of one for example means that the first question has been answered with a four and the second question with a three or five. The figure 2 shows, if there are differences between the participant's responds of these two statements and how big these response differences are.

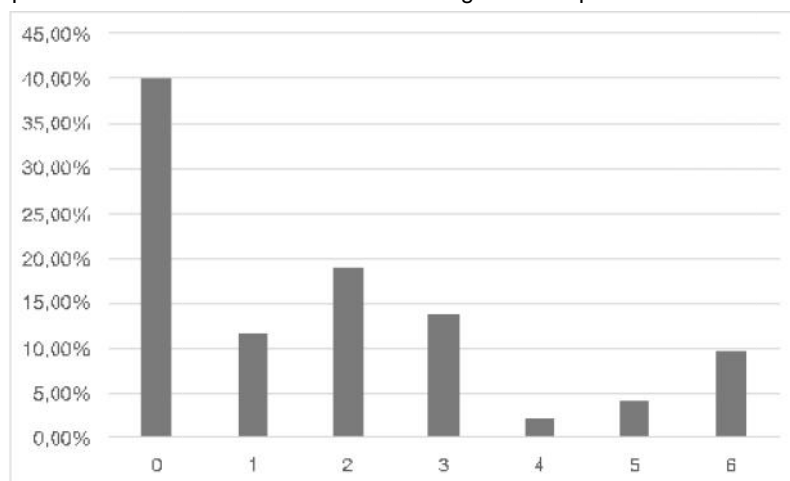


Figure 2: Absolute differences between the two statements in relative numbers (own data)

According to figure two there are just smaller differences between the two statements. 40.00% didn't respond differently between the two statements. 11.58% had a deviation of one, 18.95% had a deviation of two and 13.68% had a deviation of three between the two statements. Only 9.47% of the survey participants had a huge deviation of six.

Conclusion

Users of mobile digital gaming applications expect something in return for in-app purchases. They expect in-app purchases to give them a quick game progress. If they don't get a fast game progress, they will quickly lose interest. If there are no in-app purchases inside the respective mobile digital game available, then they actually take longer to lose interest in the respective game. People might see in-app purchases as a quick way to skip through boring game content. They expect a quick walk through less exciting game levels. If there is no subjective game progress from the user point of view then users of mobile digital games often lose very quickly interest in the respective game. This explains the difference of 34.04% to 23.16% of the completely agree responses between the two questions. The differences for other responses then seven are a lot smaller.

Publishing companies of mobile digital games need in-app purchases to monetize a game. Competition these days takes place at a download price of zero. Game publishing companies need a good value for money composition for their in-app purchases, other ways users of their games might lose interest in their games faster, if there were no in-app purchases.

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