CHAPTER 1

INTRODUCTION

1.1. Research Background

In the entertainment industry, mobile video games have become a sector undergoing exponential growth and popularity. Players can now relish mobile games with high quality graphics and immersive gameplay on their mobile phones on the go, putting pressure on the other platforms of gaming such as consoles (i.e., PlayStation and Xbox) and PCs. This orientation towards mobile gaming has also resulted in an upsurge of new game studios and a more diverse range of games being produced for mobile platforms. The significant growth of mobile games is strongly associated with the widespread use of mobile phones, which have made gaming more accessible than ever before. As a result, mobile gaming has become a prevalent kind of entertainment for individuals of every age and background.

The growth of mobile devices has facilitated the accessibility of gaming, resulting in a rise in the population of casual gamers who may not have previously identified themselves as such. Besides, the rapid progressions in technology have facilitated the development of increasingly immersive and visually captivating gaming experiences on mobile platforms, thereby appealing to broader users. Mobile gaming becomes one of the few industries that gains positive influence by the Covid-19 Pandemic (Buzulukova & Kobets, 2022).

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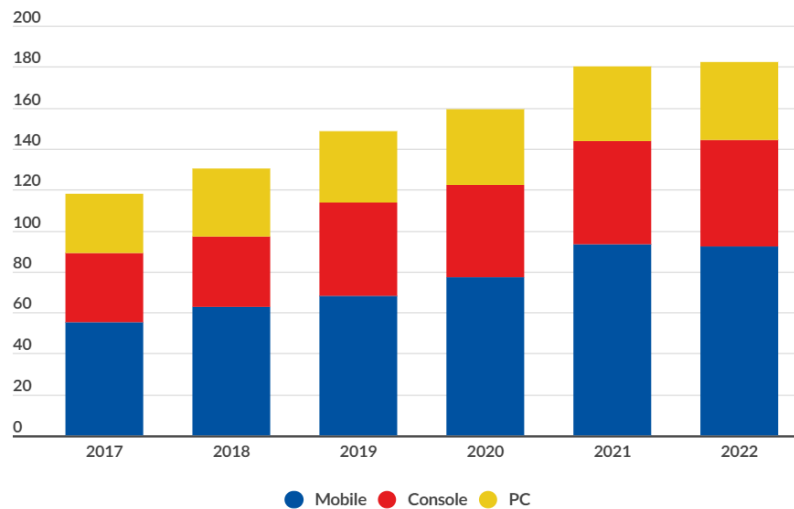**Game Market Share by Device Type 2017 to 2021 ($bn)**

Figure 1.1 Market Share of Video Games by Type 2017-2022
Source: businessofapps.com

According to data from Newzoo (Figure 1.1) during the period of 2017 to 2022, mobile games market share outperformed those of PC and consoles. Still, in terms of scope and development cost, PC and console-based video games surpassed mobile games, but it excels in the revenue department (Curry, 2023). It has contributed to the fact that mobile games have a wider reach and are more accessible to a larger audience size. Additionally, the rise of in-app purchases and mobile advertising has contributed significantly to the revenue growth of the mobile games market.

As suggested by Dinsmore, Dugan and Swani (2017), app developers can monetize their products in two ways, direct and indirect monetization. Direct monetization involves charging customers a fee for downloading or using the app, while indirect monetization refers to generating revenue through in-app advertising and in-app purchases (IAPs). Such indirect monetization is widely known as the *Freemium* business model, or in the terms of the gaming community, it is widely referred to as Free-to-Play (F2P) games. In Free-to-Play mobile games, as defined

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by (Rouse, 2011), typically players can enjoy the basic game contents and features without paying.

The freemium business model has emerged as the preferred option for many online services, and it has been particularly prevalent in the gaming sector (Hamari, Nicolai, & Koivisto, 2020). In-app purchases (IAPs) became the most popular model of app monetization in 2022 (Hackett, 2022). Players are offered titles at low or no cost, substantially removing the barriers for them to download and begin playing, broadening the player base, and eventually paving the way for games to deliver value without initial payment from users (Arkenberg and Loucks, 2021). In-app purchases provide a flexible and convenient way for players to enhance their gaming experience by offering additional content or features that can be purchased within the game.

In-game products can include various virtual items such as virtual currencies, weapons, gears, character skins, and others that can improve playing excitement and competitiveness (Syahrivar, Chairy, Juwono, & Gyulavári, 2021). In addition, the availability of free-to-play games IAPs has made it easier for developers to reach a wider audience and generate revenue. Mobile games with *gacha* mechanics, which become the research objects, are increasingly becoming phenomena. According to Lakic, Bernik, and Cep (2023), *gacha* is a system used by nearly all Japanese games with the highest earning revenue. In *gacha* games, players can get the character or item they want in the free-to-play games by paying with in-game currency to enter a draw, which is like a lottery. As a result, players will be more prone to make actual IAP as they progress and exposed to more in-game contents.

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In terms of user loyalty and retention, users with in-game purchase history would likely be more engaged and committed to the game. This occurs as a result of the fact that the player's financial investment in the game, in the form of purchases, generates feelings of ownership and attachment to the experience.
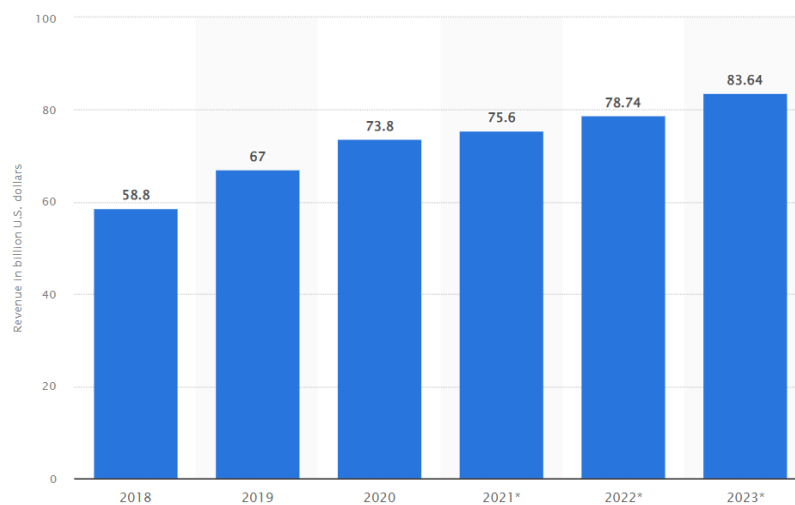

Figure 1.2. Global revenue from F2P mobile game market 2018-2023
Source: Statista

The trend toward making purchases of game virtual products, which are not physically presentable and have no intrinsic value, appears to be a phenomenon that is occurring in present years (Pangaribuan, et al., 2021). Based on data by Statista, the global revenue of mobile games incorporating Free-to-play monetization systems is consistently on the rise. The number of 2023 is also projected to rise using the data modeling of Statista. The In-app Purchases (IAPs) and mobile game industry have huge growth potential, but little information is available about the factors that influence these purchases among players (Hsiao & Chen, 2016).

Several research has been carried out looking into the predictors of virtual goods purchase behaviors. Previous studies on mobile games have identified

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variables such as *perceived value* and *loyalty* (Hsiao and Chen, 2016), compensatory mechanism (Syahrivar, Chairy, Juwono, & Gyulavári, 2021), and *UTAUT* model (Ericska, Nelloh, & Pratama, 2021). Drawing from the perspective of perceived value as an example, specifically represented by in-game "reward" as highlighted by Hsiao and Chen (2016), paying players' purchase intention is determined by the rewards offered in-game. The more valuable and attractive these rewards are perceived to be, the higher the likelihood of players being willing to make purchases within the game. As discussed by Syahrivar et al., (2021), gaming activities can also be a compensatory mechanism, in which the players' social interactions take place, where players spend a lot of time with their peers. Players experiencing social marginalization may buy things representing social advancement they are not able to get in real life, thus increasing the intention to purchase in-game items. The concepts in those research were employed to identify the purchase intention and have shown that the variables are significant indicators of purchase intention in the context of virtual goods.

Salehudin and Alpert (2021) offered an alternative viewpoint, emphasizing that the best strategy for dealing with IAPs is not to approach them based on purchase intention. The study contends that free-to-play (F2P) gamers' preference for free gameplay and that in-app purchases (IAPs) for mobile games are more spontaneous than deliberate. Moreover, a very tiny percentage of F2P users actually make IAPs. Salehudin and Alpert (2022) state that the purchase intention approach unable to accurately represent the actual in-app purchasing behavior. The key drawback of intention-based study is that the majority of studies stopped after only

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examining the intention. However, there is little research into the way an individual's intentions relate to their actual spending behaviors. Salehudin and Alpert (2022) mentioned that IAP behavior can be examined by using spending-based approach, as the amount of money spent on IAP is used as a predictor for consumer behavior. Since it measures the user's actual behavior rather than just their future intentions, according to Salehudin and Alpert (2022), the spending-based method is potentially the "gold standard" for researching IAP. The use of the spending-based approach yields a more precise representation of IAP behavior as it relies on actual expense rather than the intention-based method. In order to measure the spending size of players on IAP, several constructs towards the IAPs willingness to spend include *Self-Control*, *Previous Impulsive Spending*, and *Perceived Aggressive Monetization* (PAM).

Salehudin and Alpert (2022) highlighted the benefit of examining users' willingness to spend on IAP as it measures the maximum amount of money users will be spent in making IAPs. They argued that willingness to spend will enable more accurate measurement than intention to purchase approach.

Users who exhibit Self-control are able to deliberate over their actions and give thoughtful consideration to how those choices will play out over time, as stated by Haws et al., (2012). One's susceptibility to the "temptation" of making a hasty in-game goods purchase increases proportionally with one's lack of self-control. As suggested by Baumeister (2002), Impulsive buying refers to the act of undertaking a purchase without carefully considering if it aligns with the purchaser's long-term goals, values, or plans. Perceived Aggressive Monetization (PAM) is the term used

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to describe how users feel when they think that the applications monetization model prioritizes profit over user well-being. (Salehudin & Alpert, 2021). PAM is a new concept developed in the research paper to explain players' spending behavior on IAPs.

Despite the fact of such high revenue, in-app purchases are actually made by only 5% of app users, but they yield far more income for publishers than the advertising model does (Sterling, 2016). Big spenders, or "Whales" in the gaming industry, make up 10% of users but are responsible for 70% of In-App Purchases (Salehudin & Alpert, 2021). Considering this significant imbalance, it is important to investigate why only few players make actual in-app purchases (IAPs). When mobile game studios overlook the factors influencing players' unwillingness to make IAPs, this could be pose a problem for their monetization strategy and could potentially impact their profitability, since this can negatively impact willingness of players', including "Whales", to make repeat IAPs. When linked with mobile games with *gacha* mechanic, in which players are encouraged to engage in gambling-like behavior in the IAP, it will contribute to the players' willingness to spend on IAP if they perceive that they are being unethically monetized.

This also indicates an uncharted territory for the approach to in-app purchases, instead of viewing from the purchase intention perspective, the concept of IAPs behavior could be broadened by studying the reasons how gamers are feeling that they are being overly monetized.

Salehudin and Alpert (2021) has highlighted that the fairness theory as an important approach in IAP behavior, particularly in terms of exploitative

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psychological pressure to spend money on targeted and vulnerable audiences. Fairness theory (Seiders & Berry, 1998) reflects an individual's perception about fairness or equity of a particular relationship as the motivation for specific behavior.

According to Seiders and Berry (1998), consumers will respond strongly to any perceived unfairness and will continuously assess their consumption experience in order to determine whether the distribution of resources is fair. On the other hand, customers' willingness to pay and chances of making additional purchases will be impacted by perceived unfairness. Salehudin and Alpert (2021) employed fairness theory to the context of understanding user IAP spending behavior and identifies themes related to perceived fairness and Perceived Aggressive Monetization (PAM) from user-generated game reviews and in-depth interviews.

In terms of aggressive monetization in mobile games with *gacha* mechanics, it is closely associated with players' addictiveness. When users become addicted to IAP, they may feel pressured to spend more money in order to advance in the game or obtaining specific in-game features, leading to a cycle of perceived unfairness and increased spending. This can ultimately harm the overall user well-being and satisfaction in the games.

As a result, as the market for mobile games grows, it will be more crucial than ever for developers of these games to create monetization strategies that are both acceptable and effective in order to maximize in-app purchases and user base growth. Moreover, research on Perceived Aggressive Monetization can help to raise public awareness about the potential negative consequences of aggressive monetization in mobile games. Through highlighting these issues, users, industry

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stakeholders, and policymakers can engage in informed discussions and actions to promote responsible monetization practices.

1.2. Research Problem

A qualitative study by Salehudin and Alpert (2021) focused on the understudied topic of why players are reluctant to spend money on in-app purchases rather than focusing on the mainstream construct of purchase intention towards the in-game item purchase. The research introduced novel antecedents towards IAP behavior, specifically by discovering the influence of Perceived Aggressive Monetization (PAM) to approach the topic. Insightful and new angles on IAPs were suggested from the study. As a new approach to IAP behavior, the existing literature of influence of PAM on IAP is currently limited. To address this problem, this research will investigate the influence of PAM on IAP behavior involving the variable of Previous Impulsive Spending, Self-Control, Willingness to Spend on IAP, and Size of Spending on IAP.

1.3. Research Objectives

The objective of this study is to test the IAP model proposed by Salehudin and Alpert (2021) and Salehudin and Alpert (2022) on users' willingness to spend towards mobile game IAPs. Following are the sub-objectives to be reached through this study:

1. To investigate the influence of PAM, Self-Control, and Impulsive Spending on Willingness to Spend on IAP.

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2. To investigate Self-control in moderating the influence of Willingness to Spend on IAP towards Size of Spending on IAP.

To pursue above objectives, this research is interested in answering these research questions as follows:

1. What factors lead to the biggest influence on Willingness to Spend on IAP?
2. Is Self-control able to moderate the influence of Willingness to Spend on IAP towards Size of Spending on IAP?

1.4. Research Benefits

The use of the theory of fairness to explain the behavior of the IAPs will theoretically be examined in this study. This will provide new angles to the study of In-app Purchase Behavior. Researchers aim to uncover how it influences the behavior of users engaging in In-app Purchases (IAPs). This study may provide insight into previously unidentified aspects of in-app purchase behavior.

For practical benefit, this research will provide new perspectives on the IAPs behavior. The results of this study will offer mobile game studios with some new perspectives to tailor better and ethical app monetization strategies, and provide more attractive offers for IAPs, which in turn, will contribute to ethically sound profitability.