

CHAPTER II

LITERATURE REVIEW

2.1. Theory Review

In this chapter, the concepts employed will be presented in order to provide the underlying theoretical framework in this research. The theories to be discussed include the Theory of Stimulus-Organism-Response (S-O-R), Self-control, Perceived Aggressive Monetization (PAM), Previous Impulsive Spending, Willingness to Spend on IAP, Previous Impulsive Spending, and Size of Spending on IAP.

2.1.1. Stimulus-Organism-Response (S-O-R)

The abbreviation of S-O-R refers to the Stimulus-Organism-Response framework, which is used to gain an understanding of how individuals react to stimuli that are present in their surrounding environment (Mehrabian & Russell, 1974). The model suggests that an individual's internal state or organism (O) is affected by external stimuli (S), which in turn influences the behavioral response (R) that the individual demonstrates.

The S-O-R concept used in this research is to examine how players react to drivers of mobile game IAP behavior. In this context, the external stimuli (S) refers to any element or feature of a game meant to attract interest of players and encourage them to make an in-app purchase (IAP). The mental, emotional, and behavioral response of players in relation to the IAPs, such as players' perceived fairness towards the IAP offer, could be considered part of the organismic state (O).

Lastly, players' willingness to spend and actual IAP behavior, such as the size of spending on IAP, could be included in the behavioral response (R).

2.1.2. Fairness Theory

According to fairness theory, a person's behavior is influenced by their belief about how equitable or fair a particular relationship is (Seiders & Berry, 1998). Consumers consistently assess their consumption experience to evaluate the fairness of resource distribution and respond firmly to any perceived unfairness. In the context of purchase behavior, the perception of fairness will influence the probability of customers making repeat purchases.

This study by Salehudin and Alpert (2022) employs the Fairness Theory to understand the initial phase of the in-app purchase (IAP) spending process, namely user conversion. The study aimed to evaluate the implementation of the Fairness Theory in the context of IAP. They suggest that the perceived fairness of in-app purchases (IAP) enhances the probability of user conversion.

2.1.3. In-App Purchases (IAPs)

Salehudin and Alpert (2021) defines IAPs as the purchase of virtual goods or services offered within a mobile application. This becomes a popular monetization model for app developers besides in-app advertising and subscription, whereby users can download and access the application for free, but can make actual purchase additional features or content in the application. Enache, Friberg, and Wiklander (2023) proposed an alternative definition of in-app purchases (IAPs) as the digital commodities or services that users can obtain within a mobile

application. These include additional lives, in-game currencies, character skins, limited-time offers, power-ups, or the option to experience the application without advertisements.

The acquisition processes occur through the application store and are invoiced to the user's account associated with the application store. In mobile app industry, IAPs are popularly implemented monetization models by the app developers. Tafradzhiyski (2023) mentions that 98% of revenue earned by Google Play is generated from free apps, and free apps dominated Google Play and Apple App Store by 96.7% and 92.7% respectively. The aforementioned statistics indicate the importance of in-app purchases as a lucrative revenue stream for developers. In-app purchases afford users the opportunity to acquire supplementary features or content within the application, thereby augmenting their overall experience and furnishing app studios with a consistent source of revenue.

Multiple factors influencing IAPs have been studied over time, which involve perceived value and loyalty (Hsiao & Chen, 2016), quality (Hamari, Nicolai, & Koivisto, 2020), performance expectancy (Lu, Lin, & Lin, 2016), and pricing (Buzulukova & Kobets, 2022) as well as the area of personality traits such as frugality, impulsivity, and bargain proneness (Dinsmore, Swani, & Dugan, 2017).

The aforementioned predictors above have been widely examined to enhance the understanding towards users' purchase intention on IAPs. Hsiao and Chen (2016) revealed the perceived values of the game, which consisted of the aspects of playfulness, connectedness, access flexibility, and reward, have influence on the players' loyalty. Subsequently, they have found that the values of loyalty and good

pricing directly impacted the users' in-game purchase intention. As highlighted by Hamari et al., (2019), quality of the freemium service provided by mobile games does not exhibit a significant correlation with purchase intention, despite being positively influenced the freemium use. Lu *et al.*, (2016) utilized the theoretical frameworks of performance expectancy and social influence to make prediction about the users' IAP intention. They have found in the study that both performance expectancy and social influence have significant impact on in-game item purchase intention. The pricing parameter has also been analyzed by Buzulukova and Kobetz (2022), within the Indonesian players' context. The study has demonstrated that price has positive correlation between price and purchase intention.

The psychological factors, such as Personality traits became subjects investigated to comprehend individuals' motives to make in-app purchase in mobile apps. Attributes such as bargain proneness, frugality and impulsivity have been examined by Dinsmore *et al.*, (2017). The research concluded that the construct of bargain proneness positively affected the purchase intention, whereas frugality trait had a negative effect, and impulsivity had no effect on IAP intention.

Salehudin and Alpert (2021) offered an alternative perspective on IAPs behavior by investigating the underlying reasons behind players' reluctance to conduct real purchases within the game, in contrast to the bulk of prior research. The study collected as many as 4092 user comments from the game review webpages and social media, as well as conducting in-depth interview. Subsequently, thematic analysis was employed to figure out emergent themes from the comments and interviews of users. This steps were taken in order to develop an

in-depth comprehension of players' perceptions on IAPs monetization model, as well as factors impacting their willingness to make actual IAPs. From the comments analysis, Salehudin and Alpert (2021) identified key construct towards users' IAP behaviors, namely Perceived Aggressive Monetization (PAM).

2.1.4. Willingness to Spend on IAP

Salehudin and Alpert (2022) defines willingness to spend as refers to the maximum monetary amount that a user is prepared to allocate towards In-app Purchases during a specific time period. In their investigation into the reasons behind people's decisions not to make payments to IAP, Salehudin and Alpert (2022) point out that Willingness to Spend is treated as an independent variable throughout their study. They argued that there are two possible explanations for zero spending: the first is that users are unwilling to spend any money at all, and the second is that there is no IAP that users are willing to purchase within the measurement period.

As noted by Salehudin and Alpert (2022), willingness to spend is more reliable model than purchase intention because it measures the highest sum of money an individual is committed to allocate on IAP in a specific period of time. This improves measurement of users' spending on IAP and understanding of the determinants of the influence on IAP behavior.

Salehudin and Alpert (2022) also suggested that the concept of willingness to spend is more suitable for examining IAP than using willingness to pay (WTP), since the purchase can be made throughout the players' gameplay. In the WTP model, users' purchase often made only once at the beginning, as represented in

traditional console video games where players purchased a game title in the beginning before playing for full content.

2.1.5. Self-Control

Self-control indicates an individual ability to exert their own emotions and actions. It involves the substitution of an emerging pattern of response with an alternative one (Baumeister, 2002). Such responses can include thoughts (such as ignoring distracting thoughts or forcing oneself to concentrate), emotions (such as entering, exiting, or artificially maintaining some emotion or mood), impulses (such as resisting temptation), and performances (such as persisting).

Haws *et al.*, (2012) defined self-control, in consumer spending context, as the capacity to observe and control one's cognitive processes and choices pertaining to financial expenditures in alignment with self-imposed criteria. This deeper understanding could lead to the creation of effective ways to help consumers regulate their spending to ensure they can avoid the negative financial (like bankruptcy and detrimental credit), psychological (for instance, stress, guilt, and anxiety), alongside social (such as strained relationships and divorce) effects of spending without control.

As a proposition in the research, Salehudin and Alpert (2021) believe that self-control will enhance the users' unwillingness to spend for IAPs. Higher self-control individuals are more probable to avoid the temptation to make IAPs, leading to reduced real money spending behavior. Self-control plays a role as a defensive mechanism against impulsive buying tendencies and promotes responsible financial

decision-making. On the contrary, players with low self-control would be more susceptible to the attraction of impetuous IAPs.

2.1.6. Perceived Aggressive Monetization

Perceived Aggressive Monetization (PAM) refers to the subjective perception of users wherein they perceive that an application's business model excessively prioritizes the pursuit of financial gains, potentially compromising the users' overall well-being (Salehudin & Alpert, 2021). In interpreting the app users' review and interview, they employed the theory of perceived fairness and psychological reactance. Perceived fairness, as suggested by Seiders and Berry (1998), is a measure of where users rate the quality of service they received in accordance with their expectations and the outcomes they had anticipated. McCoy *et al.*, (2016) described psychological reactance as emotional reaction of people when they believe their freedom to engage in a behavior is being limited or threatened. According to the theory, an individual or group will value a freedom more if it is limited. Salehduin and Alpert (2021) employed the lens of fairness theory and psychological reactance to examine and develop the concept of "Perceived Aggressive Monetization" (PAM).

PAM construct is composed of five dimensions, namely manipulateness, addictiveness, riskiness, intrusiveness, and overpricing. These dimensions cover a range of factors that go into creating the perceived aggressive monetization as a whole. As pointed out by Salehudin and Alpert (2021), manipulateness defined as users' perception of the extent of them being manipulated leading to more actual purchases. To encourage actual in-app purchases from players of F2P games, many

developers deliberately control players' enjoyment (Hamari, Nicolai, & Koivisto, 2020). This is aimed to create sense of urgency and the feeling of FOMO (fear of missing out) which lead to impulsive spending by players.

Perceived addictiveness refers to the users' tendencies to be addicted to actual IAPs once they did make any actual purchases (Salehudin & Alpert, 2021). It refers to the perceived risk of becoming addicted to spend more money as they continue playing the game, and eventually leaving them with difficulties to control and stop spending for IAPs.

According to the study, perceived intrusiveness occurs when users believe that monetized content is prioritized within the app without their knowledge or permission (Salehudin & Alpert, 2021). The research shows that mobile games employ a wide range of methods to promote in-app purchase (IAP) content, some of which users may find annoying.

Perceived Overpricing, as suggested by Salehudin and Alpert (2021), is the state where players are aware that the in-game products are disproportionately expensive. As for the last dimension, Perceived Riskiness, refers to the users' perception that the likelihood of them obtaining certain in-game objectives are unfairly reasonable. Riskiness can be seen in recent mobile games implementing *gacha* system, where developers offer in-game items or characters that can be acquired by spending currencies with randomized and low probability, to encourage more actual transactions by users.

2.1.7. Previous Impulsive Spending

As described by Baumeister (2002), impulsive spending refers to the spontaneous desire to acquire an item, without prior intention or strategic planning, followed by immediate action to fulfill that impulse. This behavior typically occurs without a thorough evaluation of whether the purchase aligns with one's long-term objectives, values, commitments, and strategies. Impulsive purchasing can often be driven by emotions such as excitement or instant gratification, leading individuals to make impulsive decisions that may not be in their best interest.

Chan *et al.*, (2016) also mention that impulsive buying in online environment is represented by spontaneous and immediate online purchase without any predetermined intentions. Because e-commerce becomes increasingly popular, consumers have a greater tendency to commit impulsive purchases when they shop online. Consumers are less likely to restrain themselves when shopping online than they would be in a physical establishment, leading to more impulse buys.

Huang (2015) believes that because of the emotional nature of the process, consumers making impulsive purchases are unable to form cognitively structured attitudes or intentions toward the products. In the online setting, the antecedents of impulsive spending can be caused by emotional factors like arousal and playfulness, prices, platform elements, platform quality, the effectiveness of product promotion, product search effectiveness, and the interactive environment of social networks. Impulsive buying can also be driven by the consumers' impulsiveness traits.

According to Salehudin and Alpert (2021), in the scenario of mobile games that are free to play, the act of making actual IAPs is driven predominantly by

impulsive tendencies rather than rational and planned decision-making, while recent marketing research on IAP behavior looks at purchase intention as the primary focus. In the analysis by Salehudin and Alpert (2021) from users comments and interview results, have shown that there is lack of users' predetermined intention or plan in making IAPs.

The study gives an example of a user comment that suggests that people have a certain amount of money in mind when they buy things in apps. One comment reads, *"I try to tell myself that I'll only spend \$1.50". But I could have spent \$10 by the end of the week.*" This comment suggests that users have an idea of how much money they want to spend, but they may exceed that limit due to impulses. The study also shows that the app's marketing tactics, which serve as temptation and cause users to buy things on immediate basis, affect their behavior.

2.2. Previous Researches

In recent years, multiple studies have been carried out to investigate the IAPs behavior, specifically as they relate to the ever-growing mobile app and gaming industry. The vast majority of the research aimed to identify the predictors towards purchase intention to in-app goods. Analysis of consumers' reluctance to pay for in-app purchases in mobile games is lacking. Salehudin and Alpert (2021) argues that in the context of mobile gaming IAPs, purchase intention concept does not properly describe the purchase behavior since players default mindset is to play the games for free and no intention to buy. This perspective highlights the need for further exploration into the factors that contribute to users' resistance towards spending on in-app purchases. References to prior studies conducted in the field of in-app

purchases are provided below to aid in addressing this research gap, and became the references of this study as well:

Table 2. 1 Previous Research

No	Previous Researches	Findings
1.	Salehudin and Alpert (2021). <i>To Pay or Not to Pay: Understanding Mobile Game App Users' Unwillingness to spend for In-App Purchases. Journal of Research in Interactive Marketing, 2021</i>	<ol style="list-style-type: none"> 1. Unwillingness to spend for IAPs reduces actual IAPs spending. 2. Marketing Tactics negatively influence the Unwillingness to spend for IAPs on users' IAP spending. 3. PAM negatively influences actual IAPs by increasing the Unwillingness to spend. 4. Self-control lower the actual IAPs by increasing users PAM and Unwillingness to spend.
2.	Salehudin and Alpert (2022). <i>Perceived aggressive monetization: why some mobile gamers won't spend any money on in-app purchases. Electronic Commerce Research, July 28, 2022.</i>	<ol style="list-style-type: none"> 1. PAM makes users more likely to spend nothing on IAP. 2. Perceived fairness decreases the likelihood of spending nothing on IAP. 3. Neither PAM nor Perceived fairness influence users' spending size once they convert from F2P to paying users. 4. Willingness to Spend and Time spent playing both influence the user conversion and the spending size. 5. There is a significant influence between Willingness to Spend and Self-control in explaining the users' spending size.
3.	Dinsmore, Dugan, and Swani (2017). <i>To 'Free' or Not to 'Free': Trait Predictors of Mobile App Purchasing Tendencies. Psychology and Marketing, February 2017.</i>	<ol style="list-style-type: none"> 1. Bargain proneness has positive effect on IAPs. 2. Frugality has negative effect on IAPs. 3. Impulsivity has no effect on IAPs.
4.	Hamari, Hanner and Koivisto (2019). <i>Why pay premium in freemium services?" A study on perceived value,</i>	<ol style="list-style-type: none"> 1. Increased perceived value (such as enjoyment) of freemium games lower the monetization rate, but on the other hand, increase retention. 2. Social value positively affects the freemium use and premium purchase.

No	Previous Researches	Findings
	<p><i>continued use and purchase intentions in free-to-play games. International Journal of Information Management, 2019.</i></p>	<ol style="list-style-type: none"> 3. Quality has no association with premium purchase, but positively associated with freemium use. 4. Economic value positively associated with freemium use and premium purchases.
5.	<p>Hamid and Suzianti (2020). <i>Driving Factors Analysis of Mobile Game In-app Purchase Intention in Indonesia. Proceedings of ACM APCORISE'20. June, 2020.</i></p>	<ol style="list-style-type: none"> 1. Game quality has positive influence on Indonesian players' purchase intention. 2. Monetary value has positive influence on Indonesian players' purchase intention.
6.	<p>Lu, Lin and Lin (2016). <i>A Study of the factors Affecting the Purchase Intention on Mobile Game Apps. Journal of Advances in Information Technology, Volume 7, November 2016.</i></p>	<ol style="list-style-type: none"> 1. Performance expectancy has significant effect on mobile games IAP intention. 2. Social influence has significant influence on mobile games IAP intention.
7.	<p>Muqarrabin, Arief, Gautama, and Heriyati (2021). <i>Analysis of Factors Affecting the Loyalty of Indonesian Mobile Game Players and Its Impact on in App Purchase Intention. International Journal of Emerging Technology and Advanced Technology, Volume 11, September 2021.</i></p>	<ol style="list-style-type: none"> 1. Perceived value has positive impact on loyalty and In-app Purchase Intention. 2. Game technology has positive impact on loyalty and In-app Purchase Intention. 3. Subjective norms have positive impact on loyalty and In-app Purchase Intention. 4. Online community engagement has positive impact on loyalty and In-app Purchase Intention.
8.	<p>Pangaribuan, Setiawan, Hidayat, Putra, Ardiansyah and Minardi (2021). <i>Mobile Game</i></p>	<ol style="list-style-type: none"> 1. Playfulness has direct and significant effect on IAP intention. 2. Stickiness has significant mediating role between playfulness and IAP intention.

No	Previous Researches	Findings
	<p><i>Stickiness, Perceived Playfulness, and Interests of Digital Goods Purchase: An Empirical Study on Mobile Gamers in Indonesia. 3rd International Conference on Cybernetics and Intelligent System (ICORIS), 2021.</i></p>	
9.	<p>Hsiao and Chen (2016). <i>What drives in-app purchase intention for mobile games? An examination of perceived values and loyalty. Electronic Commerce Research and Application 16, 2016.</i></p>	<ol style="list-style-type: none"> 1. Perceived value has positive influence on In-app Purchase intention. 2. Loyalty has positive influence on In-app Purchase Intention.
10.	<p>Rusli and Berlianto (2022). <i>Antecedents of satisfaction and loyalty towards In app Purchase Intention for Indonesian Genshin Impact players. Journal of Management, Volume 12, 2022.</i></p>	<ol style="list-style-type: none"> 1. Economic Value positively influence Loyalty. 2. Emotional Value positively influence Loyalty. 3. Hedonic Value positively influence Loyalty. 4. Utilitarian Value positively influence Loyalty. 5. Satisfaction positively influence Loyalty. 6. Loyalty Value positively influence Purchase Intention. 7. Satisfaction does not positively influence Purchase Intention.
11.	<p>Ericaska, Nelloh, and Pratama (2022). <i>Purchase intention and behavioural use of freemium mobile games during Covid-19 outbreak in Indonesia. Sixth Information Systems International Conference (ISICO), 2021.</i></p>	<ol style="list-style-type: none"> 1. Performance expectancy has significant effect on Purchase Intention and behavioral use. 2. Effort expectancy has significant effect on Purchase Intention and behavioral use. 3. Social Influence has significant effect on Purchase Intention and behavioral use. 4. Social effect does not have significant effect on Purchase Intention.

Source: Researcher (2023)

The following table is provided to help summarize the differences between the Salehudin and Alpert (2021) study and other studies, as well as to facilitate comparisons between the studies. The table includes key variables from each study. It indicates the distinguishing variables of Salehudin and Alpert (2021) and Salehudin and Alpert (2022) studies in relation to other relevant research in the field. By presenting this information in a clear and concise manner, the table enables an understanding of how the Salehudin and Alpert (2021) study contributes to existing knowledge and sheds light on any unique perspectives.

Table 2.2 Research Variable Summary

Variables	Dinsmore <i>et al.</i> , (2017)	Hamari <i>et al.</i> , (2019)	Hamid and Suzianti (2020)	Lu <i>et al.</i> , (2016)	Muqarrabin <i>et al.</i> , (2021)	Pangaribuan <i>et al.</i> , (2021)	Hsiao and Chen (2016)	Rusli and Berlianto (2022)	Ericksa <i>et al.</i> , (2022)	Salehudin and Alpert (2021)	Salehudin and Alpert (2022)
Dependent Variable											
Purchase Intention	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Willingness to Play			✓								
Unwillingness to pay										✓	
Size of Spending on IAP											✓
Independent Variable											
Perceived Values		✓			✓		✓				
Performance Expectancy				✓				✓			
Self-control										✓	
Perceived Aggressive Monetization (PAM)										✓	✓
Willingness to spend on IAP											✓
Loyalty							✓	✓			
Price			✓				✓				
Playfulness						✓					
Stickiness						✓					
Bargain Proneness	✓										
Frugality	✓										
Impulsivity/Impulsive Spending	✓									✓	

Variables	Dinsmore <i>et al.</i> , (2017)	Hamari <i>et al.</i> , (2019)	Hamid and Suzianti (2020)	Lu <i>et al.</i> , (2016)	Muqarrabin <i>et al.</i> , (2021)	Pangaribuan <i>et al.</i> , (2021)	Hsiao and Chen (2016)	Rusli and Berlianto (2022)	Ericksa <i>et al.</i> , (2022)	Salehudin and Alpert (2021)	Salehudin and Alpert (2022)
Social Value/Influence		✓		✓					✓		
Quality		✓									
Economic Value		✓						✓			
Game Technology					✓						
Subjective Norms					✓						
Online Community Engagement					✓						
Hedonic Value								✓			
Emotional Value								✓			
Utilitarian Value								✓			
Satisfaction								✓			
Effort Expectancy									✓		

Source: Researcher (2023)

2.3. Conceptual Framework

This study employs the framework with modification from previous research by Salehudin and Alpert (2021), with entitled: *To Pay or Not to Pay: Understanding Mobile Game App Users' Unwillingness to spend for In-App Purchases*. Following is the framework model proposed in the paper:

U N I V E R S I T A S
M U L T I M E D I A
N U S A N T A R A

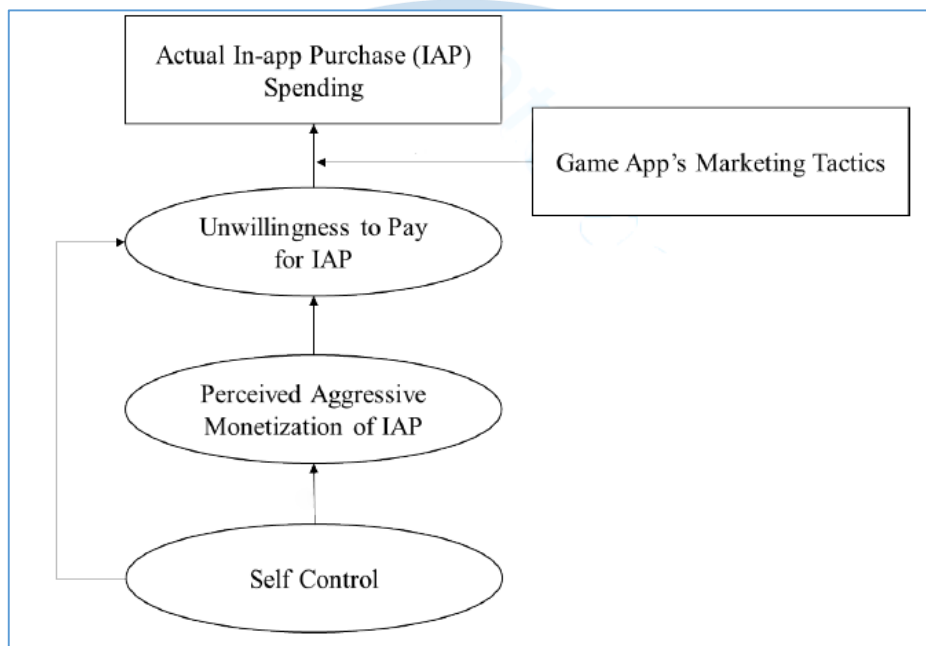


Figure 2.1. Salehudin and Alpert Framework model
 Source: Salehudin and Alpert (2021)

For this research, adjustment takes place in the addition of “Impulsive Spending” variable to suit the research objective. The addition of the "Impulsive Spending" variable allows for a more comprehensive analysis of the factors influencing IAPs behavior. This variable captures the tendency of individuals to make spontaneous and unplanned purchases, providing valuable insights into their decision-making process. Therefore, the modified framework is presented as follows.

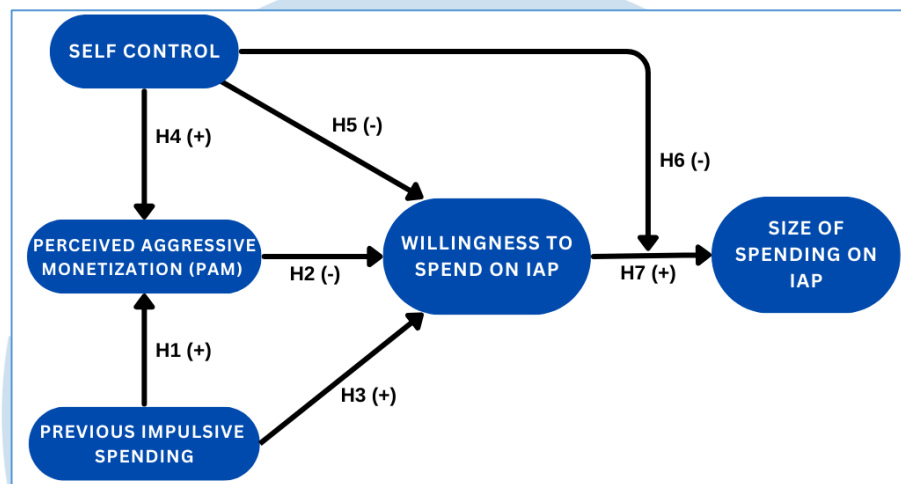


Figure 2.2. Conceptual Framework
Source: Researcher (2023)

2.4. Hypotheses

As mentioned by Salehudin and Alpert (2021), rather than being the result of deliberate decision-making, in-app purchases are often the result of an impulsive behavior. In the research, an examination of user comments pertaining to the games they engaged with revealed a notable prevalence of in-app purchases (IAPs) that were presumably unplanned. This observation suggests the presence of previous impulsive purchasing tendencies among users. Users with impulsive behavior that have been made previously will engage in in-app purchases even when they perceive them as aggressive monetization. Consequently, the following is how the hypothesis can be put forth:

H1: *Previous Impulsive Spending has positive effect on Perceived Aggressive Monetization.*

The concept of Perceived Aggressive Monetization (PAM) generates a perception in which of unfairness stemming from the unequal dynamics between

app users and the app itself, which is experienced by both paying and non-paying users. The perception of unfairness has a significant impact on consumer's willingness to pay. Salehudin and Alpert (2021) posited that the users' reluctance to make IAP has a negative impact on their overall expenditure on such purchases. Individuals who perceive the application's monetization strategy as assertive are inclined to exhibit reluctance in making payments for in-app purchases, consequently leading to a reduction in their overall expenditure on IAPs. Thus, the hypothesis is expressed in the following way:

H2: *Perceived Aggressive Monetization has negative effect on Willingness to spend.*

Baumeister (2002) defines impulsive spending as the impromptu desire to obtain an item, lacking of deliberate planning, and subsequently taking immediate action to satisfy that impulse. Impulsive spending would affect people intention to make in-app purchase. The more impulsive an individual is, the more tendency the person will spend money to engage in virtual item purchases within gaming contexts. Users with likelihood of impulsive behavior tend to commit IAP without considering the cost, and as a result, they may have a higher willingness to spend for in-app purchases. Following is the proposed hypothesis:

H3: *Previous Impulsive spending has positive influence on Willingness to spend.*

Haws *et al.* (2012) defined self-control, in the setting of consumer spending, as the capacity to recognize and regulate oneself thoughts and decisions regarding actual money expenditure in accordance with deliberate factors. In association with

game monetization, payers with self-control would likely to be aware to unfairness of the monetization system of a mobile game. They would be able to perceive when the game is designed to exploit players and manipulate them into spending more money. This awareness could lead them to make informed decisions about their gameplay and potentially choose not to support such unethical practices.

Suggested by Salehudin and Alpert (2021), individuals exhibiting higher degree of self-control are inclined to perceive the business model employed by the app as excessively prioritizing monetization, potentially at the expense of the users' overall wellbeing. Therefore, this perception fosters a reluctance among such users to engage themselves in actual in-app purchases, and following hypothesis is presented:

H4: *Self-Control positively influence the Perceived Aggressive Monetization.*

As people with the likeliness of self-control, they will tend to be reluctant to making actual in-game purchases. They may prefer to rely on their own skills and efforts within the game to progress rather than resorting to purchase virtual goods. In a study by Haws *et al.* (2012) exploring relationship between self-control and consumer spending behavior, suggest that higher self-control individuals usually exhibit the ability to control their spending habits and set decisions aligning spending with their financial goals. Users pertaining self-control would have the priorities towards spending on more utilitarian motives, and assume gaming as leisurely activities leading into thoughts that it does not require using money for IAPs. Consequently, the following hypothesis is suggested as a result:

H5: *Self-Control has negative effect on Willingness to spend.*

When users exercise more self-control, they spend less money on in-app purchases (IAPs) despite they stated desire to do so. Only by limiting or negatively modulating the conversion of willingness to spend into actual spending can self-control restrain spending. Once a user makes the decision to spend money on IAP, they have little regulations over how much they spend (Salehudin and Alpert, 2022). Then, exercising self-control can lessen the chances that a user will spend money on IAP, but it won't prevent a user from spending as much as they originally intended.

H6: *Self-control moderates the influence of Willingness to Spend on Size of Spending on IAP.*

Users with a higher willingness to spend are more likely to convert into IAP buying users, so willingness to spend has a positive influence on the size of spending on IAP. As per Salehudin and Alpert (2022), users who have a high willingness to spend are more likely to become paying users for IAP. A users' willingness to spend also correlates positively with the size of their purchases. Users with a higher willingness to spend money on IAP are also more likely to make repeat purchase and spend more money on IAP.

H7: *Willingness to Spend has a positive impact on Size of Spending on IAP.*

U N I V E R S I T A S
M U L T I M E D I A
N U S A N T A R A