

CHAPTER III

RESEARCH METHOD

3.1. Research Paradigm

This study employs positivism as the research paradigm with the quantitative method. This study aims to pursue objective truth by analyzing numerous amount of data. The nature of the paradigm is the deductive, meaning that the study progresses from general into specific scope, and heading from abstract to concrete finding (Muslim, 2016). This positivism-employing research will examine the relationship of independent and dependent variables.

3.2. Research Object and Subject

The object of this study will involve the mobile game players' behavior in making In-app Purchases. The mobile games will include the titles featuring In-app Purchase monetization model with *gacha* mechanism, with genre of Action Role Playing Game (A-RPG) such as *Genshin Impact*, *Honkai Star Rail*, *Honkai Impact*, *Arknights* and *Ragnarok Origin Global*. Research subjects will invite players of aforementioned mobile game titles above.

Research findings will contribute to mobile game developers tailoring better-suited and ethical strategies for monetization their mobile games, especially those implementing the in-app purchase (IAP) monetization model.

3.3. Population and Samples

3.3.1. Population

The population of this research covers the mobile games players in Indonesia. There will mobile game players that will come from a wide range of occupations.

The selection of mobile games takes place based on the ones that implement the monetization model of In-app Purchase (IAP), with the mobile game titles with *gacha* system.

3.3.2. Samples

In this study, samples for this research were collected using a non-probability sampling technique and the likelihood of each component is not known. Purposive sampling will be employed as the sampling criteria. In this manner, the sample selection will be conducted based on specific criteria. Respondents will be mobile game players who have previously purchased in-game items with real money.

3.4. Operationalization of the Variables

This study comprises three independent variables: Self-Control, PAM, and Previous Impulsive Spending. Additionally, there is a moderating variable, Self-control, and a dependent variable of willingness to spend on IAP and size of spending on IAP. The latent variable, which is the dependent variable, will be assessed using measured variables in the form of indicators.

The indicators proposed by Tangney, Baumeister, and Boone (2004) will be used to measure the variable Self-control. The study includes a total of 36 items meant to measure different aspects of self-control's influence on things like psychological health, academic performance, and social flourishing (Tangney, Baumeister, & Boone, 2004). Only 8 of these items, based on the correlation with IAP behavior in mobile games, will be used in the current investigation.

Table 3. 1 Operationalization of Self-Control Variable

Variable	<i>Self-control</i>
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Operational Definition	The capacity to control or surpass one's inner reactions, including urges, desires, and feelings, in order to achieve long-term goals. It involves the ability to delay gratification, resist temptation, and inhibit prepotent responses (Tangney, Baumeister, & Boone, 2004)		
Indicators	SC1	I am good at resisting IAP temptation.	TBB
	SC2	I change my mind fairly often when offered with attractive IAPs.	TBB
	SC3	Other people see me as an easily tempted by attractive IAPs.	TBB
	SC4	I spend too much money on making IAPs.	TBB
	SC5	I tend to make IAPs in the spur of the moment.	TBB
	SC6	Pleasure and Fun of playing mobile games sometimes keep me from my objectives.	TBB
	SC7	I often make IAPs without thinking through all the alternatives.	TBB

Remarks: TBB (Tangney, Baumeister, & Boone, 2004)

This study will utilize the indicators presented by Salehudin and Alpert (2022) to measure the variable Perceived Aggressive Monetization (PAM). The five PAM dimensions are covered by the measurement items, namely manipulativeness, addictiveness, riskiness, intrusiveness, and overpricing. Each of the dimensions is represented by three items, for a total of 15 items that will be used in this study.

Table 3. 2 Operationalization of Perceived Aggressive Monetization (PAM) Variable

Variable	<i>Perceived Aggressive Monetization (PAM)</i>
Operational Definition	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. PAM consisted of 5 dimensions as follows:

	manipulativeness, addictiveness, riskiness, intrusiveness, and overpricing (Salehudin & Alpert, 2021).		
Indicators	PAMM1	The in-app purchase offered in this app is manipulative.	SAL
	PAMM2	The in-app purchase offered in this app tries to take advantage of users.	SAL
	PAMM3	The in-app purchase offered in this app is insecure.	SAL
	PAMA1	The in-app purchase offered in this app is addictive.	SAL
	PAMA2	The in-app purchase offered in this app is making the user dependent.	SAL
	PAMA3	The in-app purchase offered in this app is making the user spend an increasing.	SAL
	PAMR1	The in-app purchase offered in this app is too risky.	SAL
	PAMR2	The in-app purchase offered in this app has uncertain outcomes.	SAL
	PAMR3	The in-app purchase offered in this app is like gambling.	SAL
	PAMI1	The in-app purchase offered in this app is intrusive.	SAL
	PAMI2	The in-app purchase offered in this app is interfering.	SAL
	PAMI3	The in-app purchase offered in this app is distractive.	SAL
	PAMO1	The in-app purchase offered in this app is overpriced.	SAL
	PAMO2	The in-app purchase offered in this app is not worth the money.	SAL

PAMO3	The in-app purchase offered in this app is priced unreasonably.	SAL
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Remarks: SAL (Salehudin & Alpert, 2022)

The next factor that will be investigated is previous impulsive spending. The model suggested by Salehudin and Alpert (2021) is put into practice in this research to account for this variable. Through this model, the items are utilized to measure players' prior impulsive spending behavior on IAP. The indicators consist of 5 items.

Table 3. 3 Operationalization of Previous Impulsive Spending Variable

Variable	<i>Previous Impulsive Spending</i>		
Operational Definition	Previous Impulsive spending refers to prior spending that users find the purchase spontaneously or without planning (Salehudin and Alpert, 2021).		
Indicators	IS1	During the past three months, I have made multiple IAPs that turned out to be of limited value in relation to the amount of money I spent.	SAL
	IS2	During the past three months, I have made multiple IAPs that were unnecessary.	SAL
	IS3	During the past three months, I have made multiple IAPs only due to the temptation of their highly appealing offers.	SAL
	IS4	During the past three months, I often became addicted and could not resist making IAP.	SAL
	IS5	Over the last three months, without realizing it, I have spent excessive money for making IAPs.	SAL

Remarks: SAL (Salehudin & Alpert, 2021)

To examine the variable Willingness to spend, the indicator to be administered will reflect from the definition suggested by Salehudin and Alpert (2022). The measurement will question the players' weekly spending limit for making in-app purchase.

Table 3. 4 Operationalization of Willingness to Spend Variable

Variable	<i>Willingness to Spend on IAP</i>		
Operational Definition	Maximum amount of money the user is willing to commit in a given period of time for in-app purchases (IAPs) (Salehudin & Alpert, 2022)		
Indicator	WTS	How much money at maximum will you spend to make IAP(s) in a week?	SAL

Remarks: SAL (Salehudin and Alpert, 2022)

This dependent variable figures out the actual monetary amount that players are spent for IAP. Time period to be taken is the average monetary value in transactions conducted within a week in single month prior.

Table 3. 5 Operationalization of Size of Spending Variable

Variable	<i>Size of Spending on IAP</i>		
Operational Definition	The amount of money a user spends on IAP after deciding to convert from a free to paying user. (Salehudin & Alpert, 2022)		
Indicator	SSI	How much money did you spend on IAP on average within a week in last month?	SAL

Remarks: SAL (Salehudin and Alpert, 2022)

3.5. Data Collecting Techniques

As the data gathering method, this study uses questionnaire. Questions proposed in the questionnaire are in accordance with the variable operationalization. The questionnaire is to be administered via online channels such

as mobile games community groups that currently operated in social media platforms (*Facebook* and *Discord*).

The following procedures will be followed during the collection of the data for this study:

1. To begin with, a pretest will be administered to a sample of 30 respondents, the results of which will form the foundation for the pretest analysis.
2. The pretest's objectives are to assess the questionnaire and look over the reliability and validity tests.
3. Following the validity and reliability assessments, at least 200 participants will be administered with the updated questionnaire.

Questionnaire consists of introduction to the topic, questions regarding respondents profile. Items based on the research indicators and previous studies in related topic. As suggested by Ghozali (2016), Likert scale is used to measure attitude, opinion, and personality. The questionnaire will be created using Google Form in the five-point Likert as the measurement basis.

Score	Responses
1	Strongly Disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

The following points are included in the 5-point Likert scale that was used to collect the data. The five-point Likert scale is as follows: (1) Strongly Disagree; (2) Disagree; (3) Neutral; (4) Agree; and (5) Strongly Agree.

The scale range determines the position of the respondent's response, which is obtained from the average value of measurements of a variable using the following formula:

$$Rs = \frac{m - 1}{m}$$

Remarks:

Rs : Scale range

M : quantity of category

Then the calculation will be as follows:

$$Rs = \frac{5-1}{5}$$

$$Rs = 0.8$$

3.6. Data Analysis Method

PLS-SEM is going to be used as the measurement model that is utilized in this study. The data analysis will be done utilizing SmartPLS 4. PLS-SEM is used since the variable of Perceived Aggressive Monetization (PAM) is conceptualized as a formative construct. PLS-SEM is well-suited in measuring such construct, therefore, it will be used to analyze this variable.

As highlighted by Hair *et al.* (2014), there are 2 parts of PLS path model. To begin, the shapes (circles or ovals) are represented in a structural model. The links (or "paths") between the different elements are also displayed in the structural model. The measurement models of the constructs, which show the connections between the constructs and the indicator variables (rectangles), come in second.

The outer model and the inner model are the two components of the PLS-SEM testing procedure. The reflective construct model measurements are the goal

of outer model testing. The next step is to implement an inner model test, which will look for correlations between the research variables.

Given that this study uses the Perceived Aggressive Monetization (PAM) construct, which is a formative model, a dedicated measurement will be conducted. PAM will be tested employing a reflective-formative higher-order construct, which uses two-stage approach. According to Hair et al. (2014), two-stage approach in the first stage is to determine the construct scores estimates (Latent Variable Scores), and then the first stage results will yield a single indicator as a proxy of each of 5 PAM dimensions. Furthermore, PAM formative measurement model assessment procedure includes steps such as determining convergent validity, collinearity issues, and the significance and relevance of formative indicators.

3.6.1. Outer Model (Measurement Model)

To confirm that the data model is reliable and valid, an outer model procedure is run. In PLS-SEM, the outer model, which is also known as the measurement model, is an element that establishes latent variables through the use of specific indicator variables (Hair *et al.*, 2014). Measurements are made of the connections between the indicator variables and the constructs.

There will be 2 indicators to measure the outer model. The first one is convergent validity. Convergent validity is a type of construct validity that assesses the degree of association between different measures of the same construct (Hair *et al.* 2014). The average variance extracted (AVE) and the outer loadings of the indicators are examined in order to establish convergent validity. Significant outer

loadings indicate a strong relationship between the indicators and the construct, with a value higher than 0.708, while a high average variance extracted (AVE), a value above 0.5, suggests that the construct accounts for a substantial portion of the variability in the indicators.

The second method is Discriminant validity. In PLS-SEM, discriminant validity is used to assess whether a construct is distinct and captures phenomena that other constructs do not reflect (Hair *et al.*, 2014). HTMT, Fornell-Larcker criterion and indicator Cross Loadings are employed to prove Discriminant validity.

HTMT is used to evaluate the discriminant validity between constructs. The degree to which a construct differs from other constructs in the model is known as discriminant validity. In order to support discriminant validity, HTMT values below a threshold of 0.9, show that the constructs are sufficiently different from one another.

Low cross-loadings suggest that indicators are more strongly associated to their own construct than to others, however, the Fornell-Larcker criterion contrasts each concept's square root of AVE with its associations with other constructs. Discriminant validity is demonstrated if a construct's square root of AVE exceeds its correlations with other constructs.

3.6.2. Inner Model (Structural Model)

PLS-SEM's inner model, commonly referred to as the structural model, is a part that explains the potential connections between the latent variables (Hair *et al.*, 2014). The shapes (circles or ovals) stand in for the concepts, and the connections (lines) between them are shown. To assess relative significance of the predictor

constructs in the model, the f^2 (f-square) is used in this research. The measurements by Hair et al. (2014) are shown below:

1. A low f^2 value (0.02) suggests a weak impact of the predictor construct on the target construct,
2. A high f^2 value (0.35) indicates a strong influence of the predictor construct on the target construct.

R^2 (R-squared) indicates the amount to which the exogenous constructs in the model account for the variance in the endogenous construct (Hair *et al.*, 2014). R^2 values are commonly regarded as follows:

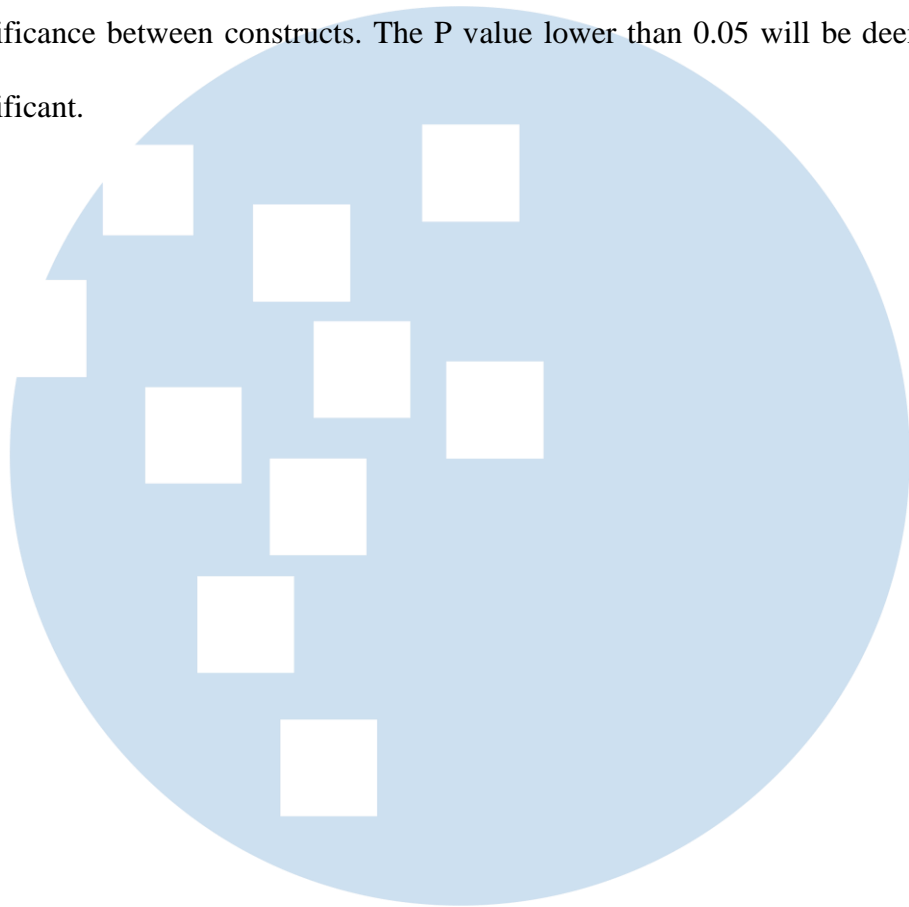
1. Weak influence (0.25)
2. Moderate influence (0.50)
3. Strong influence (0.75).

Q^2 (Q-square) assesses the model's ability to accurately predict new data, further evaluating its predictive relevance (Hair et al., 2014). Q^2 values greater than zero indicate that the model possesses predictive significance.

3.6.3. Hypothesis Test

To evaluate the significance of the relationships between the constructs, researchers use hypothesis testing. According to Hair *et al.* (2014), hypothesis test includes the comparison of the observed t-value with a critical value derived from the normal distribution. If the observed t-value exceeds the critical value, the coefficient is deemed statistically significant at a specific level of error probability, also known as the significance level. P value will be observed to determine

significance between constructs. The P value lower than 0.05 will be deemed as significant.



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