

Factors Affecting Players to Buy Virtual Items in Online Games

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ABSTRACT

The fast growth of technology and the internet have ushered in a new era for humanity. One of the advantages of the internet is its entertainment value. Online games are a well-known form of online content. In typical PC or console games, only one or two people play the game on a personal computer. In online games, several players from all over the world to play on game servers over the internet. Playing online games gives gamers a sensation of enjoyment, flow, and satisfaction with the game. These variables will influence the purchase intention of players. This study aimed to explore the influence of flow experience, satisfaction, and enjoyment on purchase intention through the mediation of continuous usage intention. This study is quantitative in nature. The sample for this study consisted of 485 digital gaming participants. The purposive sampling was implemented by distributing online questionnaires that were subsequently analysed with Smart PLS. The findings of this study indicate that the sense of flow, satisfaction, and enjoyment can influence the continuous usage intention. Consequently, flow experience, continuous usage intention, and satisfaction can influence purchase intention. Additionally, enjoyment does not affect purchase intention. Then, flow experience can influence purchase intention directly or through continuous usage intention.

Keywords: *Flow Experience, Satisfaction, Enjoyment, Purchase Intention*

1. INTRODUCTION

The internet's use as a source of entertainment is one of its advantages. Online games are a well-known type of internet-based content.

According to a report [2] in the first quarter of 2021, there are 171.2 million internet users in Indonesia, and 64% of these internet users are online game players [3]. According to a report from [4], online game players in Indonesia have also spent their money with a total of \$880 million to make purchases of virtual items in their games. This shows that Indonesian people are very active in online games and willing to spend their money.

Launched worldwide on Sept. 28 2020, the online game on this journal is a free-to-play/freemium online game. The online game on this journal, for the first 4 months of its launch, this game was downloaded by players with more than 34 million times download, and it achieved revenue with amount more than \$3 billion in its first year of release [5]. That year, the online game on this journal won the titles of "iPhone Game of the Year," as well as "Best Game of 2020" [6], [7].

The game is available for free and is monetized through gacha game mechanics, which allow players to obtain new limited characters and weapons. The online game on this journal is referred to as a freemium online game due to the gacha system., being a freemium online game means it generates revenues mainly through the sales of in-game content and virtual goods [8].

This study attempted to address a gap in earlier research [9] about the variables measuring the purchase intention of players by adding satisfaction and enjoyment as an independent variable in the relationship to purchase intention of online game players [10, 11]. In addition, this study included

focused attention [12] as one of the flow experience variable's characteristics. In addition, this study utilized the Goal Setting Theory [13] as its foundation.

The anticipated implication of this research is an input and reference for the rapidly expanding online gaming sector. Creating a high flow experience with obstacles and a high level of immersion will encourage players to play the game online again, hence increasing the players' purchase intention.

2. LITERATURE REVIEW

2.1. Flow

In online games, past research [14] indicates that players' gaming experiences will be enhanced if they generate a sense of flow when playing a game, as this produces a sensation of total immersion.

According to a prior study [15], the more time a person spends playing a game, the more time they devote to training and polishing skills uniquely customized to that game. According to the Goal Setting Theory, gamers are most inspired by difficult challenges when they believe they can achieve them. According to [16], In the context of video games, "challenge" refers to the level of difficulty, whereas the terms "multiplayer games" and "single-player games" refer to competing with other players and completing the game's multiple missions, respectively. The experience of being completely involved in a setting that doesn't feel natural is known as telepresence. Flow is comprised of four primary components: skills, challenge, telepresence, and focused attention [12].

2.2. Enjoyment

One of the sensations consumers have about the product or service they will use is the pleasure or enjoyment they will derive from it. Playing online games gives players a sensation of happiness, which contributes to this pleasure. Online gamers will continue to play because they have a high level of enjoyment from playing [1].

The emotional response of online game players to the game's online environment is the definition of enjoyment. This emotional response increases the perception that playing online games is enjoyable, generates satisfaction and contentment while playing, and promotes a sense of familiarity with the online game [17].

2.3. Satisfaction

Satisfaction is described as the appraisal of what was obtained vs what was expected, or the apparent difference between goals and accomplishments after completing an activity [18]. Additionally, satisfaction is defined as the entire affective appraisal of a user's online gaming experience. The more positive a user's experience, the greater his or her degree of pleasure and likelihood of returning to the online game [20].

2.4. Continuous Usage Intention

The fundamental goal of game developers is to keep the players engaged while generating income from both current and potential players through in-game purchases and advertising [21]. Even if they engage players, video games are still a business. Game developers must ensure that the gameplay and content are profitable and sustainable to succeed. This mainly depends on users sticking with the game and purchasing in-game items. [22, 23].

Continuous usage intention is defined as the user's willingness to continue utilizing the currently utilized product or service [24]. According to a prior study [25], Continuous usage intention is the user's willingness to continue using the product or service they are already utilizing.

2.5. Purchase Intention

Purchase intention is defined as the likelihood that customers would purchase a product; the more the consumers' interest in the product, the bigger their purchase intentions [26]. According to prior study [27], purchase intention is the decision to act in order to make a purchase, when consumers have established a real readiness to act on a product or brand.

Considering that the only way the game may make revenue is through microtransactions, many online games feature a gacha system, which is the sole method to obtain a premium character or weapon.

This study is based on the *Goal-Setting Theory*, which contends that setting goals is a fundamental component of human behavior and has a considerable impact on actions requiring perseverance and planning, which encompass the great majority of current human and business endeavors. Goal-setting is the process through which an individual or group identifies desired end-states they wish to achieve and intend to use for self-control [28, 29]. Consequently, the process of goal-setting has been extensively studied [10, 30].

3. HYPOTHESIS DEVELOPMENT

3.1. Flow on Continuous Usage Intention and on Purchase Intention

Numerous researchers have investigated the connection between flow and continual usage intention. Using Smart Partial Least Squares 2.0 V3, 1032 m-banking users from a bank in Iran responded to a survey based on earlier research [22]. (PLS). Consequently, flow has a substantial impact on the continuous usage intention.

Previous research has demonstrated that flow has a favorable effect on purchase intention, such that when flow is high, so is the intention to purchase [16], [33], and [34].

Based on prior research, the following hypotheses would be tested in this study:

H₁: Flow positively affect continuous usage intention players.

H₅: Flow positively affect purchase intention players.

H₈: Flow positively affect purchase intention mediated by continuous usage intention players.

3.2. Satisfaction on Continuous Usage Intention and on Purchase Intention

Earlier research [35] indicated that satisfaction had a significant and favorable effect on continuous usage intention among 396 online students in Taiwan. According to a prior study [25]. (PLS). The findings of the investigation revealed that satisfaction had a substantial impact on the intention to continue using the product.

109 respondents who are buyers from travel agency websites in one of the Indian states, Karnataka, were examined based on previous study [36]. (PLS). The results of the investigation indicate that satisfaction influences purchase intention positively. The same conclusions can be drawn from [33] research with 350 online payment customers in China.

Based on prior research, the following hypotheses would be tested in this study:

H₃: Satisfaction positively affects continuous usage intention players.

H₇: Satisfaction positively affects purchase intention players

3.3. Enjoyment on Continuous Usage Intention and on Purchase Intention

Additionally, a number of academics have investigated the association between enjoyment and continued usage intention. Based on prior research [21], 2791 players of various types of online games such as social virtual world, first-person shooter, and social network game participated in the study, which was analyzed using Smart Partial Least Squares 2.0 (PLS) and SPSS 22. The results of the investigation indicate that enjoyment has a substantial impact on the continuous usage intention. According to research [37], 247 MMORPG online game players indicated that enjoyment had a major influence on their intention to continue using the game. According to research [8], 869 MMORPG-

type online game users found that enjoyment has a substantial effect on their desire to continue using the game.

On the basis of earlier study [21], Smart Partial Least Squares 2.0 M3 (PLS) and SPSS 22 were used to assess the responses of 2791 players of various types of online games, including social virtual world, first-person shooter, and social network game. The data indicates that enjoyment has a negative impact on purchase intention. However, earlier research [38] conducted with 250 players of the online game Second Life shown that enjoyment has a considerable impact on purchase intention.

Based on prior research, the following hypotheses would be tested in this study:

H₂: Enjoyment positively affects continuous usage intention players.

H₆: Enjoyment positively affects purchase intention players.

3.4. Continuous Usage Intention on Purchase Intention

On the basis of prior study [21], Smart Partial Least Squares 2.0 M3 (PLS) and SPSS 22 were used to analyze 2791 responses from players of various types of online games, including social virtual world, first-person shooter, and social network game. The results of the investigation indicate that continuous usage intention influences purchase intention positively. Consistent with the findings of [8]'s research, 869 respondents who play MMORPG-style online games indicated that ongoing usage intention positively influences purchase intention.

H₄: continuous usage intention positively affects purchase intention players.

3.5. Research Model

This research model can be displayed as follow:

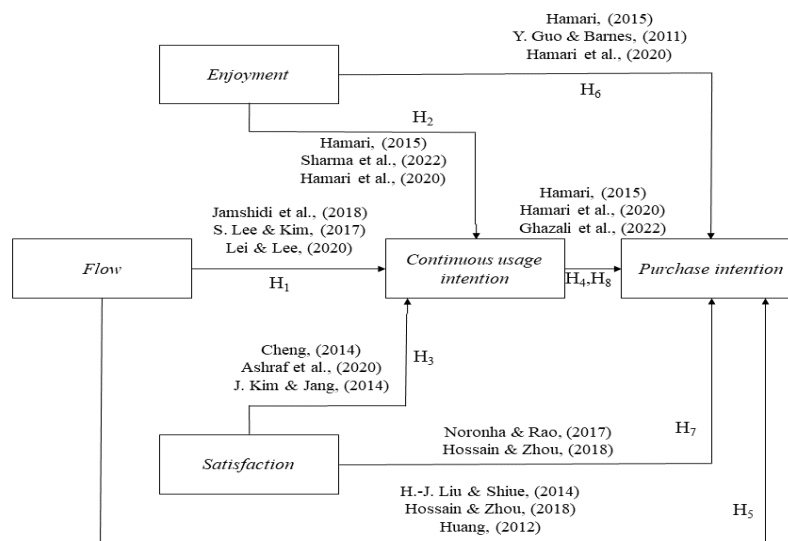


Figure 1 Research Model

4. METHOD

This study's population consists of all Genshin Impact players in Jakarta. The sampling technique used in this research is the *purposive sampling* through Google Form. This study's sample consists of 485 Genshin Impact players in Jakarta. Purposive sampling through a Google Form was used in this study. This study's samples were collected from 485 respondents. Smart PLS version 3 was used for data analysis in this study.

To select responders who have played, a screening question, "Have you ever played Genshin Impact?" was devised.

The operationalization of the flow variable comprised of skills dimensions was measured by three indicators [9], [12], the challenge dimension was measured by three indicators [12], [39], the telepresence dimension was measured by three indicators [9], [12], and the focused attention dimension was measured by three indicators [12], [39]. The flow variable was measured by four indicators [9], [39], [40], whereas the satisfaction variable has four indicators [20], [39], [41]. The enjoyment variable contains three indicators [8, 37, 40], while the continuous usage intention variable has five indicators [9, 39, 42, 43]. There are five indicators for the variable of purchasing intention: [8], [9], [40].

Table 1 Outer Model

Variables	Items labeled	Items Description	Loading (> 0.6)	CA (> 0.6)	CR (> 0.7)	AVE (> 0.5)
<i>Flow</i>	C3	When I play the online game, I encounter difficulty.	0.665			
	F3	When playing an online game, I am ignorant to my surroundings.	0.698			
	FA1	When playing an online game, I am unable of thinking of anything else.	0.747			
	SK1	I am good at playing internet games.	0.718	0.804	0.859	0.505
	SK2	I believe I am more knowledgeable about the online game than other gamers.	0.750			
<i>Enjoyment</i>	T2	When I play an online game, I feel as if I have entered its realm, and when I stop playing, this universe departs immediately.	0.682			
	E1	My internet gaming experience was quite entertaining.	0.785			
	E2	Online gaming is really enjoyable.	0.728	0.638	0.805	0.580
<i>Continuous Usage Intention</i>	E3	When I play online games, I get a very enjoyable experience.	0.770			
	CUI1	I anticipate continuing to play online games in the future.	0.742			
	CUI3	Instead of playing other online games, I wish to continue playing my favorite game.	0.729			
	CUI4	I'll spend more time playing online games than other types of games.	0.705	0.708	0.820	0.533
	CUI5	I intend to play online games at least as frequently during the following month as I have been.	0.744			
<i>Purchase Intention</i>	PI1	I plan to spend money on online games at least as frequently as I have in the past.	0.747			
	PI2	I plan to purchase <i>fates</i> in the future.	0.717			
	PI3	I will contemplate spending money on online game things.	0.720	0.794	0.859	0.549
	PI4	My opportunities of buying <i>fates</i> in the future are greater	0.771			
	PI5	In the future, I aim to purchase stuff from an online game.	0.748			

<i>Satisfaction</i>	S1	I am quite content while playing an online game	0.741	0.683	0.808	0.514
	S2	My experience with online games was excellent	0.746			
	S3	Online games have exceeded my expectations	0.723			
	S4	I believe my decision to play online games was correct.	0.654			

5. RESULTS AND DISCUSSIONS

5.1. Results

There are 290 male respondents and 195 female respondents. There were 85 respondents between the ages of 15 and 18, 229 between the ages of 19 and 22, 120 between the ages of 23 and 26, and 51 over the age of 26. When it comes to monthly expenses, 15.9% of respondents spent between Rp. 0 and Rp. 1.000.000, 39% spent between Rp. 1.000.001 and Rp. 2.500.000, 27.6% spent between Rp. 2.500.001 and Rp. 5.000.000, and 17.5% spent more than 5 million rupiah. In the matter of domicile, 94.8% or 460 respondents came from Jakarta, 1.2% or 6 respondents came from Bandung, 0.4% or 2 respondents came from Bogor, and 3.5% or 17 respondents came from Tangerang, Table 5 shows sociodemographic of the sample.

According to Table 1 data analysis results, in this study, the Average Variance Extracted (AVE) score of each variable is greater than 0.5. As a result, all variables in this study met the validity criterion established by Average Variance Extracted (AVE) [44].

According to the results of the loading factor analysis, each indicator of the research variable must have a value greater than 0.60. Indicators used to measure variables in this study are reliable.

Table 2 Fornell-Larcker Criterion in Discriminant Validity

	<i>Flow</i>	<i>Enjoyment</i>	<i>Continuous Usage Intention</i>	<i>Purchase Intention</i>	<i>Satisfaction</i>
<i>Flow</i>	0.711				
<i>Enjoyment</i>	0.631	0.761			
<i>Continuous Usage Intention</i>	0.640	0.600	0.730		
<i>Purchase Intention</i>	0.662	0.568	0.723	0.741	
<i>Satisfaction</i>	0.660	0.679	0.656	0.622	0.717

According to Table 2 data analysis results, the results of the Fornell-Larcker Criterion study indicate that the AVE root value of each construct exceeds the correlation value between each construct. On the basis of the Fornell-Larcker Criterion analysis, it can be determined that the variables utilized in this study meet the criteria for discriminant validity.

5.2. Reliability Test

The reliability test was carried out in this study by analyzing the composite reliability and Cronbach's Alpha values. A variable is considered dependable in the composite reliability and Cronbach's Alpha tests if its composite reliability and Cronbach's Alpha values are greater than 0.70 and 0.60, respectively [46]. All variables in this study have Cronbach's Alpha (CA) values greater than 0.60, as shown in Table 1. As a result of the composite reliability values, we can conclude that all variables in this study met the dependability standards.

5.3. Inner Model

5.3.1. R-Square (R^2) Test

The R-Square value is used to quantify the amount of change in the independent variable in comparison to the dependent variable. $R^2 = 0.67, 0.33,$ and 0.19 are classified as strong, moderate, and weak, respectively. Analyzing the change in R^2 value enables users to see if the external latent variable has a significant impact on the endogenous latent variable. The flow, enjoyment, and satisfaction variables explain 52.2% of the continuous usage intention variable, according to the r-square score of 0.522. The remaining 47.8 percent can be attributed to variables not examined in this study. The r-square value of 0.601 indicates that the flow, enjoyment, satisfaction, and continuous usage intention variables can explain 60.1% of the purchase intention variable. The remaining 39.9 percent can be attributed to variables not examined in this study.

5.3.2. f-Square (f^2) Test

The effect size (f^2) of a predictor on an endogenous construct is measured. This metric is used to see if removing a predictor construct has a significant effect on the endogenous construct's f-square values. Table 3 demonstrates that flow, enjoyment, and satisfaction factors have negligible effects on the desire to continue usage intention. Moreover, continuous usage intention has minimal effects on purchase intention. In addition, enjoyment and satisfaction have an unaccounted-for effect on purchasing intention. Flow has a minimal effect on purchase intention, with a coefficient of 0.082.

5.3.3. Hypothesis Tests

This study's testing hypotheses are divided into two parts: direct effect testing and mediation effect testing. The direct effect hypotheses are H1, H2, H3, H4, H5, H6, and H7, while the mediation hypothesis is H8. In order for a hypothesis to be accepted, the t-statistic and p-value must be larger than 1.96 and less than 0.05, respectively, at a significance level of 95%. Table 3 shows the result of the test of all hypotheses except the mediation hypothesis. Table 4 displays the t-statistics and path coefficients for the mediation hypothesis.

Table 3 Inner Model

	<i>Variable Relationship</i>	<i>Path</i>	f^2	t-statistics	p-values	Explanation
H ₁	<i>Flow → Continuous Usage Intention</i>	0.307	0.099 (Weak)	4.848	0.000	Accepted
H ₂	<i>Enjoyment → Continuous Usage Intention</i>	0.183	0.034 (Weak)	2.898	0.004	Accepted
H ₃	<i>Satisfaction → Continuous Usage Intention</i>	0.329	0.102 (Weak)	4.990	0.000	Accepted
H ₄	<i>Continuous Usage Intention → Purchase Intention</i>	0.442	0.234 (Moderate)	5.891	0.000	Accepted
H ₅	<i>Flow → Purchase Intention</i>	0.267	0.082 (Weak)	3.709	0.000	Accepted
H ₆	<i>Enjoyment → Purchase Intention</i>	0.052	0.003 (Ignored)	0.932	0.352	Not Accepted
H ₇	<i>Satisfaction → Purchase Intention</i>	0.121	0.015 (Ignored)	2.009	0.045	Accepted

For all relationships, the path coefficients are greater than zero. Except for H6, all hypotheses have t-statistics greater than 1.96. Except for H6, all hypotheses have p-values of 0.000 (0.05) at the 95% significance level. H1, H2, H3, H4, H5, H7 could be accepted based on path coefficients, t-statistics, and p-values. And H6's hypotheses could not be accepted.

Table 4 Mediation-Test Result

	<i>Variable Relationship</i>	<i>Path</i>	<i>t-statistics</i>	<i>p-values</i>	<i>Explanation</i>
H ₈	<i>Flow</i> → <i>Continuous Usage Intention</i> → <i>Purchase Intention</i>	0.136	3.543	0.000	Accepted, Partial Mediation

Table 5 Sociodemographic of The Sample (n = 485)

	Profile	Frequency	Percentage
Gender	Male	290	59.8%
	Female	195	40.2%
Age	15-18 years old	85	17.5%
	19-22 years old	229	47.2%
	23-26 years old	120	24.7%
	> 26 years old	51	10.5%
Monthly Expenses	Rp. 0 – Rp. 1.000.000	77	15.9%
	Rp. 1.000.001 – Rp. 2.500.000	189	39%
	Rp. 2.500.001 – Rp. 5.000.000	134	27.6%
	> 5 million rupiah	85	17.5%
Domicile	Jakarta	460	94.8%
	Bandung	6	1.2%
	Bogor	2	0.4%
	Tangerang	17	3.5%

5.3.4. Discussions

The AVE method's validity analysis results indicate that all variables meet the requirements, and the Fornell-Larcker Criterion indicates that all values within each construct are greater than the correlation value between constructs. Each indication met the standards, according to the results of the loading factor-based reliability test.

Using the composite reliability approach yielded the same findings, showing that the value has satisfied the standards and is reliable.

According to the results of the first hypothesis test, flow has a positive and statistically significant influence on the continuous usage intention of online game players. Earlier research [22, 31] indicated that the number of online game players had a beneficial effect on players' intent to continue using the game.

The second hypothesis test reveals that Enjoyment has a positive and statistically significant effect on the continuous usage intention variable. These findings are analogous to those of other studies [8, 21, 37] demonstrating that player enjoyment positively affects their intent to continue using the online game.

Corresponding to the findings of the third test of hypotheses, Satisfaction has a positive and statistically significant influence on the continuous usage intention. These findings are consistent with those of previous studies [25, 35, and 47], which found that online game player satisfaction positively affects players' intent to continue using the game.

According to the findings of the fourth hypothesis test, the continuous usage intention has a positive and statistically significant effect on the purchase intention. This result is consistent with prior studies [8, 21]

Based on the results of the fifth hypothesis test, Flow has a positive and statistically significant influence on purchase intent. These results are comparable with those of previous studies [16, 33, 34].

The sixth hypothesis test revealed that enjoyment had a positive but non-statistically significant influence on purchase intent. This outcome contradicts a previous study [48] indicating that enjoyment has a positive influence on purchasing intent. Few studies demonstrate that enjoyment has a statistically significant beneficial effect on purchasing intention.

Following the seventh hypothesis test, satisfaction has a positive and statistically significant effect on purchase intention. These outcomes are equivalent to those discovered in previous studies [33, 36].

The results of the mediation hypothesis test, indicate that Flow has a positive and statistically significant effect on purchase intention via continuous usage intention. The eighth hypothesis indicates partial mediation, as flow can directly or indirectly influence purchase intention via continuous usage intention. These results are comparable with those of previous studies [9]

The managerial contribution of this study relates to the significance of flow experience, enjoyment, satisfaction, and continuous usage intention in determining the purchase intention of online game players in Jakarta. Continuous usage intention has the greatest influence on the purchase intention of online game players and flow has the greatest influence on their continuous usage intention compared to other variables.

6. CONCLUSION & RECOMMENDATION

Upon this research result, it can be concluded that flow, satisfaction, enjoyment has a good effect on the continuous usage intention. Continuous usage intention, flow, and satisfaction positively increases purchasing intention. Enjoyment does not positively influence purchase intention. Flow favorably increases purchase intention via continuous usage intention.

Prospective researchers are highly urged to incorporate more variables in order to produce fresh results.

To increase a player's intention to make a purchase, the author suggests that the online gaming industry maintain a consistent level of player enjoyment. Because if the game is entertaining, customers will not hesitate to pay for it.

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