

# THE INFLUENCE OF INTRINSIC AND EXTRINSIC MOTIVATION ON PURCHASE MOTIVATION AND ITS IMPACT ON PLAYER SATISFACTION AND ENGAGEMENT IN GENSHIN IMPACT

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## Abstract

The Free-to-Play (F2P) gaming industry has rapidly evolved with monetization strategies based on virtual goods. Genshin Impact is a successful example, leveraging digital item purchases to drive revenue. This study aims to analyze the influence of intrinsic and extrinsic motivation on purchase intention and continuance usage in this game. Using the Self-Determination Theory (SDT) approach, the study explores how enjoyment, challenge, satisfaction, social influence, and perceived value affect player behavior. Data was collected through an online survey of 385 active players who have purchased virtual goods. Data analysis was conducted using Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and Structural Equation Modeling (SEM). The results indicate that enjoyment and satisfaction significantly influence continuance usage, while social influence and perceived value play a more dominant role in purchase intention. Additionally, continued usage strengthens purchase intention among players. These findings provide valuable insights for game developers in designing monetization strategies that maintain gameplay balance. Academically, this study contributes to the literature on player motivation in F2P games and offers a deeper understanding of the factors driving player engagement and spending behavior.

**Keywords:** Genshin Impact, Virtual Goods, Intrinsic Motivation, Extrinsic Motivation, Purchase Intention, Continuance Usage.

## INTRODUCTION

The global gaming industry has grown rapidly in the last few decades, driven by innovations in monetization models such as freemium, battle passes, and virtual goods. One prominent example is Genshin Impact, a free-to-play game that managed to generate huge revenues through the purchase of virtual goods by some of its players. Based on data from Gacharevenue.com, Genshin Impact's monthly revenue shows significant fluctuations. For example, revenue decreased sharply in May 2023 but increased again in November 2023. This phenomenon indicates that there are certain factors, such as player behavior, that influence game revenue.

Fluctuating revenues represent a challenge for game developers to maintain stability and increase profitability. Genshin Impact's revenue is largely driven by the decision of some players to purchase virtual goods (purchase intention) and the level of ongoing player engagement in the game (continuance usage). According to Balakrishnan & Griffiths (2018), emotional involvement such as loyalty and addiction can increase the intention to purchase virtual goods in games. This research also highlights the importance of ethics in game monetization to ensure a balance between player experience and revenue strategies.

In addition, research by Park & Lee (2011) shows that consumption values, such as entertainment, character competence, visual authority, and monetary value, have a significant influence on players' purchasing decisions. Player satisfaction (satisfaction) was found to play an important role in increasing loyalty and motivating the purchase of virtual goods. These elements support the importance of understanding intrinsic motivation such as enjoyment and extrinsic motivation such as social value in driving player behavior.

Research by Cai et al. (2022) provide an additional perspective by grouping in-game items into functional, probability, and ornamental items. Intrinsic motivation, such as flow experience, was found to be relevant for ornamental goods, whereas extrinsic motivation, such as the desire to improve social status, influenced purchase of probability goods. This study also emphasizes the importance of balanced game design to maintain revenue sustainability. Beltagui et al. (2019) also added that in F2P games, the main challenge is to create a gaming experience that remains interesting without disrupting the balance between players who buy items and those who do not. In Genshin Impact, virtual goods not only accelerates in-game progress but also helps players experience a more satisfying gaming experience with access to rare characters and items that are difficult to obtain without purchases.

Theoretically, this research is rooted in Self-Determination Theory (SDT), which groups motivation into intrinsic

and extrinsic, and explores how these two types of motivation influence player behavior in a digital context. However, in-depth studies regarding the relationship between motivation and purchase intention and continued use in the context of games such as Genshin Impact are still limited.

With increasingly tight competition in the gaming industry, this research aims to fill this gap by exploring the relationship between intrinsic and extrinsic motivation with purchase intention and continuance usage. The results of this research are not only academically relevant but also provide practical insights for game developers in designing more effective monetization strategies.

In the game Free-to-Play (F2P) like Genshin Impact, players are faced with various choices of purchasing virtual goods that can enhance their gaming experience. Even though this game can be played without making a purchase, many players ultimately decide to purchase virtual items such as the Battle Pass, Welkin Moon, and Genesis Crystal. This raises questions about what drives players to make purchases, as well as how those purchases impact player engagement and satisfaction in the long term.

Additionally, although Genshin Impact is not a game that focuses on social interaction, certain social effects may play a role in motivating some players to become spenders. Therefore, this research seeks to answer several important questions:

1. How does intrinsic motivation influence players' purchase intention and continuance usage?
2. How does extrinsic motivation influence players' purchase intention and continuance usage?
3. How does continuity of usage affect purchase intention?

In line with the problem formulation previously explained, this research aims to provide a deeper understanding of the behavior of Genshin Impact players in the context of purchasing virtual goods. Specifically, the objectives of this research are:

1. Analyzing the influence of intrinsic motivation on players' purchase intention and continuance usage.
2. Analyzing the influence of extrinsic motivation on players' purchase intention and continuance usage.
3. Testing the effect of continuity of usage on purchase intention.

This research is expected to provide a significant contribution both from an academic and practical perspective. This research will enrich the literature regarding player behavior in games Free- to-Play (F2P), especially related to motivations for purchasing virtual goods such as Battle Pass, Welkin Moon, and Genesis Crystal. This study will also contribute to the understanding of how intrinsic and extrinsic motivation influences purchasing decisions in the context of online gaming. This research can provide practical insights for game developers, especially regarding effective monetization strategies through virtual goods without reducing the quality of the player's experience.

## RESEARCH METHODS

### Research Framework

The framework of this research describes the relationship between intrinsic motivation (entertainment and challenge) and extrinsic motivation (social influence and perceived value) on Purchase Intention and Continuance Usage. This research model is described as follows:

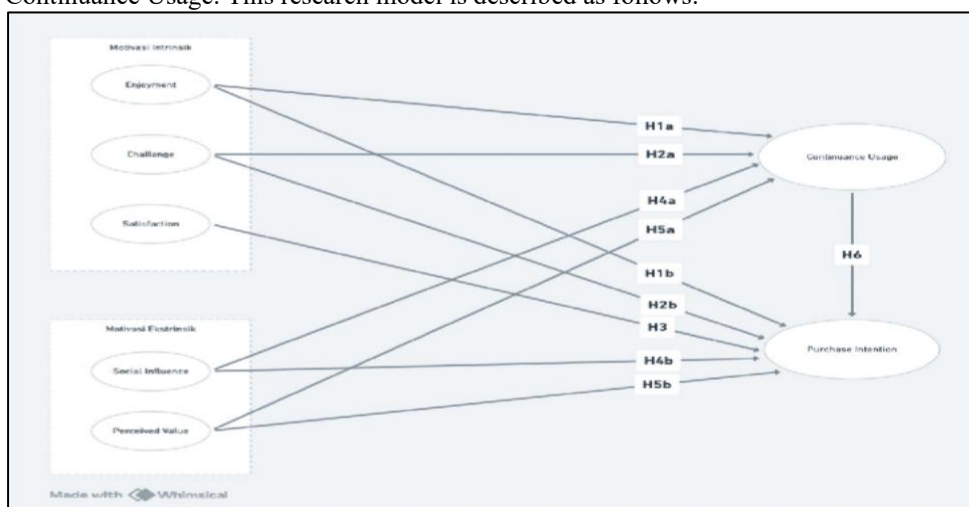


Figure 1 Research Model Source: Author

Theory **Self-Determination Theory (SDT)** is the basis for explaining how intrinsic motivation, which includes entertainment and challenge, as well as extrinsic motivation, such as social influence and perceived value, influence game player behavior.

### Research Hypothesis

Based on the framework of thought, the proposed research hypothesis is as follows:

- H1a: Enjoyment has a positive effect on Continuance Usage.
- H1b: Enjoyment has a positive effect on Purchase Intention.
- H2a: Challenge has a positive effect on Continuance Usage.
- H2b: Challenge has a positive effect on Purchase Intention.
- H3: Satisfaction has a positive effect on Purchase Intention.
- H4a: Social Influence has a positive effect on Continuance Usage.
- H4b: Social Influence has a positive effect on Purchase Intention.
- H5a: Perceived Value has a positive effect on Continuance Usage.
- H5b: Perceived Value has a positive effect on Purchase Intention.
- H6: Continuance Usage has a positive effect on Purchase Intention.

### Research Instrument

The instrument used in this research is a questionnaire designed to collect data from respondents regarding intrinsic motivation, extrinsic motivation, purchasing behavior, as well as player involvement and satisfaction in the game Genshin Impact. This questionnaire is structured using a 5-point Likert scale, where respondents are asked to rate how much they agree or disagree with various statements that reflect their motivation and behavior.

This questionnaire consists of several main sections:

1. Intrinsic Motivation: This section measures the satisfaction and enjoyment that the player gets from the gaming activity itself.
2. Extrinsic Motivation: This section measures external motivation, such as the exclusivity of the item or the status gained from purchasing virtual goods.
3. Purchase Behavior: This section measures the frequency and type of purchases made by players.

Engagement and Satisfaction: This section measures how much purchasing virtual goods influences a player's engagement in the game, as well as their level of satisfaction after making a purchase.

This questionnaire is designed to be filled out by respondents within 10-15 minutes, and this instrument will be tested for validity and reliability before being used in main data collection.

### Population and Sample

The population in this study are Genshin Impact players who have been active in the last 30 days in Indonesia. Based on data from "activeplayer.io", the global active player population of Genshin Impact is estimated at 65 million players per month. To determine a representative sample size from this very large population, the Cochran Sampling Method was used, which is designed to produce an adequate sample size with a confidence level of 95% and a margin of error of 5%. The sample size required for this research is 385 respondents. This number is expected to represent the large population of active Genshin Impact players, so that the research results can be generalized with an acceptable error rate.

### Data Analysis Methods

The data analysis method used in this research includes several main stages, namely descriptive analysis, validity and reliability testing, Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), and Structural Equation Modeling (SEM).

## RESULTS AND DISCUSSION

### Descriptive Statistics Results of Research Variables

The following is a summary of descriptive statistics of the main research variables, which include various aspects such as the average score of respondents' answers, median value, standard deviation, as well as data distribution based on minimum and maximum values. These statistics provide a comprehensive picture of the pattern of respondents' responses to the various variables measured in this research. By looking at the skewness and kurtosis values, it can be seen whether the data is normally distributed or whether there is a certain trend in the respondent's answer pattern. The results of this analysis will be the basis for understanding the characteristics of the data before proceeding to further analysis stages.

Table 1 Descriptive Statistics

Variable	Mean	Median	Min	Max	SD	kurtosis	Skewness
Challenge	4.396	4.587	1.804	5.000	0.651	0.874	-1.104
Continuance Usage	4.205	4.418	1.000	5.000	0.844	0.927	-1.159

Enjoyment	4.362	4.586	1.000	5.000	0.701	1.937	-1.285
Perceived Value	4.267	4.418	1.000	5.000	0.785	1.393	-1.212
Purchase Intention	4.161	4.215	1.000	5.000	0.848	0.733	-1.015
Satisfaction	4.374	4.587	1.000	5.000	0.664	1.559	-1.142
Variable	Mean	Median	Min	Max	SD	kurtosis	Skewness
Social Influence	3.712	3.887	1.000	5.000	1.032	-0.419	-0.550

The results of the descriptive analysis show that the majority of respondents felt entertained and enjoyed the game, and had positive value perceptions of virtual items.

#### Structural Equation Modeling (SEM)

Figure 2 below displays the structural model along with path coefficients obtained from the SEM estimation process using SmartPLS.

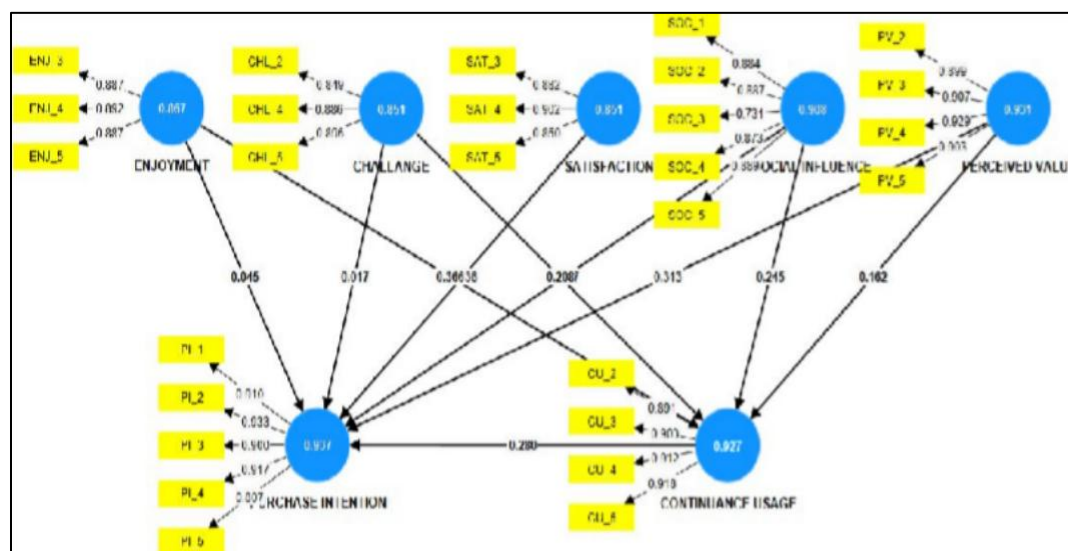


Figure 2 Distribution graph of respondents' expenditure on games

#### 4.3.1 Evaluate Outer Loadings

Construct validity was tested using Outer Loadings and Average Variance Extracted (AVE). Outer Loadings show the relationship between indicators and their constructs, with an ideal value of  $\geq 0.70$ . Meanwhile, AVE is used to measure the amount of variance captured by a construct relative to measurement error, with an ideal value of  $\geq 0.50$ .

Tabel 2 Outer Loadings

Construct	Outer Loadings
CHL_2 <- CHALLENGE	0.849
CHL_4 <- CHALLENGE	0.886
CHL_5 <- CHALLENGE	0.896
CU_2 <- CONTINUANCE USAGE	0.891
CU_3 <- CONTINUANCE USAGE	0.903

CU_4 <- CONTINUANCE USAGE	0.912
CU_5 <- CONTINUANCE USAGE	0.918
ENJ_3 <- ENJOYMENT	0.887
ENJ_4 <- ENJOYMENT	0.892
ENJ_5 <- ENJOYMENT	0.887
PI_1 <- PURCHASE INTENTION	0.910
PI_2 <- PURCHASE INTENTION	0.933
PI_3 <- PURCHASE INTENTION	0.900
PI_4 <- PURCHASE INTENTION	0.917
PI_5 <- PURCHASE INTENTION	0.807
PV_2 <- PERCEIVED VALUE	0.899
Construct	Outer Loadings
PV_3 <- PERCEIVED VALUE	0.907
PV_4 <- PERCEIVED VALUE	0.929
PV_5 <- PERCEIVED VALUE	0.903
SAT_3 <- SATISFACTION	0.882
SAT_4 <- SATISFACTION	0.902
SAT_5 <- SATISFACTION	0.850
SOC_1 <- SOCIAL INFLUENCE	0.884
SOC_2 <- SOCIAL INFLUENCE	0.887
SOC_3 <- SOCIAL INFLUENCE	0.731
SOC_4 <- SOCIAL INFLUENCE	0.873
SOC_5 <- SOCIAL INFLUENCE	0.889

Based on the outer loading results above, all indicators have a value above 0.70, which shows that each indicator has a strong relationship with its respective construct. Therefore, the validity of the construct can be considered fulfilled. These results indicate that the instruments used in this research have met good measurement standards, so they can proceed to the structural model testing stage.

#### Validity and Reliability

After evaluating the outer loadings, the next step is to test the validity and reliability of the measurement model. Validity is tested through Convergent Validity (AVE) and Discriminant Validity (HTMT), while reliability is tested through Composite Reliability (CR) and Cronbach's Alpha. The validity and reliability results are shown in the following table:

Table 3 Composite Reliability and Cronbach's Alpha

	Cronbach's Alpha	Composite Reliability (Rho_A)	Composite Reliability (Rho_C)	Average Variance Extracted (AVE)
Challenge	0.851	0.858	0.909	0.770
Continuance Usage	0.927	0.928	0.948	0.821
Enjoyment	0.867	0.867	0.918	0.789
Perceived Value	0.931	0.931	0.951	0.828
Purchase Intention	0.937	0.940	0.952	0.801
Satisfaction	0.851	0.857	0.910	0.771
Social Influence	0.908	0.927	0.931	0.731

Based on the table above, Cronbach's Alpha for all constructs is above 0.70, which indicates a good level of reliability. Composite Reliability (CR) also shows a value above 0.70, which means the research instrument has strong internal consistency. Then the Average Variance Extracted (AVE) for all constructs is above 0.50, which indicates that each construct has good convergent validity.

#### Heterotrait-Monotrait Ratio (HTMT)

To test the discriminant validity between constructs in this model, the Heterotrait-Monotrait Ratio (HTMT) approach was used. According to (Henseler et al., 2015), the recommended HTMT value is below 0.90, or more conservatively below 0.85 for a more stringent model. If the HTMT value is below this threshold, it can be concluded that the constructs have adequate discriminant validity and can be differentiated from each other. The following are the results of the HTMT test for each pair of constructs in this study:

Tabel 4 Heterotrait-Monotrait Ratio (HTMT)

Construct	Heterotrait-Monotrait Ratio (HTMT)
Continuance Usage <-> Challenge	0.863
Enjoyment <-> Challenge	0.946
Enjoyment <-> Continuance Usage	0.894
Perceived Value <-> Challenge	0.843
Perceived Value <-> Continuance Usage	0.810
Perceived Value <-> Enjoyment	0.817
Purchase Intention <-> Challenge	0.824
Purchase Intention <-> Continuance Usage	0.886
Purchase Intention <-> Enjoyment	0.846
Purchase Intention <-> Perceived Value	0.882
Satisfaction <-> Challenge	0.902
Satisfaction <-> Continuance Usage	0.855
Satisfaction <-> Enjoyment	0.962
Satisfaction <-> Perceived Value	0.842
Satisfaction <-> Purchase Intention	0.863
Social Influence <-> Challenge	0.629
Social Influence <-> Continuance Usage	0.738
Social Influence <-> Enjoyment	0.659
Social Influence <-> Perceived Value	0.714
Social Influence <-> Purchase Intention	0.799
Social Influence <-> Satisfaction	0.672

Based on the HTMT results, all values are below 0.90, except for several relationships such as Enjoyment <-> Challenge (0.946), Satisfaction <-> Enjoyment (0.902), and Satisfaction <-> Enjoyment (0.962) which slightly exceed the limit. HTMT values that exceed this limit indicate potential problems in differentiating several constructs in a discriminant manner, especially between Satisfaction and Enjoyment, and Enjoyment and Challenge. However, for the context of this research, taking into account that other HTMT values have met the threshold, this model can still be continued for further analysis provided that several constructs have high overlap or interrelationships, especially constructs that are conceptually similar such as Satisfaction and Enjoyment.

#### Fornell-Larcker Criterion

The following are the results of the discriminant validity test using the Fornell-Larcker Criterion:

Tabel 5 Fornell-Larcker Criterion

	Challenge	Continuance Usage	Enjoyment	Perceived Value	Purchase Intention	Satisfaction	Social Influence
Challenge	0.877						
Continuance Usage	0.769	0.906					
Enjoyment	0.815	0.802	0.888				
Perceived Value	0.753	0.753	0.733	0.910			
Purchase Intention	0.740	0.826	0.762	0.825	0.895		
Satisfaction	0.772	0.763	0.827	0.750	0.773	0.878	
Social Influence	0.573	0.695	0.603	0.676	0.753	0.611	0.855

Based on the results in the table above, it can be seen that the square root value of AVE is greater than the correlation value between constructs in each column and row (off-diagonal value). This shows that each construct has good discriminant validity and can be differentiated from other constructs.

#### Cross Loading

The following are the results of the Cross Loadings test for this research model:

Table 6 Cross Loading



	Challenge	Continuance Usage	Enjoyment	Perceived Value	Purchase Intention	Satisfaction	Social Influence
CHL_2	0.849	0.616	0.655	0.600	0.564	0.607	0.441
CHL_4	0.886	0.690	0.745	0.702	0.689	0.705	0.549
CHL_5	0.896	0.713	0.739	0.673	0.685	0.712	0.512
CU_2	0.685	0.891	0.719	0.668	0.739	0.705	0.572
CU_3	0.678	0.903	0.706	0.679	0.758	0.666	0.696
CU_4	0.708	0.912	0.731	0.667	0.727	0.686	0.642
CU_5	0.716	0.918	0.752	0.713	0.770	0.708	0.608
ENJ_3	0.725	0.700	0.887	0.661	0.681	0.757	0.542
ENJ_4	0.727	0.697	0.892	0.672	0.676	0.742	0.521
ENJ_5	0.720	0.740	0.887	0.622	0.675	0.707	0.543
PI_1	0.674	0.763	0.688	0.750	0.910	0.696	0.654
PI_2	0.680	0.781	0.710	0.752	0.933	0.713	0.693
PI_3	0.654	0.732	0.658	0.743	0.900	0.688	0.696
PI_4	0.698	0.751	0.726	0.797	0.917	0.734	0.683
	Challenge	Continuance Usage	Enjoyment	Perceived Value	Purchase Intention	Satisfaction	Social Influence
PI_5	0.600	0.664	0.624	0.641	0.807	0.624	0.643
PV_2	0.698	0.697	0.670	0.899	0.737	0.700	0.654
PV_3	0.680	0.668	0.651	0.907	0.731	0.671	0.597
PV_4	0.686	0.685	0.671	0.929	0.766	0.668	0.618
PV_5	0.675	0.689	0.675	0.903	0.768	0.691	0.589
SAT_3	0.699	0.726	0.747	0.667	0.726	0.882	0.602
SAT_4	0.686	0.677	0.748	0.681	0.682	0.902	0.540
SAT_5	0.645	0.597	0.679	0.626	0.622	0.850	0.458
SOC_1	0.557	0.676	0.591	0.623	0.717	0.606	0.884

SOC_2	0.504	0.593	0.543	0.583	0.652	0.534	0.887
SOC_3	0.263	0.359	0.282	0.320	0.406	0.308	0.731
SOC_4	0.548	0.641	0.555	0.674	0.713	0.573	0.873
SOC_5	0.504	0.625	0.528	0.603	0.656	0.520	0.889

Based on the table above, all indicators have the highest loading values for their respective constructs. This shows that each indicator can explain the construct it represents better than other constructs, so that it meets the requirements for discriminant validity based on the cross-loadings test.

#### Model Fit Evaluation

The model fit evaluation is shown in the following table:

Table 7 Evaluation of Model Fit

	Saturated model	Estimated model
SRMR	0.053	0.053
d_ ULS	1.060	1.063
d_ G	0.499	0.500
Chi-square	1.364.293	1.363.705
NFI	0.892	0.892

Based on the results of the model fit testing carried out, an SRMR value of 0.053 was obtained. This value shows that the residual level produced by the model is low, so it meets the model feasibility criteria because it is below the recommended maximum limit, namely 0.08. Thus, SRMR indicates that the model built in this research can be said to be fit to the data.

Apart from that, the test results also show that the d\_ ULS value is 1.063 and d\_ G is 0.500. These two indicators do not have a standard threshold like SRMR, but generally the smaller the value, the better the model fits the data. In this context, the values obtained can be categorized as an indication that the model has a good fit.

Furthermore, the Chi-square value in the estimated model was recorded at 1363.705, while in the saturated model it was 1364.293. A very small difference between these two values indicates that the model built is appropriate or fits the data used.

Finally, the test results also show that the NFI or Normed Fit Index value is 0.892. Although this value is slightly below the general limit of 0.90 which is often used as a reference, in the context of PLS-SEM analysis this value is still acceptable and shows that the model has a fairly good level of fit.

#### Evaluate Path Coefficients

Path Coefficients Evaluation Results are shown in the following table:

Table 8 Evaluation of Path Coefficient

	Original sample (O)	T statistics ((O/STDEV))	P values	Information
Challenge -> Continuance Usage	0.208	3.841	0.000	Significant
Challenge -> Purchase Intention	0.017	0.338	0.735	Not Significant
Continuance Usage -> Purchase Intention	0.280	4.874	0.000	Significant
Enjoyment -> Continuance Usage	0.366	6.472	0.000	Significant
Enjoyment -> Purchase Intention	0.045	0.859	0.391	Not Significant
Perceived Value -> Continuance Usage	0.162	3.017	0.003	Significant
Perceived Value -> Purchase Intention	0.313	5.285	0.000	Significant
Satisfaction -> Purchase Intention	0.136	2.789	0.005	Significant
Social Influence -> Continuance Usage	0.245	5.869	0.000	Significant



Social Influence -> Purchase Intention	0.227	5.473	0.000	Significant
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These results indicate that not all variables have a direct effect on Purchase Intention. Challenge and Enjoyment do not directly influence Purchase Intention, but have a significant relationship with Continuance Usage. This shows that the fun and challenge factors in the game have more influence on continued use compared to the decision to make a direct purchase. In other words, the longer someone is engaged in a game due to Enjoyment and Challenge factors, the more likely they are to consider in- game purchases at a later stage.

### Evaluation of Indirect Effects

The results of the Indirect Effects Evaluation are shown in the following table

Table 9 Evaluation of Indirect Effects

Mediation Pathway	Direct Effect (p- value)	Indirect Effect (p- value)	Types of Mediation
Challenge → Continuance Usage → Purchase Intention	Not significant (0.735)	Significant (0.004)	Full Mediation
Enjoyment → Continuance Usage → Purchase Intention	Not significant (0.391)	Significant (0.000)	Full Mediation
Perceived Value → Continuance Usage → Purchase Intention	Significant (0.000)	Significant (0.015)	Partial Mediation
Social Influence → Continuance Usage → Purchase Intention	Significant (0.000)	Significant (0.000)	Partial Mediation

Full Mediation occurs in the Challenge and Enjoyment variables, because the direct effect on Purchase Intention is not significant, but the indirect effect through Continuance Usage is significant. This shows that Continuance Usage completely mediates the influence of Challenge and Enjoyment on purchase intention.

Then Partial Mediation occurs on the Perceived Value and Social Influence variables, because both have direct and indirect influences that are equally significant on Purchase Intention. This means that Continuance Usage only partially mediates the influence of these variables.

### Hypothesis Evaluation

The following are the results of the hypothesis evaluation:

Table 10 Hypothesis Evaluation

Hypothesis Code	Hypothesis Statement	P-Value	Decision
H1a	Enjoyment → Continuance Usage	0.000	Accepted
H1b	Enjoyment → Purchase Intention	0.391	Rejected
H2a	Challenge → Continuance Usage	0.000	Accepted
H2b	Challenge → Purchase Intention	0.735	Rejected
H3	Satisfaction → Purchase Intention	0.005	Accepted

H4a	Social Influence → Continuance Usage	0.000	Accepted
H4b	Social Influence → Purchase Intention	0.000	Accepted
H5a	Perceived Value → Continuance Usage	0.003	Accepted
H5b	Perceived Value → Purchase Intention	0.000	Accepted
H6	Continuance Usage → Purchase Intention	0.000	Accepted

The results of the hypothesis evaluation show that the variables Enjoyment, Challenge, Perceived Value, and Social Influence have a significant influence on Continuance Usage. These findings confirm that a pleasant gaming experience, challenges in the game, perceptions of the benefits of virtual items, and encouragement from the social environment are able to encourage players to continue playing in the long term.

Apart from that, the Continuance Usage variable is proven to have a significant influence on Purchase Intention. That is, the higher a player's intention to continue using the game, the more likely they are to make in-game purchases. This supports the assumption that ongoing engagement plays an important role in driving purchasing behavior.

On the other hand, the Challenge and Enjoyment variables do not have a significant direct influence on Purchase Intention. These findings suggest that while both factors provide positive experiences and increase engagement, they do not directly encourage players to purchase virtual items. On the other hand, the influence of both is indirect, namely through Continuance Usage as a mediator. In other words, players who feel challenged and enjoy the game tend to stay in the game longer, and it is this long-term engagement that ultimately triggers the intent to make a purchase.

Meanwhile, the variables Perceived Value, Social Influence, and Satisfaction were found to have a significant direct influence on Purchase Intention. This indicates that in-game purchasing decisions are more influenced by players' perceptions of the benefits of virtual goods (both functional and aesthetic), pressure or invitations from the social community, as well as their satisfaction with the overall gaming experience.

### Adjusted R-Square Evaluation

The following table presents the R-square and adjusted R-square values of the endogenous variables in this research model:

Table 11 Adjusted R-Square Evaluation

	R-square	R-square adjusted
Continuance Usage	0.746	0.744
Purchase Intention	0.813	0.810

Based on the table above, the adjusted R-square value for the Continuance Usage variable is 0.744, which means that 74.4% of the variation in Continuance Usage can be explained by the Enjoyment, Challenge, Perceived Value and Social Influence variables. This shows that the model has very strong predictive ability on players' intention to continue using the game.

Meanwhile, the adjusted R-square value for Purchase Intention is 0.810, which indicates that 81.0% of the variation in players' purchase intentions can be explained by a combination of the variables Continuance Usage, Satisfaction, Perceived Value, and Social Influence. This shows that the model also has very high predictive power regarding players' purchasing decisions in the game.

## DISCUSSION

The results of this research show that intrinsic motivation, consisting of enjoyment, challenge and satisfaction, has a significant influence on continuance usage. This finding is in line with Self-Determination Theory (SDT), which states that the need for competence, autonomy, and relatedness can encourage individuals to engage voluntarily in an activity (Ryan & Deci, 2000). The pleasure of playing (enjoyment) and the challenges offered by the game (challenge) have been proven to be able to strengthen player engagement in the long term. This is supported by Hamari et al. (2020), which states that enjoyment plays a role in increasing engagement, as well as

by Abuhamdeh & Csikszentmihalyi (2012), who emphasize that optimal challenges can strengthen a sense of achievement.

However, unlike satisfaction, neither enjoyment nor challenge has a direct effect on purchase intention. These findings indicate that although intrinsic experiences are able to encourage players to continue playing, these experiences do not necessarily encourage them to purchase virtual items. These results are consistent with Ghazali et al. (2019), who found that enjoyment and challenge drive

continuance intention more than direct purchases. This finding is also confirmed by Park & Lee (2011), who stated that enjoyment alone is not enough to influence purchase intentions without the presence of the functional or visual value of the items offered.

On the other hand, satisfaction has a direct influence on purchase intention. When players are satisfied with the gaming experience, they are more likely to appreciate the game through purchasing. This is in accordance with the findings of Park & Lee (2011), which states that satisfaction with performance, value for money, and in-game experience are strong predictors of purchasing decisions.

On the extrinsic motivation side, the results show that perceived value and social influence have a significant influence on both continued usage and purchase intention. Perceived value, which includes emotional value, performance, and price that players consider appropriate, is proven to be the main driver of consumer behavior in games. Hsiao & Chen (2016) stated that emotional value and price value are the most significant dimensions in driving in-app purchase intention. The same thing was found by Hamari et al. (2020), which shows that perceived value plays an important role in freemium game monetization and player retention.

Social influence also plays an important role in this model. The influence of friends, communities, or social groups in games has been proven to encourage players to keep playing and making purchases. These results support the research of Hsu & Lu (2007) and Ghazali et al. (2019), which states that social norms and gaming communities can influence loyalty and purchase intentions.

Continuance usage was found to be an important mediator in this model. Enjoyment and challenge only have an indirect effect on purchase intention through continuity of usage, indicating full mediation. On the other hand, perceived value and social influence have a direct and indirect influence on purchase intention, which shows partial mediation. This indicates that intrinsic motivation shapes more engagement with games, while extrinsic motivation tends to drive purchases in a more direct way.

The role of continuity usage as a mediator strengthens the position of this model in the SDT framework and game user behavior. Players who are involved for the long term are more likely to purchase virtual items, as they feel they have invested time, emotion and strategy in the game. This finding is also consistent with research by Hulaj et al. (2020) and Wang & Hang (2021), who emphasize that long-term engagement can strengthen the relationship between psychological needs and in-game consumption decisions.

Overall, the results of this study expand understanding of how intrinsic and extrinsic motivation influence players' purchasing decisions in gaming contexts. Intrinsic motivation strengthens engagement, extrinsic motivation drives consumption, and continuance usage becomes an important bridge between the two. In the context of the virtual economy, this approach provides strategic insight for game developers in designing experiences that are not only fun, but also build user loyalty and conversion.

### Research Implications

Based on the results of data analysis carried out through Structural Equation Modeling (SEM), this research provides various theoretical and practical implications that can be compared with findings in previous academic literature. These implications highlight how the developed research model strengthens or expands existing understanding regarding players' motivations for making in-game purchases, especially in the context of freemium-based games such as Genshin Impact.

### CONCLUSION

Intrinsic motivation, which consists of Enjoyment, Challenge, and Satisfaction, has a different influence on Continuance Usage and Purchase Intention in Genshin Impact players in Indonesia. The research results show that Enjoyment and Challenge have a significant influence on Continuance Usage, but do not directly influence Purchase Intention. Players who feel happy and entertained are more likely to continue playing in the long term, as are those who find the game challenging. However, this feeling of excitement and challenge does not directly encourage players to purchase virtual items. Meanwhile, Satisfaction has a significant direct influence on Purchase Intention, showing that satisfaction in playing encourages players to buy virtual items. These findings support the Self-Determination Theory (SDT) theory which states that players' involvement in games is driven by fulfilling their psychological needs before finally making a purchase (Ryan & Deci, 2020). Additionally, Continuance Usage was proven to mediate the relationship between Enjoyment and Challenge with Purchase Intention, meaning that the longer players are engaged in the game, the more likely they are to make a purchase. Extrinsic motivation, which consists of Social Influence and Perceived Value, has a significant influence on Continuance Usage and Purchase Intention. Social Influence directly influences Purchase Intention and Continuance Usage, indicating that social influence and community interactions encourage players to continue playing and making in-game purchases. Players who feel socially motivated tend to be more involved in the

game and have a higher intention to purchase virtual items, especially due to competition factors and the desire to be recognized in the community (Park & Lee, 2011). Perceived Value has a very strong influence on Purchase Intention and also influences Continuance Usage, indicating that players' perception of the value they get from virtual items directly influences their desire to buy. Continuance Usage is proven to partially mediate the relationship between Social Influence and Perceived Value and Purchase Intention, which shows that involvement in the game strengthens the influence of extrinsic motivation on purchasing decisions.

Continuance Usage has a significant and positive influence on Purchase Intention. This suggests that the longer players are engaged in the game, the more likely they are to make purchases of virtual items. Players who continue playing over the long term show higher loyalty and a greater propensity to make purchases, primarily because they feel their investment in the game (both time and effort) should be increased by acquiring virtual items that enhance the gaming experience. In the context of Self-Determination Theory (SDT), Continuance Usage shows that players feel fulfilled in terms of autonomy, competence and relatedness, which ultimately drives Purchase Intention. These results strengthen the findings of Hsu & Lu (2007) which stated that Continuance Usage is a key factor in the digital purchasing behavior model. Thus, Continuance Usage plays an important role as the main mediator in this research model, effectively connecting intrinsic and extrinsic motivation with Purchase Intention.

## REFERENCES

1. Abuhamdeh, S., & Csikszentmihalyi, M. (2012). The Importance of Challenge for the Enjoyment of Intrinsically Motivated, Goal-Directed Activities. *Personality and Social Psychology Bulletin*, 38(3), 317–330. <https://doi.org/10.1177/0146167211427147>
2. Balakrishnan, J., & Griffiths, M. D. (2018). Loyalty towards online games, gaming addiction, and purchase intention towards online mobile in-game features. *Computers in Human Behavior*, 87(June), 238–246. <https://doi.org/10.1016/j.chb.2018.06.002>
3. Beltagui, A., Schmidt, T., Candi, M., & Roberts, D. L. (2019). Overcoming the monetization challenge in freemium online games. *Industrial Management and Data Systems*, 119(6), 1339–1356. <https://doi.org/10.1108/IMDS-08-2018-0350>
4. Cai, X., Cebollada, J., & Cortiñas, M. (2022). A grounded theory approach to understanding in-game goods purchase. *PLoS ONE*, 17(1 January). <https://doi.org/10.1371/journal.pone.0262998>
5. Carmines, E. G., & Zeller, Richard A. (1979). Reliability and Validity Assessment. In *The Encyclopedia of Political Science* (Issue 07). CQ Press. <https://doi.org/10.4135/9781608712434.n1341>
6. Esteves, J., Valogianni, K., & Greenhill, A. (2021). Online social games: The effect of social comparison elements on continuance behaviour. *Information and Management*, 58(4), 103452. <https://doi.org/10.1016/j.im.2021.103452>
7. Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1), 39. <https://doi.org/10.2307/3151312>
8. Ghazali, E., Mutum, D. S., & Woon, M. Y. (2019). Exploring player behavior and motivations to continue playing Pokémon GO. *Information Technology and People*, 32(3), 646–667. <https://doi.org/10.1108/ITP-07-2017-0216>
9. Hamari, J., Hanner, N., & Koivisto, J. (2020). “Why pay premium in freemium services?” A study on perceived value, continued use and purchase intentions in free-to-play games. *International Journal of Information Management*, 51(November), 102040. <https://doi.org/10.1016/j.ijinfomgt.2019.102040>
10. Harrington, D. (2009). Assessing Confirmatory Factor Analysis Model Fit and Model Revision. In 12. Confirmatory Factor Analysis.
11. Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
12. Hsiao, K.-L., & Chen, C.-C. (2016). What drives in-app purchase intention for mobile games? An examination of perceived values and loyalty. *Electronic Commerce Research and Applications*, 16, 18–29. <https://doi.org/10.1016/j.elerap.2016.01.001>
13. Hsu, C. L., & Lu, H. P. (2007). Consumer behavior in online game communities: A motivational factor perspective. *Computers in Human Behavior*, 23(3), 1642–1659. <https://doi.org/10.1016/j.chb.2005.09.001>
14. Hulaj, R., Nyström, M. B. T., Sörman, D. E., Backlund, C., Röhlcke, S., & Jonsson, B. (2020). A Motivational Model Explaining Performance in Video Games. *Frontiers in Psychology*, 11(July 2020). <https://doi.org/10.3389/fpsyg.2020.01510>
15. Jang, M., Lee, R., & Yoo, B. (2021). Does fun or freebie increase in-app purchase?: Analyzing effects of enjoyment and item experience intention to purchase mobile game contents. *Information Systems and E-Business Management*, 19(2), 439–457. <https://doi.org/10.1007/s10257-019-00420-z>
16. Jimenez, N., San-Martin, S., Camarero, C., & San Jose Cabezudo, R. (2019). What kind of video gamer are you? *Journal of Consumer Marketing*, 36(1), 218–227. <https://doi.org/10.1108/JCM-06-2017-2249>

19. Manchana, R. (2022). The Power of Cloud-Native Solutions for Descriptive Analytics: Unveiling Insights from Data. *Journal of Artificial Intelligence & Cloud Computing*, 1(4), 1–10. [https://doi.org/10.47363/jaicc/2022\(1\)e139](https://doi.org/10.47363/jaicc/2022(1)e139)
20. Nishisato, S. (2007). Multidimensional Nonlinear Descriptive Analysis. *The American Statistician*, 62(3), 271–271. <https://doi.org/10.1198/tas.2008.s261>
21. Park, B. W., & Lee, K. C. (2011). Exploring the value of purchasing online game items. *Computers in Human Behavior*, 27(6), 2178–2185. <https://doi.org/10.1016/j.chb.2011.06.013>
22. Przybylski, A. K., Rigby, C. S., & Ryan, R. M. (2010). A Motivational Model of Video Game Engagement. *Review of General Psychology*, 14(2), 154–166. <https://doi.org/10.1037/a0019440>
23. Purnami, L. D., & Agus, A. A. (2020). The Effect of Perceived Value and Mobile Game Loyalty on Mobile Game's In-app Purchase Intention. 2020 3rd International Conference on Computer and Informatics Engineering, IC2IE 2020, 2012, 224–229. <https://doi.org/10.1109/IC2IE50715.2020.9274662>
24. Rogers, R. (2017). The motivational pull of video game feedback, rules, and social interaction: Another self-determination theory approach. *Computers in Human Behavior*, 73, 446–450. <https://doi.org/10.1016/j.chb.2017.03.048>
25. Ryan, R. M., & Deci, E. L. (2000). Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions. *Contemporary Educational Psychology*, 25(1), 54–67. <https://doi.org/10.1006/ceps.1999.1020>
26. Sharma, T. G., Hamari, J., Kesharwani, A., & Tak, P. (2022). Understanding continuance intention to play online games: roles of self-expressiveness, self-congruity, self-efficacy, and perceived risk. *Behaviour and Information Technology*, 41(2), 348–364. <https://doi.org/10.1080/0144929X.2020.1811770>
27. Thompson, B. (2004). EXPLORATORY CONFIRMATORY AND FACTOR ANALYSIS. *Acta Geophysica*, 58(4), 587–603. <https://doi.org/10.2478/s11600-010-0006-9>
29. Tucker, L., & MacCallum, R. C. (1997). Exploratory factor analysis.pdf.
30. Wang, W., & Hang, H. (2021). Exploring the eudaimonic game experience through purchasing functional and nonfunctional items in MMORPGs. *Psychology and Marketing*, 38(10), 1847–1862. <https://doi.org/10.1002/mar.21503>