

THE EFFECT OF PERCEPTIONS OF USER-GENERATED CONTENT AND SCARCITY MARKETING ON IMPULSE BUYING BEHAVIOR TOWARD VIRTUAL ITEMS AMONG ROBLOX PLAYERS IN DENPASAR

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Abstract

The online gaming industry has evolved into a massive virtual economy through digital item microtransactions. This study aims to analyze the influence of the perception of User Generated Content (UGC) and Scarcity Marketing on the Impulse Buying behavior of virtual items among Roblox players in Denpasar City. The Roblox platform was selected because of its characteristics as a metaverse that is heavily influenced by user-created content and scarcity strategies, and this study employs the Stimulus-Organism-Response (S-O-R) model as its fundamental theoretical framework to explain digital consumer behavior. The research uses a quantitative-explanatory method, with data collected through an online questionnaire distributed to members of the “Dewata Roblox Official” community in Denpasar City, selected using a purposive sampling technique, resulting in a final sample of 120 respondents. Data were analyzed using multiple linear regression through statistical software, where the independent variables were the perception of User Generated Content (X1) and Scarcity Marketing (X2) and the dependent variable was Impulse Buying (Y). The results indicate that the perception of User Generated Content has a positive and significant influence on Impulse Buying ($\beta = 0.338$; $t = 4.288$; $p = 0.000$), where authentic content increases spontaneous purchasing interest, while Scarcity Marketing is also proven to have a positive and significant influence on Impulse Buying ($\beta = 1.007$; $t = 13.757$; $p = 0.000$) through the creation of urgency and the Fear of Missing Out (FOMO) phenomenon. Simultaneously, both variables have a positive and significant influence on Impulse Buying ($F = 95.298$; $p = 0.000$), contributing 62.0% ($R^2 = 0.620$), while the remaining 38.0% is explained by other factors outside the research model. This study provides implications for game developers in designing effective digital marketing strategies and for players in improving digital financial literacy in the virtual era.

Keywords: Generation Z, Impulse Buying, Roblox, Scarcity Marketing, User Generated Content

INTRODUCTION

The online gaming industry has shown significant and consistent growth from year to year and has evolved into a globally dominant entertainment sector, with revenue projections reaching USD 188.8 billion in 2025 across the three massive entertainment platforms of PC, console, and mobile (Newzoo, 2025). Within this development, the monetization model has shifted from the sale of physical or licensed game units (pay-to-play) toward microtransactions that are common in free-to-play (F2P) games, namely the purchase of affordable virtual items to accelerate progress or personalize the playing experience (Ermanja, 2024). Virtual items are no longer viewed merely as game accessories, but have grown into digital commodities that hold economic, symbolic, and social value for players.

One platform that reflects this virtual economy development is Roblox. Rather than an ordinary video game, Roblox is a metaverse or “human co-experience” platform that allows millions of users to interact within three-dimensional spaces created by other users, where the avatar becomes the digital representation of the player and the center of social interaction, customized using the virtual currency Robux. Research by Julia et al. (2024) states that the need for uniqueness is an individual drive to be different and to seek distinctiveness in choices, behavior, and appearance. The wide penetration of the internet, online commerce, and “one-click” shopping has also made Impulse Buying behavior easier to perform (Pal, 2025).

Impulse Buying is a consumer decision to make a purchase suddenly and spontaneously, driven by emotion without careful planning (Pal, 2025). In the Roblox context, this behavior often occurs without consideration of long-term financial consequences, and in Indonesia low digital financial literacy is compounded by the ease of digital payment access. This phenomenon is referred to as “spendception” (spend + inception), in which digital payment makes ownership of money feel abstract so that a reduced digital balance does not cause the same pain of paying as spending physical cash (Faraz & Anjum, 2025). Players frequently move directly from “problem recognition” to “purchase decision” without a rational evaluation of alternatives.

Several studies show that user-generated content and scarcity strategies significantly influence impulsive purchasing behavior. Karyadi et al. (2023) found that a positive perception of UGC significantly increases consumers’ tendency toward impulsive buying in the e-commerce context. This is consistent with Luo & Lee (2022), who state that the characteristics of UGC content such as authenticity and usefulness lower consumers’ perceived risk and thereby encourage impulsive consumption. In the social commerce environment, Malik Ibrahim et al. (2021) report that interactive multimedia content produced by users strengthens the tendency toward unplanned purchases. These findings reinforce the relevance of the present study’s theme.

Nevertheless, most previous studies have focused on general e-commerce or social commerce platforms and have not simultaneously examined UGC and scarcity marketing within a metaverse platform such as Roblox. This study fills that gap by testing both variables among the Generation Z demographic in Denpasar City, adding a novelty while providing strong empirical evidence that this topic warrants further investigation. Accordingly, this study aims to investigate how the perception of User Generated Content and Scarcity Marketing influence the Impulse Buying of virtual items among Roblox players in Denpasar

City. A deep understanding of this mechanism is expected to contribute empirically to the study of digital consumer behavior while serving as a basis for digital financial literacy education for the younger generation so that they can participate in the virtual economy more wisely and responsibly.

REVIEW OF LITERATURE

This study is grounded in the Stimulus-Organism-Response (S-O-R) model as its grand theory, which explains that individual behavior is formed through the interaction between external stimuli (stimulus), the internal condition of the individual (organism), and behavioral responses (response). In this study, the perception of User Generated Content (UGC) and the Scarcity Marketing strategy are positioned as stimuli received by players through the Roblox digital environment; these stimuli then influence the internal condition of players, such as perceived item value, emotional responses, and the emergence of a Fear of Missing Out (FOMO), which in turn drives the response of impulsive purchase decisions. The S-O-R model is considered appropriate because it integrates cognitive and affective aspects simultaneously in explaining digital consumer behavior, which is increasingly relevant in an online game environment filled with visual, symbolic, and social stimuli where decision-making often occurs quickly and emotionally rather than rationally (Alif Mahendra et al., 2025).

Building on this framework, the perception of User Generated Content is understood as the way consumers interpret and evaluate content created by other users based on attributes such as credibility, relevance, and authenticity, which is generally regarded as more trustworthy and less biased than company-made content (Chung, 2025). Scarcity Marketing is a strategy that exploits the principle of scarcity to create urgency, since an item perceived as rare tends to be assigned a higher value and increases consumer demand (Broeder & Wentink, 2022). Impulse Buying, in turn, is an unplanned purchase driven by emotional, psychological, and situational factors such as limited-time promotions, platform design, and social pressure (Rodrigues et al., 2021). Within the S-O-R lens, UGC and scarcity act as stimuli that shape players' psychological condition before producing the impulsive purchasing response of virtual items, which forms the theoretical basis for examining the relationships tested in this study.

RESEARCH METHOD

This study uses a quantitative approach with an explanatory research design that aims to explain the influence of the perception of User Generated Content (UGC) and Scarcity Marketing on the Impulse Buying behavior of virtual items among Roblox players in Denpasar City (Sugiyono, 2019). The population consists of Roblox players domiciled in Denpasar City who are members of the "Dewata Roblox Official" community, totaling 400 members. The sample was selected using a purposive sampling technique with specific criteria, namely being a member of the community, domiciled in Denpasar, belonging to Generation Z, having purchased virtual items using Robux at least once, and having been exposed to Roblox-related UGC on social media; based on the recommendation of ten times the number of indicators (10×12), the final sample amounted to 120 respondents. The

research instrument was an online questionnaire measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), covering the perception of User Generated Content (X1), Scarcity Marketing (X2), and Impulse Buying (Y).

The research procedure began with instrument development and validation, followed by the distribution of the questionnaire through the community communication channel via Google Forms after obtaining permission from the community administrator, then the collection and screening of data using screening questions to ensure respondent suitability, and finally data processing and analysis. Data were analyzed using multiple linear regression with the assistance of Statistical Package for Social Sciences (SPSS) software, carried out through instrument testing (validity and reliability), classical assumption tests (normality, multicollinearity, and heteroscedasticity), multiple linear regression analysis with the model $Y = a + b_1X_1 + b_2X_2 + e$, hypothesis testing through the partial test (t-test) and the simultaneous test (F-test) at a 0.05 significance level, and the coefficient of determination (R^2) to determine the contribution of the independent variables to Impulse Buying.

Research Hypothesis

Based on the review of the literature and previous research, the hypotheses proposed in this study are as follows:

- H1: The perception of User Generated Content (UGC) has a positive and significant effect on the Impulse Buying of virtual items among Roblox players in Denpasar City.
- H2: Scarcity Marketing has a positive and significant effect on the Impulse Buying of virtual items among Roblox players in Denpasar City.
- H3: The perception of User Generated Content (UGC) and Scarcity Marketing simultaneously have a significant effect on the Impulse Buying of virtual items among Roblox players in Denpasar City.

RESULTS AND DISCUSSION

Respondent Description

The respondents in this study were Roblox players domiciled in Denpasar City and members of the “Dewata Roblox Official” community, selected through the purposive sampling technique, resulting in 120 respondents who met the criteria of being active Roblox players, having purchased virtual items using Robux, and having been exposed to Roblox-related UGC on social media. The demographic and digital-consumption characteristics of the respondents are presented below based on gender, age, Robux top-up frequency, and average monthly spending on in-game purchases.

Table 1.
Respondents by Gender

Gender	Frequency	Percent (%)	Cumulative (%)
Male	47	39.2	39.2
Female	73	60.8	100.0
Total	120	100.0	

Source: SPSS Data Processing, 2026

Based on Table 1, of the total 120 respondents, 73 respondents (60.8%) were female while 47 respondents (39.2%) were male, indicating that the majority of respondents in this

study were female. This composition suggests that Roblox players in Denpasar City who meet the research criteria, namely having purchased virtual items using Robux, are more numerous among the female group, although both groups remain represented so that the data adequately describe the respondents' characteristics by gender before the analysis of the influence of the perception of User Generated Content (UGC) and Scarcity Marketing on Impulse Buying behavior.

Table 2.
Respondents by Age

Age	Frequency	Percent (%)	Cumulative (%)
13–18 years	18	15.0	15.0
19–23 years	63	52.5	67.5
24–28 years	39	32.5	100.0
Total	120	100.0	

Source: SPSS Data Processing, 2026

Based on Table 2, the 19–23 year age group was the largest with 63 respondents (52.5%), followed by the 24–28 year group with 39 respondents (32.5%), while the 13–18 year group was the smallest with 18 respondents (15.0%). The majority of respondents therefore fall within the 19–23 year range, an early-adulthood group known as active users of digital technology, social media, and online games such as Roblox, which indicates that most respondents have close proximity to the digital environment that forms the context of this study, including experience accessing Roblox-related content and conducting virtual item transactions using Robux.

Table 3.
Robux Top-up Frequency

Top-up Frequency	Frequency	Percent (%)	Cumulative (%)
1–2 times per month	43	35.8	35.8
3–5 times per month	54	45.0	80.8
More than 5 times per month	23	19.2	100.0
Total	120	100.0	

Source: SPSS Data Processing, 2026

Based on Table 3, the majority of respondents topped up Robux 3–5 times per month (54 respondents; 45.0%), followed by 43 respondents (35.8%) who topped up 1–2 times per month and 23 respondents (19.2%) who topped up more than 5 times per month. This shows that most respondents have a relatively routine Robux top-up frequency, reflecting a fairly active level of digital transaction involvement within the Roblox ecosystem, although this characteristic only describes the transaction pattern and does not directly indicate the respondents' level of Impulse Buying.

Table 4.
Average Monthly In-Game Spending in Roblox

Average Monthly Spending	Frequency	Percent (%)	Cumulative (%)
Less than IDR 100,000	6	5.0	5.0
IDR 100,000 – IDR 300,000	54	45.0	50.0
IDR 300,000 – IDR 500,000	37	30.8	80.8
IDR 500,000 – IDR 1,000,000	19	15.8	96.6
More than IDR 1,000,000	4	3.3	100.0
Total	120	100.0	

Source: SPSS Data Processing, 2026

Based on Table 4, the majority of respondents spent an average of IDR 100,000–IDR 300,000 per month (54 respondents; 45.0%), followed by 37 respondents (30.8%) spending IDR 300,000–IDR 500,000, 19 respondents (15.8%) spending IDR 500,000–IDR 1,000,000, 6 respondents (5.0%) spending less than IDR 100,000, and 4 respondents (3.3%) spending more than IDR 1,000,000 per month. This indicates a fairly routine level of digital consumption within the game, and the varied distribution of spending shows differing fund allocations for virtual items, although it cannot be interpreted as evidence that groups with larger spending have a higher level of Impulse Buying, since such a relationship can only be explained through the hypothesis testing in the subsequent analysis.

Instrument Test Results

Table 5.
Validity Test Results

Variable	Item	r-count	r-table	Decision
Perception of User-Generated Content (X1)	X1.1–X1.8	0.602–0.716	0.1793	Valid
Scarcity Marketing (X2)	X2.1–X2.8	0.521–0.718	0.1793	Valid
Impulse Buying of Virtual Items (Y)	Y.1–Y.8	0.651–0.812	0.1793	Valid

Source: SPSS Data Processing, 2026

Based on Table 5, the validity test was conducted using Product Moment Pearson correlation by comparing the r-count against the r-table, where with 120 respondents and degrees of freedom ($df = n - 2 = 118$) at a 0.05 significance level the r-table value used was 0.1793. All items on the variables perception of User Generated Content (UGC), Scarcity Marketing, and Impulse Buying of virtual items produced r-count values greater than the r-table (ranging from 0.521 to 0.812) and were positive, so that all items were declared valid and suitable for use as research instruments, indicating that each statement item is statistically able to measure the intended construct.

Table 6.
Reliability Test Results

Variable	Cronbach's Alpha	Decision
Perception of User Generated Content (UGC) (X1)	0.802	Reliable
Scarcity Marketing (X2)	0.802	Reliable
Impulse Buying of Virtual Items (Y)	0.882	Reliable

Source: SPSS Data Processing, 2026

Based on Table 6, the reliability test using Cronbach's Alpha shows that the variable perception of User Generated Content (UGC) obtained a value of 0.802, Scarcity Marketing 0.802, and Impulse Buying of virtual items 0.882, all of which are above the minimum threshold of 0.70. This indicates that the research instrument has a good level of reliability and that the statement items within each variable have strong internal consistency in measuring the same construct, so that the instrument is able to produce relatively stable and consistent data when used on respondents with similar characteristics.

Classical Assumption Test Results

Table 7.
Normality Test Results (One-Sample Kolmogorov-Smirnov)

Indicator	Unstandardized Residual
N	120
Mean	-0.2942319
Std. Deviation	5.37404460
Test Statistic	0.060
Asymp. Sig. (2-tailed)	0.200

Source: SPSS Data Processing, 2026

Based on Table 7, the normality test using the One-Sample Kolmogorov-Smirnov Test on 120 respondents produced a Test Statistic of 0.060 with an Asymp. Sig. (2-tailed) value of 0.200, which is greater than the 0.05 significance level ($0.200 > 0.05$). This shows that the residuals of the regression model are normally distributed and that there is no violation of the normality assumption, so the data are suitable for continuing to the subsequent classical assumption tests, namely the multicollinearity and heteroscedasticity tests, as well as the multiple linear regression analysis.

Table 8.
Multicollinearity Test Results

Variable	Tolerance	VIF
Perception of User Generated Content (X1)	0.947	1.056
Scarcity Marketing (X2)	0.947	1.056

Source: SPSS Data Processing, 2026

Based on Table 8, the variable perception of User Generated Content (UGC) (X1) had a Tolerance of 0.947 and a VIF of 1.056, and Scarcity Marketing (X2) likewise had a Tolerance of 0.947 and a VIF of 1.056. Both independent variables have Tolerance values

greater than 0.10 ($0.947 > 0.10$) and VIF values smaller than 10 ($1.056 < 10$), so that no multicollinearity occurs in the regression model and each independent variable is able to explain its influence on Impulse Buying of virtual items independently without disturbance from an excessively strong relationship between the independent variables.

Table 9.
Heteroscedasticity Test Results

Variable	t	Sig.	Decision
Perception of User Generated Content (X1)	-1.440	0.152	No heteroscedasticity
Scarcity Marketing (X2)	-1.620	0.108	No heteroscedasticity

Source: SPSS Data Processing, 2026

Based on Table 9, the heteroscedasticity test using the Glejser Test shows that the variable perception of User Generated Content (UGC) (X1) had a significance value of 0.152 and Scarcity Marketing (X2) had a significance value of 0.108, both greater than the 0.05 significance level ($0.152 > 0.05$ and $0.108 > 0.05$). This indicates that neither independent variable significantly affects the absolute residual value (ABS_RES), so that there is no indication of heteroscedasticity in the regression model, and the classical assumption regarding heteroscedasticity is fulfilled.

Multiple Linear Regression Analysis

Table 10.
Multiple Linear Regression Results

Model	B	Std. Error	Beta	t	Sig.
(Constant)	10.989	3.168		3.469	0.001
Perception of UGC (X1)	0.338	0.079	0.251	4.288	0.000
Scarcity Marketing (X2)	1.007	0.073	0.806	13.757	0.000

Source: SPSS Data Processing, 2026

Based on Table 10, the regression equation obtained is $Y = 10.989 + 0.338X_1 + 1.007X_2$, which shows that both the perception of User Generated Content (UGC) and Scarcity Marketing have a positive influence on the Impulse Buying behavior of virtual items among Roblox players in Denpasar City, meaning that the more positive the players' perception of UGC content and the stronger their perception of the scarcity strategy, the higher their tendency toward impulsive purchasing. Viewed from the standardized beta coefficients, Scarcity Marketing is more dominant with a value of 0.806 compared with the perception of User Generated Content at 0.251, indicating that the perception of product scarcity provides a stronger drive toward Impulse Buying than the influence originating from UGC content on social media.

Hypothesis Testing

Table 11.
Partial Test (t-Test) Results

Variable	B	Beta	t	Sig.	Decision
Perception of UGC (X1)	0.338	0.251	4.288	0.000	H1 accepted
Scarcity Marketing (X2)	1.007	0.806	13.757	0.000	H2 accepted

Source: SPSS Data Processing, 2026

Based on Table 11, the partial test shows that the perception of User Generated Content (UGC) (X1) obtained a t-count of 4.288 with a significance of 0.000 (< 0.05) and a regression coefficient of 0.338, so H1 is accepted, meaning that the more positive the players' perception of Roblox-related UGC content, the higher their tendency toward impulsive purchasing. Scarcity Marketing (X2) obtained a t-count of 13.757 with a significance of 0.000 (< 0.05) and a regression coefficient of 1.007, so H2 is accepted; moreover, its standardized beta of 0.806, far greater than the 0.251 of the perception of UGC, indicates that Scarcity Marketing is the most dominant variable influencing Impulse Buying of virtual items in this study.

Table 12.
Simultaneous Test (F-Test) Results

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	2927.008	2	1463.504	95.298	0.000
Residual	1796.784	117	15.357		
Total	4723.792	119			

Source: SPSS Data Processing, 2026

Based on Table 12, the simultaneous test (F-test) produced an F value of 95.298 with a significance of 0.000 (< 0.05), so it can be concluded that the perception of User Generated Content (UGC) and Scarcity Marketing simultaneously have a significant effect on the Impulse Buying behavior of virtual items among Roblox players in Denpasar City, and therefore H3 is accepted. This means the regression model used in this study is suitable for explaining the relationship between the independent variables and the dependent variable being examined.

Table 13.
Coefficient of Determination (R²) Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.787	0.620	0.613	3.91882

Source: SPSS Data Processing, 2026

Based on Table 13, the coefficient of determination yielded an R Square of 0.620 and an Adjusted R Square of 0.613, meaning that 61.3% of the variation in Impulse Buying of virtual items among Roblox players in Denpasar City can be explained by the perception of User Generated Content (UGC) and Scarcity Marketing, while the remaining 38.7% is explained by other factors outside the research model, such as Fear of Missing Out (FOMO), electronic word of mouth (e-WOM), hedonic motivation, self-control, peer influence, and other psychological factors that potentially affect impulsive purchasing behavior.

The Effect of the Perception of User Generated Content (UGC) on the Impulse Buying Behavior of Virtual Items among Roblox Players in Denpasar City

Based on the partial test, the perception of User Generated Content (UGC) has a positive and significant effect on the Impulse Buying of virtual items among Roblox players in Denpasar City ($t = 4.288$; $\text{Sig.} = 0.000 < 0.05$; $B = 0.338$), so H1 is accepted. This means that the more positive the players' perception of content created by other users, the higher

their tendency to purchase virtual items impulsively. Content such as item reviews, avatar showcases, gameplay, tutorials, and recommendations shared through platforms like TikTok, YouTube, Instagram, and the Roblox community is able to influence players' purchasing behavior because UGC is perceived as more authentic, honest, and credible than promotional content created directly by companies.

This finding supports the Stimulus-Organism-Response (S-O-R) model used as the grand theory, in which the perception of User Generated Content acts as the stimulus (S) received by players through various digital platforms, is then processed within the player as the organism (O) through cognitive and affective processes such as interest, curiosity, and enthusiasm, and finally produces the response (R) of a spontaneous, unplanned purchase decision. In the Roblox context, content displaying popular virtual items, unique avatars, or trending items is able to arouse emotional engagement, and when players find the information from UGC useful in aiding their decision-making, their interest in virtual items increases and potentially drives impulsive purchases.

These results are consistent with previous research by Tsabitah (2025), who found that a positive perception of UGC increases consumers' tendency toward impulsive buying, as well as Luo & Lee (2022), who state that UGC characteristics such as authenticity and usefulness reduce perceived risk and thereby encourage impulsive consumption, and Karyadi et al. (2023), who show that user-created content significantly influences impulsive buying. This consistency indicates that the influence of UGC on Impulse Buying behavior occurs not only on e-commerce and social commerce platforms but also within virtual and metaverse environments such as Roblox, where UGC serves as a stimulus that increases players' interest in virtual items and ultimately encourages spontaneous purchasing.

The Effect of Scarcity Marketing on the Impulse Buying Behavior of Virtual Items among Roblox Players in Denpasar City

Based on the partial test, Scarcity Marketing (X2) has a positive and significant effect on the Impulse Buying of virtual items among Roblox players in Denpasar City ($t = 13.757$; $\text{Sig.} = 0.000 < 0.05$; $B = 1.007$), so H2 is accepted. The standardized beta of 0.806 shows that Scarcity Marketing is the most dominant variable influencing Impulse Buying in this study, indicating that the perception of virtual product scarcity has a greater capacity to drive spontaneous purchase decisions than the perception of User Generated Content. Scarcity-based strategies such as limited items, event-exclusive items, limited stock, and time-bound offers create a strong psychological drive to purchase immediately, because when players realize that an item is difficult to obtain or available only for a limited time, they tend to fear missing the opportunity to own it.

This finding supports the Stimulus-Organism-Response (S-O-R) model, in which Scarcity Marketing acts as the stimulus (S) provided by developers through the creation of scarcity perception, which is then processed by players as the organism (O) through psychological responses such as urgency, enthusiasm, and Fear of Missing Out (FOMO), and finally produces the response (R) of impulsive purchasing behavior. Theoretically, it also supports the scarcity theory, which explains that a product is considered more valuable when its availability is limited; in the Roblox context, items available only during certain events or with limited ownership are often regarded as symbols of status within the player community, pushing players to purchase quickly before the opportunity disappears.

These results are consistent with previous research by Yanti et al. (2025), who found that scarcity strategies significantly influence emotional arousal and impulsive buying, as well as Febrianty et al. (2025), who show that scarcity perception has a positive and significant effect on impulsive buying. The consistency of these findings indicates that the influence of Scarcity Marketing occurs not only for physical products but also for digital products and virtual items, and within a game environment such as Roblox the scarcity effect can be even stronger because virtual items are frequently tied to digital identity, social status, and exclusivity within the playing community, so that scarcity strategies become one of the most effective marketing approaches in influencing virtual item purchase decisions.

The Simultaneous Effect of User Generated Content (UGC) and Scarcity Marketing on the Impulse Buying Behavior of Virtual Items among Roblox Players in Denpasar City

Based on the simultaneous test (F-test), an F value of 95.298 was obtained with a significance of 0.000 (< 0.05), so H3 is accepted, indicating that the perception of User Generated Content (UGC) and Scarcity Marketing simultaneously have a positive and significant effect on the Impulse Buying of virtual items among Roblox players in Denpasar City. The coefficient of determination shows an R Square of 0.620, meaning that 62.0% of the variation in Impulse Buying of virtual items can be explained jointly by both variables, while the remaining 38.0% is explained by other factors outside the research model, which shows that the two independent variables together have a fairly strong capacity to explain impulsive purchasing behavior.

This finding indicates that Impulse Buying behavior among Roblox players is formed not by a single factor but through the interaction of social and marketing factors. A positive perception of User Generated Content (UGC) builds interest, trust, and desire toward virtual items through the influence of the community and other users' experiences, while Scarcity Marketing creates a sense of urgency and Fear of Missing Out (FOMO) through limited-time and limited-quantity strategies. When both factors are present simultaneously, the drive to purchase becomes stronger, so that players who first learn of an item through an avatar showcase, item review, or recommendation video are subsequently pushed to purchase upon learning that the item is available only in limited quantity or for a limited period, demonstrating that social and scarcity factors work synergistically in shaping purchase decisions.

From the S-O-R perspective, the perception of User Generated Content and Scarcity Marketing function as stimuli (S) received by players through digital platforms and the Roblox environment, are processed by the individual as the organism (O) through interest, emotional engagement, perceived value, and fear of missing out, and finally produce the response (R) of spontaneous, unplanned purchasing. This finding aligns with prior research showing that UGC and Scarcity Marketing are important factors influencing consumer behavior in the digital environment, and it extends the empirical evidence by demonstrating that both variables affect Impulse Buying not only partially but also simultaneously in the context of virtual item purchases on the Roblox game platform, providing practical implications for developers, content creators, and digital marketers to combine community-based promotion through UGC with scarcity strategies such as limited-edition items or exclusive events.

CONCLUSION

Based on the results of the multiple linear regression analysis of 120 respondents who are Roblox players in Denpasar City, it can be concluded that the perception of User Generated Content (UGC) has a positive and significant effect on the Impulse Buying of virtual items ($B = 0.338$; $t = 4.288$; $p < 0.001$), that Scarcity Marketing also has a positive and significant effect and is the more dominant variable ($B = 1.007$; $t = 13.757$; $p < 0.001$; standardized beta 0.806 versus 0.251 for UGC), and that both variables simultaneously have a significant effect on the Impulse Buying of virtual items ($F = 95.298$; $p < 0.001$), with an Adjusted R Square of 0.613 indicating that 61.3% of the variation in Impulse Buying is explained by the two variables while the remaining 38.7% is explained by other factors outside the research model; these findings reinforce the S-O-R model in explaining digital consumer behavior and imply that game developers should design effective and responsible digital marketing strategies while players should improve their digital financial literacy in the virtual era.

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