

Gaming Addiction as a Mediator: Engagement Marketing and Robux Purchases of Gen Z in Bandung

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Abstract

Purpose: This study investigates how engagement marketing influences the decision to buy Robux among Generation Z players of Roblox in Bandung, Indonesia, with gaming addiction acting as an intermediary factor.

Research Methodology: A quantitative explanatory approach was employed using questionnaire data from 350 Generation Z respondents, analyzed via PLS-SEM with SmartPLS 4 and 5,000 bootstrapping resamples.

Results: Engagement marketing significantly influenced gaming addiction ($\beta = 0.665$, $T = 24.175$, $p < 0.001$) and purchase decisions ($\beta = 0.625$, $T = 16.125$, $p < 0.001$). Gaming addiction significantly affected purchase decisions ($\beta = 0.312$, $T = 7.260$, $p < 0.001$) and partially mediated the engagement marketing–purchase decision relationship (indirect $\beta = 0.207$, $T = 7.349$, $p < 0.001$), explaining 74.7% of the purchase decision variance ($R^2 = 0.747$).

Conclusions: Engagement marketing influences Robux purchase decisions both directly and indirectly through gaming addiction, confirming partial mediation. Platform designers should balance engagement strategies with responsible gaming safeguards, particularly for minor users.

Limitations: The findings are limited to Roblox users in Bandung City and employ a cross-sectional design, restricting causal inference and generalizability.

Contributions: This study identifies gaming addiction as a behavioral mediator between engagement marketing and virtual currency purchase decisions within a UGC-based creator economy platform.

Keywords: *Engagement Marketing, Gaming Addiction, Generation Z, Purchase Decision, Roblox*

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1. Introduction

The global gaming industry attained a value of USD 282.3 billion in 2024 and has been exhibiting a Compound Annual Growth Rate (CAGR) of 8.76%, with the virtual goods market expected to exceed USD 50 billion (Statista, 2024). Roblox has evolved from a mere gaming environment into a circular virtual economy, generating USD 4.9 billion in revenue and USD 6.8 billion in bookings in 2025, with over USD 1.5 billion distributed to independent creators through its Developer Exchange (DevEx) program (Roblox, 2025). Unlike typical gaming platforms, Roblox's circular economic model transforms user purchases into creator income, making the behavioral determinants of Robux

purchases systemically significant. Despite this growth, Indonesia's Robux conversion rate (12–15%) remains substantially below the global average (22–25%), with an Average Revenue Per User (ARPU) of approximately USD 3.2 per month compared to USD 12.4 in Singapore ([Roblox, 2025](#)).

This disparity persists despite Indonesia's rapidly expanding digital infrastructure and widespread e-wallet adoption among Gen Z, indicating that engagement alone does not sufficiently explain purchase behavior. Prior research has examined engagement-related factors such as gaming engagement, play duration, gamification mechanisms, and flow experience as drivers of virtual item purchases ([Laurence, Hermawan, Bernarto, & Antonio, 2023](#); [Jiao, Tang, & Wang, 2022](#); [Doğan-Südaş, Kara, & Karaca, 2023](#); [Perdana, & Tjokrosaputro, 2023](#)). However, the role of a behavioral mediating variable linking engagement in financial transactions remains underexplored. One such mechanism is gaming addiction. Based on [Griffiths \(2005\)](#) components model, marketing activities that increase retention and emotional involvement may trigger addictive behavior, converting rational purchase motives described in the Theory of Planned Behavior by [Ajzen \(1991\)](#) into emotional compulsions.

[Tham and Perreault \(2021\)](#) found that individuals with gaming disorder characteristics spend 5.8 times more than regular gamers, suggesting that addiction may serve as a behavioral mediator a relationship not yet empirically tested in the Roblox ecosystem. This study addresses three research gaps: no prior study has examined gaming addiction as a behavioral mediator between engagement marketing and purchase decisions in a UGC platform context; existing literature treats purchase decisions as individual acts rather than components of a creator economy; and the Indonesian market, despite high digital penetration and low ARPU, remains underrepresented in gaming marketing literature.

This study acknowledges that 16% of respondents were aged 14–17 years. While this reflects the actual demographics of active Roblox users in Bandung, it also raises ethical considerations regarding the exposure of minors to engagement marketing mechanisms that may trigger addictive behavior and impulsive spending. This study neither endorses nor promotes such practices; rather, it seeks to empirically document these relationships to inform platform governance, parental awareness, and policy development in the future. This study aims to evaluate how engagement marketing influences gaming addiction; evaluate how engagement marketing impacts buying choices; evaluate how gaming addiction affects buying choices; and investigate the intermediary function of gaming addiction in the connection between engagement marketing and buying decisions.

2. Literature Review and Hypotheses Development

2.1 Engagement Marketing

Engagement marketing fundamentally involves creating meaningful interactions between brands and consumers across cognitive, emotional, and behavioral dimensions ([Brodie et al., 2011](#); [Hollebeek et al., 2014](#); [Lapresta-Romero & Hernández-Ortega, 2025](#); [Vivek et al., 2012](#)). Recent studies have also indicated that engagement-oriented digital marketing strategies can strengthen consumer involvement and encourage purchase decisions through interactive digital experiences and personalized communication ([Setyowati & Sugiat, 2026](#)). Within digital gaming platforms, engagement operates through three primary mechanisms: personalization (tailored avatars and game design), socialization (multiplayer features and community networking), and gamification (reward systems and incentive programs) ([Jasrotia et al., 2022](#)).

2.2 Gaming Addiction as a Behavioral Mechanism

Gaming addiction, officially identified as Internet Gaming Disorder (IGD) by the World Health Organization in 2019, is marked by a lack of control over gaming, placing gaming above other pursuits, and persisting in gaming despite experiencing harmful effects ([Montag, Wegmann, Sariyska, Demetrovics, & Brand, 2021](#); [Griffiths, 2005](#)). The six-part framework of salience, mood enhancement, tolerance, withdrawal, conflict, and relapse serves as the main behavioral structure relevant to online gaming settings like Roblox. Furthermore, the I-PACE model describes how issues related to digital usage arise from the interplay of personal traits, emotional and thought reactions, and

consistent interaction with the platform, potentially leading to the formation of addictive behaviors. ([Rozgonjuk, Davis, & Montag, 2021](#)).

From a consumer behavior perspective, gaming addiction amplifies spending. Individuals exhibiting IGD characteristics spend 5.8 times more on virtual currency than casual gamers, and gaming addiction significantly drives impulse buying of virtual items among Generation Z in Indonesia ([Apriyanto, Afifah, Purmono, Rosnani, & Juniwati, 2023](#); [Tham, & Perreault, 2021](#)). Compensatory behaviors and social pressure further motivate in-game purchases in freemium contexts, while platform design features, including engagement marketing elements, are identified as the primary drivers of IGD among younger users ([Gavriel-Fried, Serry, Katz, Hidvégi, Demetrovics, & Király, 2023](#); [Syahrivar, Chairy, Juwono, & Gyulavári, 2022](#)). Collectively, these findings position gaming addiction as a behaviorally significant mediator between marketing stimuli and purchase outcomes.

2.3 Purchase Decision in Digital Contexts

The choice to buy in online gaming environments is most effectively clarified by the Theory of Planned Behavior (TPB), which links the intention to act to one's attitude, social influences, and the perceived ability to control behavior ([Ajzen, 1991](#)). In the Roblox context, 78% of users hold positive attitudes toward purchasing Robux, and 72% report peer influence on their purchase decisions ([Roblox, 2025](#)), reflecting strong attitude and subjective norm dimensions. Beyond the rational TPB dimensions, purchase decisions in digital gaming are shaped by emotional and psychological mechanisms. Functional, emotional, and social aspects play a crucial role in influencing the desire to buy virtual goods, whereas platform-based marketing stimuli drive buying behavior through positive emotional responses ([Mkedder, Bakır, Aldhabyani, & Ozata, 2024](#); ([Maulidia, 2026](#))).

Marketing content contributes to purchase decisions through favorable consumer perceptions ([Parsaoran & Wibasuri, 2025](#)). Similarly, eWOM through digital platforms such as TikTok has been shown to significantly influence purchase intention among Indonesian consumers through information credibility and usefulness ([Indrawati, Yones, & Muthaiyah, 2023](#)). Psychological drivers significantly influence the urge to purchase in video game microtransactions ([Mahendra, Jayadi, & Halim, 2024](#)). The widespread adoption of digital payment systems (GoPay, OVO, DANA) in Indonesia further minimizes perceived behavioral control barriers, facilitating microtransactions among Gen Z ([Syahrivar, Chairy, Juwono, & Gyulavári, 2022](#)).

2.4 Research Gap and Previous Studies

Although engagement marketing, gaming addiction, and virtual purchase behavior have been examined independently, their integration into a single mediating model remains limited. Studies on engagement-related factors, including gaming engagement, play duration, gamification, and flow experience, have established links to purchase behavior but without exploring addiction as a behavioral mediator ([Doğan-Südaş et al., 2023](#); [Jiao et al., 2022](#); [Laurence et al., 2023](#); [Perdana & Tjokrosaputro, 2023](#)). Conversely, addiction-focused studies confirm its spending amplification effect but lack engagement marketing as an antecedent ([Pontes & Griffiths, 2015](#); [Tham & Perreault, 2021](#)). Furthermore, existing research treats purchase decisions as individual acts rather than components of a creator economy, and the Indonesian market, despite its high digital penetration and low ARPU, remains underrepresented. Table 1 summarizes previous studies and their gaps.

Table 1. Summary of previous studies

Author(s)	Year	Variables	Findings	Gap
Jiao et al.	(2022)	Play duration → in-app purchase	Play duration positively affects in-app purchase behavior in mobile games	No addiction mediator

Author(s)	Year	Variables	Findings	Gap
Perdana & Tjokrosaputro	(2023)	Flow experience satisfaction, enjoyment → purchase intention	Flow experience satisfaction positively influences virtual item purchase intention in online games	No addiction mediator
Doğan-Südaş et al.	(2023)	Gamification → purchase intention	Gamified applications significantly increase purchase intention and word-of-mouth engagement	No behavioral addiction variable
Tham & Perreault	(2021)	Gaming disorder → spending	IGD users spend 5.8× more than casual gamers	No engagement marketing antecedent
Syahrivar et al.	(2022)	Compensatory behavior → in-game purchase	Emotional compensation drives freemium purchases	Freemium only; not UGC platform
Jasrotia et al.	(2022)	Online gaming engagement → Gen Z behavior	Engagement positively links to purchase intention	No addiction/mediation analysis
Pontes & Griffiths	(2015)	IGD scale development	IGD-20 validated for measuring gaming addiction	Clinical focus; no marketing link
Punwatkar et al.	(2025)	Gamification → brand loyalty → purchase intent	Gamification significantly boosts purchase motivation	No addiction mediator; no UGC context
Laurence et al.	(2023)	Video game engagement → virtual item purchase	Engagement is key predictor of virtual purchase intent	No IGD or platform-specific analysis
Przybylski et al.	(2013)	FOMO → digital behavior	FOMO linked to compulsive engagement and spending	Not applied to creator economy platforms

2.5 Hypotheses Development

2.5.1 The Effect of Engagement Marketing on Purchase Decision (H1)

Engagement marketing creates perceived value and emotional attachment that directly facilitates purchase decisions (Brodie et al., 2011). Recent evidence also shows that engagement-oriented digital marketing strategies positively influence consumer purchase intentions through interactive digital experiences and consumer involvement (Setyowati & Sugiati, 2026). On Roblox, personalization, community rewards, and creator events form emotional bonds that transition users from passive interaction to active participation. Consistent with the TPB, engagement marketing strengthens positive attitudes toward purchasing and perceived behavioral control through seamless transaction mechanisms (Ajzen, 1991; Jasrotia et al., 2022; Putratama & Retnowardhani, 2025).

H₁: Engagement marketing has a positive and significant effect on purchase decisions

2.5.2 The Effect of Engagement Marketing on Gaming Addiction (H2)

Within the Stimulus-Organism-Response (SOR) framework, engagement marketing stimuli such as social interaction, gamification, and avatar customization function as persistent environmental cues that shape internal psychological states (Doğan-Südaş et al., 2023). Repeated exposure to these stimuli progressively reinforces habitual platform use, ultimately manifesting as addictive behavioral patterns characterized by salience, tolerance, and loss-of-control (Gavriel-Fried et al., 2023; Griffiths, 2005).

H₂: Engagement marketing has a positive and significant effect on gaming addiction

2.5.3 The Effect of Gaming Addiction on Purchase Decision (*H₃*)

Gaming addiction generates compulsive consumption patterns in which the virtual world becomes central to users' identity and social approval ([Gavriel-Fried et al., 2023](#)). This psychological dependency creates a heightened urgency to acquire virtual currency, such as Robuxx, to sustain gaming activities, social status, and emotional gratification, thereby driving purchase decisions beyond rational evaluation ([Apriyanto et al., 2023](#); [Tham & Perreault, 2021](#)).

H₃: Gaming addiction has a positive and significant effect on purchase decisions

2.5.4 The Mediating Role of Gaming Addiction (*H₄*)

Engagement marketing operates through direct and indirect pathways to influence purchase decisions. Through repeated exposure to personalization, gamification, and social features, users develop habitual and psychologically dependent platform engagement, manifesting as gaming addiction, which subsequently amplifies spending motivation. This sequential mechanism positions gaming addiction as a behavioral mediator that converts marketing stimuli into compulsive purchase outcomes ([Griffiths, 2005](#); [Tham & Perreault, 2021](#)).

H₄: Gaming addiction significantly mediates the relationship between engagement marketing and purchase decision

3. Research Methodology

3.1 Research Design and Sample

This study utilized a quantitative explanatory method to investigate the causal connections between engagement marketing, gaming addiction, and the decision to buy Robux. Information was gathered through an online survey that was sent to Generation Z players of Roblox located in Bandung City, who engage with Roblox a minimum of twice per week and have made at least one purchase of Robux in the last three months, thereby ensuring they have adequate knowledge of the platform. Non-probability purposive sampling was used to gather 350 responses.

This approach was chosen because the research focused on a particular group—Generation Z individuals in Bandung City who actively participated in Roblox and had prior experience purchasing Robux, attributes that cannot be captured through random sampling methods. The sample size surpasses the minimum suggested by [Hair et al. \(2021\)](#) for PLS-SEM, a sample size of 5 to 10 times the total count of indicators is required (minimum = $23 \times 10 = 230$). A preliminary test was carried out with 30 participants before complete data gathering to evaluate the clarity of items and the initial reliability (Cronbach $\alpha > 0.70$ for every construct). Table 2 presents a comprehensive demographic overview of the participants, divided by sex, age, profession, and hours spent playing each week.

Table 2. Demographic overview of participants (n = 350)

Characteristic	Category	n	%
Gender	Female	192	54.9
	Male	158	45.1
Age	14-17 years	56	16.0
	18-21 years	144	41.1
	22-25 years	100	28.6
	26-29 years	50	14.3
Occupation	Student	224	64.0
	Employed	106	30.3
	Entrepreneur	20	5.7
Weekly Play Duration	< 2 hours	43	12.3
	2-5 hours	137	39.1
	5-10 hours	112	32.0

Characteristic	Category	n	%
Weekly Play Duration	> 10 hours	58	16.6
Robux Purchases (3 months)	1 time	95	27.1
	2-3 times	171	48.9
	> 3 times	84	24.0

3.2 Measurement Instrument and Variable Operationalization

All variables were assessed using a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The measurement tools were modified from reliable scales documented in previous studies to guarantee the validity of the constructs and their relevance to the context of the Roblox platform. Engagement Marketing (*X*) was assessed using seven items adapted from [Jasrotia, Kamila, Chib, and Mishra \(2022\)](#), covering three dimensions: personalization (avatar customization and unique gaming experience), socialization (multiplayer features and community interaction), and gamification (event participation, rewards, and platform engagement frequency). The items were adapted to reflect Roblox-specific engagement mechanisms, such as avatar customization systems, seasonal events, and creator community features.

Gaming Addiction (*Z*) was measured using nine items adapted from [Pontes and Griffiths \(2015\)](#) IGD-20 scale, operationalizing six-component model: salience (*Z*_{1.1}–*Z*_{1.2}), withdrawal (*Z*_{1.3}), tolerance (*Z*_{1.4}–*Z*_{1.5}), loss of control (*Z*_{1.6}–*Z*_{1.7}), conflict (*Z*_{1.8}), and mood modification (*Z*_{1.9}) ([Griffiths, 2005](#)). Items were adapted from clinical IGD measurements to reflect behavioral patterns specific to Roblox platform usage, such as compulsive session extension and mood regulation through gameplay. Purchase Decision (*Y*) was measured using seven items adapted from [Ajzen \(1991\)](#) Theory of Planned Behavior framework, covering attitude toward behavior (*Y*_{1.1}–*Y*_{1.3}), subjective norms (*Y*_{1.4}–*Y*_{1.5}), and perceived behavioral control (*Y*_{1.6}–*Y*_{1.7}). The items were contextualized to reflect Robux purchasing behavior, including the perceived utility of Robux, peer influence within the Roblox community, and the ease of digital payment methods available in Indonesia. Table 3 presents the full operationalization of the variables.

Table 3. Variable operationalization

Variables	Dimension	Indicator	Items	Source
Engagement Marketing (<i>X</i>)	Personalization	Avatar customization, tailored content	<i>X</i> _{1.1} – <i>X</i> _{1.2}	(Jasrotia et al., 2022)
	Socialization	Multiplayer features, social community	<i>X</i> _{1.3} – <i>X</i> _{1.4}	
	Gamification	Reward systems, events, incentive programs	<i>X</i> _{1.5} – <i>X</i> _{1.7}	
Gaming Addiction (<i>Z</i>)	Salience & Tolerance	Preoccupation with gaming, increasing time needed	<i>Z</i> _{1.1} – <i>Z</i> _{1.3}	(Pontes & Griffiths, 2015)
	Mood Modification & Withdrawal	Gaming to regulate mood, irritability when unable to play	<i>Z</i> _{1.4} – <i>Z</i> _{1.6}	
	Conflict & Relapse	Gaming despite negative consequences, returning after stopping	<i>Z</i> _{1.7} – <i>Z</i> _{1.9}	
Purchase Decision (<i>Y</i>)	Attitude	Positive attitude toward Robux purchase	<i>Y</i> _{1.1} – <i>Y</i> _{1.2}	(Ajzen, 1991)
	Subjective Norm	Peer influence on purchase intention	<i>Y</i> _{1.3} – <i>Y</i> _{1.5}	
	Perceived Behavioral Control	Ease of payment (e-wallet), self-efficacy to purchase	<i>Y</i> _{1.6} – <i>Y</i> _{1.7}	

3.3 Data Analysis

Data evaluation was performed using PLS-SEM along with bootstrapping, running 5,000 resamples ([Hair et al., 2021](#)). The assessment of the measurement model looked at outer loadings (≥ 0.70), AVE (≥ 0.50), composite reliability (CR ≥ 0.70), Cronbach alpha (≥ 0.70), and the discriminant validity using the HTMT ratio (< 0.90). The fit of the model was evaluated using the SRMR (< 0.08), NFI (> 0.90), and RMS Theta (< 0.12). The structural model was analyzed based on path coefficients, R^2 , Q^2 predictive relevance, and mediation through specific indirect effects, with 95% confidence intervals.

4. Results and Discussions

4.1 Measurement Model Evaluation

Table 4 displays the outcomes of the outer model, encompassing the Standardized Loading Factor (SLF), Composite Reliability (CR), and Average Variance Extracted (AVE) for every construct. Table 4 outlines the findings of the measurement model, which features the SLF, CR, and AVE.

Table 4. Measurement model results

Items	Source	SLF	CR	AVE	Result
Engagement Marketing (X)	(Jasrotia et al., 2022)		0.945	0.709	Valid and Reliable
$X_{i.1}$		0.875			Valid
$X_{i.2}$		0.855			Valid
$X_{i.3}$		0.835			Valid
$X_{i.4}$		0.837			Valid
$X_{i.5}$		0.783			Valid
$X_{i.6}$		0.838			Valid
$X_{i.7}$		0.868			Valid
Gaming Addiction (Z)	(Pontes & Griffiths, 2015)		0.953	0.694	Valid and Reliable
$Z_{i.1}$		0.850			Valid
$Z_{i.2}$		0.822			Valid
$Z_{i.3}$		0.860			Valid
$Z_{i.4}$		0.869			Valid
$Z_{i.5}$		0.848			Valid
$Z_{i.6}$		0.827			Valid
$Z_{i.7}$		0.866			Valid
$Z_{i.8}$		0.801			Valid
$Z_{i.9}$		0.747			Valid
Purchase Decision (Y)	(Ajzen, 1991)		0.929	0.651	Valid and Reliable
$Y_{i.1}$		0.852			Valid
$Y_{i.2}$		0.888			Valid
$Y_{i.3}$		0.788			Valid
$Y_{i.4}$		0.807			Valid
$Y_{i.5}$		0.794			Valid
$Y_{i.6}$		0.803			Valid
$Y_{i.7}$		0.706			Valid

All indicator loadings were greater than the threshold of 0.70, with values ranging from 0.706 to 0.888. The CR values ranged from 0.929 to 0.953, while the AVE values ranged from 0.651 to 0.709, all of which exceeded the required limits of 0.70 and 0.50, thereby validating both convergent validity and reliability. Table 5 illustrates the discriminant validity, as determined by the HTMT matrix.

4.2 Discriminant Validity

Table 5. Discriminant validity – HTMT matrix

Construct	Engagement Marketing (X)	Gaming Addiction (Z)	Purchase Decision (Y)
Engagement Marketing (X)			
Gaming Addiction (Z)	0.690		
Purchase Decision (Y)	0.899	0.758	

All HTMT ratios ranged from 0.690 to 0.899, remaining below the 0.90 threshold recommended by [Henseler et al. \(2015\)](#), confirming adequate discriminant validity (Table 5). The highest HTMT ratio of 0.899 between Engagement Marketing and Purchase Decision is theoretically justified, given their close relationship within the Roblox creator ecosystem.

4.3 Model Fit Indices

The overall fit and quality of the structural model were evaluated using specific fit criteria. Table 6 presents the model fit indices, recommended thresholds, and interpretations.

Table 6. Model fit indices

Index	Value	Recommended Threshold	Interpretation
SRMR	0.082	< 0.10	Acceptable Fit
NFI	0.839	> 0.80	Acceptable Fit

The model fit assessment showed an SRMR value of 0.082 and an NFI value of 0.839. According to [Hair, Hult, Ringle, Sarstedt, Danks, and Ray \(2021\)](#), SRMR values below 0.10 indicate an acceptable model fit in PLS-SEM, while NFI values above 0.80 suggest an acceptable level of model fit. Therefore, the proposed model demonstrated an acceptable fit to the observed data.

4.4 Structural Model and Hypotheses Testing

Table 7 presents the coefficient of determination (R^2) for each endogenous construct in the structural model. The results indicate that Gaming Addiction (Z) obtains an R^2 value of 0.442, categorized as moderate, meaning that the predictor variables explain 44.2% of its variance. Meanwhile, Purchase Decision (Y) obtains a higher R^2 value of 0.747, categorized as substantial, reflecting that 74.7% of its variance is explained by the model.

Table 7. Coefficient of determination (R^2)

Construct	R^2	Interpretation
Gaming Addiction (Z)	0.442	Moderate
Purchase Decision (Y)	0.747	Substantial

Table 8 presents the predictive relevance (Q^2) values derived from the blindfolding procedure to assess the model's out-of-sample predictive power. Both constructs yielded Q^2 values above zero, indicating that the model had adequate predictive relevance. Specifically, Gaming Addiction (Z) records a Q^2 value of 0.440, while Purchase Decision (Y) records a value of 0.691, suggesting that the structural model demonstrates medium to large predictive accuracy for both constructs.

Table 8. Predictive relevance (Q^2)

Construct	Q^2 Predict
Gaming Addiction (Z)	0.440
Purchase Decision (Y)	0.691

The R^2 for Gaming Addiction (Z) is 0.442, indicating that engagement marketing explains 44.2% of its variance (moderate). The R^2 for Purchase Decision (Y) was 0.747, indicating that engagement marketing and gaming addiction together explained 74.7% of its variance (substantial), reflecting

strong explanatory power ([Hair et al., 2021](#)). Q^2 values of 0.440 and 0.691 both exceed zero, confirming adequate predictive relevance for both the constructs. The structural model assessment was further evaluated by examining the direct relationships and testing the significance of the formulated hypotheses. Table 9 details the specific path coefficients, t-statistics, p-values, and empirical results for each hypothesis.

Table 9. Path coefficients and hypotheses testing results

Hypothesis	Path	β	T-Statistics	P-Value	Result
H_1	Engagement Marketing (X) → Purchase Decision (Y)	0.625	16.125	0.000	Supported
H_2	Engagement Marketing (X) → Gaming Addiction (Z)	0.665	24.175	0.000	Supported
H_3	Gaming Addiction (Z) → Purchase Decision (Y)	0.312	7.260	0.000	Supported

Note: β = standardized path coefficient; t-values and p-values were obtained using bootstrapping with 5,000 resamples.

As presented in Table 9, all three hypotheses are supported at $p < 0.001$, with T-statistics exceeding 1.96. Engagement marketing positively and significantly influenced purchase decisions ($\beta = 0.625$, H_1 supported) and gaming addiction ($\beta = 0.665$, H_2 supported). Gaming addiction also positively and significantly influenced purchase decisions ($\beta = 0.312$, H_3 supported). To thoroughly comprehend the inner mechanisms of the framework, a mediation analysis was conducted to examine indirect pathways. Table 10 summarizes the mediation analysis results, including the indirect effect, significance levels, and determined mediation type.

Table 10 confirms that gaming addiction significantly mediates the relationship between engagement marketing and purchase decisions, with an indirect effect of $\beta = 0.207$ ($T = 7.349$, $p < 0.001$). The coexistence of a significant direct effect ($\beta = 0.625$) and a significant indirect effect ($\beta = 0.207$) confirms partial mediation, meaning that engagement marketing influences purchase decisions both directly and through gaming addiction (H_4 supported).

Table 10. Mediation analysis – gaming addiction as mediator (H_4)

Indirect Path	Indirect Effect (β)	T-Statistics	P-Value	Mediation Type
Engagement Marketing (X) → Gaming Addiction (Z) → Purchase Decision (Y)	0.207	7.349	0.000	Partial Mediation

Note: Indirect effects were assessed using bootstrapping with 5,000 resample.

4.5 Discussion

The significant positive effect of engagement marketing on gaming addiction ($\beta = 0.665$, $p < 0.001$) confirms the first pathway of the SOR framework: engagement marketing stimuli (S) personalization, gamification, and social features function as persistent environmental cues that shape users' internal psychological states (O), manifesting as addictive behavioral patterns (R). The applicability of the SOR framework extends beyond gaming environments and has been demonstrated across various digital consumer behavior contexts, including sustainable consumption in the Indonesian market ([Ilmalhaq, Pradana, & Rubiyanti, 2024](#)), highlighting its versatility in explaining stimulus-driven behavioral responses in various contexts. Within this framework, Roblox's daily rewards, seasonal events, and avatar customization systems operate as salience and tolerance triggers consistent with [Griffiths \(2005\)](#) six-component addiction model. This finding aligns with [Gavriel-Fried, Serriy, Katz, Hidvégi, Demetrovics, and Király \(2023\)](#), who identified platform design features as primary IGD drivers among younger users, and [Apriyanto, Afifah, Purmono, Rosnani, and Juniwati \(2023\)](#), who confirmed that gaming addiction significantly drives impulse buying among Indonesian Generation Z gamers.

The significant direct effect of engagement marketing on purchase decisions ($\beta = 0.625$, $p < 0.001$) supports H_1 and is theoretically grounded in the TPB attitude dimension ([Ajzen, 1991](#)). Engagement marketing strengthens users' positive attitudes toward Robux purchasing through perceived value creation scarcity-based virtual items, seasonal pricing, and FOMO-driven content while simultaneously reducing perceived behavioral control barriers through Indonesia's widespread digital payment ecosystem (GoPay, OVO, and DANA) ([Punwatkar, & Vergheze, 2025](#); [Syahrivar, Chairy, Juwono, & Gyulavári, 2022](#)). This finding is further supported by digital marketing studies showing that marketing content and platform-based interactions significantly shape consumer purchase decisions through favorable perceptions and emotional responses ([Maulidia, 2026](#); [Parsaoran, & Wibasuri, 2025](#)). These mechanisms collectively explain the large effect size observed ($f^2 = 0.858$).

The significant effect of gaming addiction on purchase decisions ($\beta = 0.312$, $p < 0.001$) supports H_3 and reflects the organism-response pathway of the SOR framework. Within TPB, gaming addiction operates by converting rational purchase evaluation into emotionally compelled spending addicted users perceive virtual avatars and items as extensions of social identity and self-concept ([Gavriel-Fried et al., 2023](#)), generating repetitive Robux expenditure driven by subjective norms (peer status within Roblox communities) rather than rational attitude or perceived control alone. This is consistent with [Tham and Perreault \(2021\)](#), who found that addicted gamers spend 5.8 times more than casual users.

The partial mediation effect ($\beta = 0.207$, $p < 0.001$) confirms H_4 and reveals a dual-channel monetization process operating simultaneously within the Roblox ecosystem. The direct channel ($\beta = 0.625$) reflects rational-evaluative mechanisms perceived value, ease of payment, and social norms consistent with TPB's cognitive pathways. The indirect channel ($\beta = 0.207$) reflects emotional-behavioral dependency compulsive buying, status maintenance, and mood modification consistent with ([Griffiths, 2005](#)) addiction components and the organism state described in the SOR framework. The coexistence of both channels indicates that purchase decisions in UGC-based virtual economies cannot be fully explained by rational evaluation alone; affective and behavioral mechanisms triggered by immersive platform environments play an equally significant role ([Mkedder, Bakır, Aldhabyani, & Ozata, 2024](#)). This finding is particularly critical for ethical platform development, especially when marketing to Generation Z adolescents, where 16% of respondents were aged 14–17 years.

These findings collectively support the integration of the SOR framework and TPB as complementary theoretical lenses: SOR explains the stimulus-driven formation of addictive internal states, whereas TPB explains how these states translate into purchase decisions through attitude, subjective norms, and perceived behavioral control. Together, they provide a robust theoretical account of virtual currency purchase behavior in UGC-based creator economies.

4.6 Implications

Theoretical Implications. This study extends the SOR framework by demonstrating that gaming addiction functions as a behavioral mediator, not merely a cognitive one, between engagement marketing and purchase decisions in a UGC-based virtual economy. This finding enriches the theoretical understanding of digital consumer behavior by positioning addiction as a distinct internal organism state that bridges environmental stimuli and purchasing responses. Additionally, the study reinforces the Theory of Planned Behavior ([Ajzen, 1991](#)) in the context of virtual economies, showing that behavioral control variables are modulated by addiction. The integration of the SOR and TPB frameworks represents a theoretical contribution to the gaming marketing literature.

Practical Implications. For Roblox Corporation and similar UGC-based platforms, this study recommends balancing engagement marketing strategies with ethical considerations. Avatar customization, creator events, and multiplayer interactions can motivate purchase decisions through perceived value without necessarily amplifying addictive tendencies by emphasizing social creativity rather than compulsive reward loops. Platforms should implement monthly spending limits, pop-up reminders after extended play sessions, and parental control tools with purchase restriction features to mitigate addiction-driven purchases, particularly among minor users.

Ethical Implications. This study raises important ethical concerns regarding the exposure of minors to engagement marketing mechanisms designed to maximize platform retention and spending. With 16% of respondents aged 14–17 years, the findings suggest that engagement marketing strategies, including daily rewards, FOMO-driven seasonal events, and social status mechanics, may disproportionately affect adolescents whose impulse control and financial autonomy are still developing. Platforms have a responsibility to implement age-sensitive engagement designs, including differentiated reward systems for minor accounts, mandatory spending caps, real-time parental notifications for in-app purchases, and transparent disclosure of psychological design features embedded in engagement mechanics. For educators and parents, this study highlights the critical importance of digital literacy programs that equip young users and their guardians with an awareness of how platform engagement mechanisms may influence spending behavior. Regulatory bodies should consider extending digital consumer protection frameworks, similar to those enacted for loot box regulations in Belgium and the Netherlands, to UGC-based virtual economies, ensuring that monetization practices targeting Generation Z adhere to child protection standards.

Policy Implications. The Indonesian government should consider digital consumer protection policies for gaming platforms that use virtual currency mechanisms. Specifically, regulations similar to those enacted in China, such as mandatory age verification, daily spending caps for minors, and cooling-off periods between purchases, could mitigate addiction-driven purchases among Generation Z. Regulators may also require platforms to disclose the psychological design features of engagement mechanics and provide users with accessible spending dashboards and self-exclusion options. Collaboration between the Ministry of Communication and Digital Affairs (Komdigi) and platform operators is recommended to establish a national framework for responsible virtual economic governance.

5. Conclusions

5.1 Conclusion

This study examined the effect of engagement marketing on Robux purchase decisions, with gaming addiction as a mediator, using 350 Generation Z respondents from Bandung City. All four hypotheses were supported, confirming that engagement marketing positively influences both gaming addiction and purchase decisions, gaming addiction positively influences purchase decisions, and gaming addiction partially mediates the relationship between engagement marketing and purchase decisions. To our knowledge, this study is among the first to empirically position gaming addiction as a behavioral mediator between engagement marketing and purchase decisions within a Roblox-based UGC virtual economy, while simultaneously providing evidence from the Indonesian market, where high platform engagement has not yet translated into proportional monetization outcomes.

This study makes three theoretical contributions. First, this study establishes gaming addiction as a behavioral mediator within an integrated SOR–TPB framework in the context of a UGC-based creator economy, demonstrating that purchase decisions are shaped by both rational-evaluative and emotional-compulsive mechanisms simultaneously. Second, this study provides empirical evidence from Indonesia's emerging digital market, addressing the ARPU conversion gap identified by the Roblox Corporation and enriching the understanding of consumer behavior in virtual creator economies. Third, the findings inform both platform monetization strategies and ethical marketing governance, particularly regarding the protection of minor users exposed to engagement-driven spending mechanisms.

5.2 Research Limitations

This study utilized a cross-sectional approach, which prevents conclusions about causality over time and hinders the observation of changes in behavior. The participants were limited to those in Bandung City and included only individuals who actively purchased on Roblox, leaving out non-buying gamers and users from other cities in Indonesia. These constraints diminish the applicability of the results to larger populations. Subsequent studies should adopt longitudinal methodologies to determine causal relationships, broaden the geographic focus to include additional Indonesian cities or markets in Southeast Asia, and investigate other variables that could mediate or moderate the link between

engagement and addiction related to purchases in user-generated content gaming settings, such as digital literacy, parental oversight, or spending restrictions specific to platforms.

5.3 Suggestions and Directions for Future Research

Future studies should consider the following: extending their focus to other significant Indonesian urban areas (Jakarta, Surabaya, and Medan) or conducting comparisons across different nations, utilizing longitudinal methodologies to track changes in behavior over time as Roblox adds new features to its platform; incorporating other factors such as perceived value, Fear of Missing Out (FOMO), digital financial understanding, and parental regulation as possible precursors or influencing factors; and employing qualitative or mixed-method strategies to gain a deeper understanding of the experiences of Generation Z players in virtual creator economies.

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Author Contributions

NBS was responsible for creating the concept, conducting the literature review, gathering data, analyzing data, writing the draft, and making revisions. BP oversaw the process, provided guidance on the methodology, reviewed the manuscript, and granted final approval. All authors have reviewed and consented to the published version of the manuscript.

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