

Gamification, Hedonic Motivation, and Perceived Value on Impulse Buying among Generation Z GoFood Users

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Abstract

This study aims to analyze the effect of gamification on impulse buying through hedonic motivation and perceived value among Generation Z GoFood users in Pekanbaru. This issue is important to examine because a pre-survey of 30 Generation Z GoFood users in Pekanbaru showed that most respondents felt encouraged to make unplanned purchases after exposure to reward features and limited-time promotions, yet the underlying psychological mechanism remains underexplored in developing-city contexts. A quantitative approach was used, with data collected from 120 respondents through purposive sampling. The analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS 4, chosen for its suitability with a moderate sample size and its capacity to test mediating relationships simultaneously. The results show that gamification has a positive and significant effect on impulse buying, hedonic motivation, and perceived value. Hedonic motivation also has a positive and significant effect on impulse buying and successfully mediates the relationship between gamification and impulse buying. However, perceived value does not significantly affect impulse buying and fails to mediate the relationship. These findings indicate that emotional factors play a more important role than cognitive evaluation in driving impulse buying behavior, so future research is recommended to broaden the geographic scope and incorporate other emotional variables such as fear of missing out (FOMO) or customer engagement.

Keywords: Gamification, Hedonic Motivation, Perceived Value, Impulse Buying, Generation Z, GoFood



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INTRODUCTION

The development of digital technology over the past decade has fundamentally transformed consumption patterns among Indonesians, most notably through the rapid growth of online food delivery (OFD) services. Indonesia has become the largest OFD market in Southeast Asia, with an industry value reaching USD 4.5 billion in 2024 and a projected annual growth rate of 18–20% through 2028, driven by smartphone penetration reaching 89% of the productive-age population (Statista, 2024; APJII, 2023). Gojek, through its GoFood service, is one of the dominant players, holding a 38% national market share and more than 70% in tier-2 cities such as Pekanbaru, Riau, with its competitive advantage sustained by gamification strategies such as reward systems, points, and limited-time promotions designed to build sustained user engagement (Statista, 2024). Gamification is defined as the application of game-design elements in non-game contexts to positively influence user motivation, behavior, and engagement (Deterding et al., 2011), and has been shown to consistently increase user engagement across digital platforms, including in mobile-commerce studies that examine its effect on impulse buying through the Stimulus–Organism–Response (S-O-R) framework (Hamari et al., 2014; Xi & Hamari, 2020; Kexin, 2023). Within the S-O-R framework (Mehrabian & Russell, 1974), gamification functions as a stimulus that influences consumers' internal psychological state (organism), particularly hedonic motivation, the drive to consume for pleasure and positive emotional experience (Babin et al., 1994), and perceived value,

consumers' subjective evaluation of benefits relative to sacrifices (Zeithaml, 1988), which in turn drives the response of impulse buying, a spontaneous and unplanned purchasing behavior (Rook, 1987). On e-commerce platforms such as Shopee, gamification has been shown to significantly affect impulse buying among Generation Z, contributing up to 47.6% (Tarmidi & Setiawan, 2022), while cross-platform studies show that gamification also increases hedonic motivation and perceived value (Koivisto & Hamari, 2019).

Although research on gamification and impulse buying is fairly extensive, most studies remain focused on general e-commerce contexts and large metropolitan cities, and tend to test the relationship between gamification and impulse buying directly without tracing the underlying psychological mechanisms (Febriandika, 2024; Dwipradhana, 2024). Research that integrates both hedonic motivation and perceived value as mediating variables in the context of food-delivery services, particularly among Generation Z in developing cities such as Pekanbaru, remains very limited—a research gap that forms the basis of this study's originality. This gap is reinforced by a pre-survey of 30 Generation Z GoFood users in Pekanbaru, which found that 77% of respondents were interested in using GoFood because of limited-time promotions, more than 60% felt enjoyment (hedonic motivation) while using the app, 80% considered that promotions made the price feel worth the benefit received (perceived value), and 70% admitted to having made spontaneous, unplanned food purchases (impulse buying). This condition indicates that gamification has the potential to influence all three variables simultaneously, making this study important and worth further investigation. Based on the above, this study aims to analyze the effect of gamification on impulse buying, both directly and indirectly through hedonic motivation and perceived value, among Generation Z GoFood users in Pekanbaru. Specifically, this study examines the effect of gamification on hedonic motivation and perceived value, the effect of hedonic motivation and perceived value on impulse buying, and the mediating role of hedonic motivation and perceived value in the relationship between gamification and impulse buying.

Relevant Previous Research

Table 1. Relevant Previous Research

No	Author/Year	Title	Objective	Method	Result	Contribution and Relevance
1	Tarmidi & Setiawan (2022)	The Effect of Gamification and Price Discounts on Impulsive Buying	Examines the effect of gamification and price discounts on impulse buying on Shopee	SEM-PLS (descriptive survey)	Gamification and discounts have a significant 47.6% effect on Gen Z impulse buying	Reinforces the empirical basis for the direct effect of gamification on impulse buying, re-tested in the GoFood context
2	Koivisto & Hamari (2019)	The Rise of Motivational Information Systems	Reviews the effect of gamification on user motivation and value across digital platforms	Cross-platform meta-analysis	Gamification increases users' hedonic motivation and perceived value	Underlies the hypothesized effect of gamification on hedonic motivation and perceived value in this study
3	Zhang, Xu, Zhao, & Yu (2021)	Online Reviews and Impulse Buying Behavior	Analyzes the role of browsing and impulsiveness in online impulse buying	Quantitative survey	Browsing behavior and impulsiveness significantly affect impulse buying	Reinforces the argument that digital stimuli drive impulsive responses, relevant to this

						study's S-O-R framework
4	Febriandika (2024)	Impulse Buying Tendency in Online Food Delivery Service	Examines impulse buying tendencies among OFD users	Quantitative regression	Impulse buying tendency is high in OFD, but gamification elements remain underexplored	Forms the basis of the research gap addressed here through the integration of the gamification variable
5	Rachbini (2024)	Factors Impacting Consumer Persuasion in Online Food Delivery	Identifies hedonic/utilitarian browsing and social-influence factors in OFD consumer persuasion	SEM (purposive sampling)	Hedonic browsing significantly affects consumer persuasion in Indonesian OFD	Supports the relevance of hedonic motivation as a psychological mechanism in the Indonesian OFD context

Source: Compiled from the Researcher's Literature Review, 2026

RESEARCH METHOD

This study uses a quantitative, associative-causal research design to examine the effect of gamification on impulse buying through hedonic motivation and perceived value. The research model tested is depicted in Figure 1, with Gamification (X) as the exogenous variable, Hedonic Motivation (M1) and Perceived Value (M2) as mediating variables, and Impulse Buying (Y) as the endogenous variable.

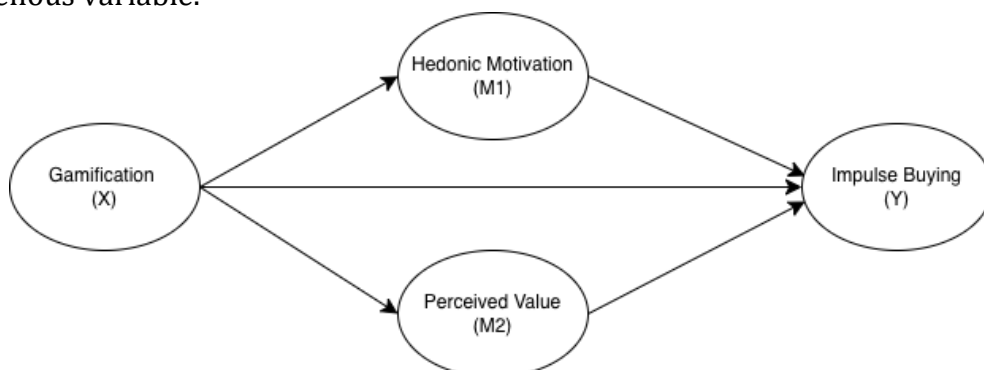


Figure 1. Research Model

Source: Xi & Hamari (2020); Akram et al. (2021); Prentice et al. (2023)

The study was conducted in the city of Pekanbaru, Riau, over a period of approximately three months covering data collection and data processing. The population is Generation Z GoFood users, whose exact number is unknown and is therefore treated as an infinite population. The sample was determined using a purposive sampling technique with the following criteria: at least 17 years old (born between 1997–2009), had used GoFood within the last three months, had used gamification features such as points, rewards, or experience-based promotions, and had experienced hedonic motivation, evaluated perceived value, and made a spontaneous purchase on the app. The sample size follows the ten-times rule based on the construct with the most indicators—Gamification, with six indicators—yielding a minimum required sample of 60 respondents (Hair et al., 2019). This study targeted 100–120 respondents to improve the stability of parameter estimation, and successfully collected 120 respondents who met all the criteria.

Primary data were collected through a closed-ended questionnaire using a five-point Likert scale (1 = strongly disagree to 5 = strongly agree), supported by secondary data from official reports, journals, and related publications. Four variables were measured in this study:

Gamification (X), the application of reward elements and limited-time promotions on GoFood, measured with six indicators (Deterding et al., 2011; Hamari et al., 2014); Hedonic Motivation (M1), the drive to seek pleasure and positive emotional experience when using the app, measured with four indicators (Babin et al., 1994); Perceived Value (M2), the subjective evaluation of benefits relative to sacrifices, measured with four indicators (Zeithaml, 1988); and Impulse Buying (Y), spontaneous, unplanned purchasing behavior, measured with four indicators (Rook, 1987).

Data were analyzed in two stages. First, descriptive statistics were used to map respondents' response tendencies into five interval classes, ranging from 1.00–1.79 (very low) to 4.20–5.00 (very high) (Sugiyono, 2023). Second, inferential analysis was conducted using Structural Equation Modeling–Partial Least Square (SEM-PLS) with SmartPLS version 4, chosen because it does not require normally distributed data and is well suited to models with mediating variables and a moderate sample size (Hair et al., 2019; Wong, 2013). Evaluation of the measurement model (outer model) covered convergent validity (outer loading ≥ 0.70 and Average Variance Extracted/AVE ≥ 0.50), discriminant validity (the Fornell-Larcker criterion and cross loading), and construct reliability through composite reliability and Cronbach's alpha ≥ 0.70 (Fornell & Larcker, 1981; Hair et al., 2019; Sholihin & Ratmono, 2021; Prasetyo & Miftahul Jannah, 2019). Evaluation of the structural model (inner model) covered the R-Square value, effect size (f^2) (Cohen, 1988), model fit through the Standardized Root Mean Square Residual/SRMR and Normed Fit Index/NFI (Henseler et al., 2015; Lohmöller, 1989), and hypothesis testing through a bootstrapping procedure with 5,000 subsamples, with a hypothesis accepted if the t-statistic > 1.96 and p-value < 0.05 (Hair et al., 2019).

RESULTS AND DISCUSSION

Results

Respondents in this study totaled 120 individuals residing in Pekanbaru, belonging to Generation Z aged 17–29 years, who had used GoFood's reward features and limited-time promotions within the past three months. Respondent characteristics are presented in Table 2.

Table 2. Respondent Characteristics

Characteristic	Category	Frequency	Percentage
Gender	Male	31	25.8%
	Female	89	74.2%
Age	17–20 years	44	36.7%
	21–25 years	68	56.7%
	26–29 years	8	6.7%
Employment Status	Student	91	75.8%
	Private Employee	9	7.5%
	Other	17	14.2%
	Civil Servant	2	1.7%
Monthly Income	Entrepreneur	1	0.8%
	< IDR 2,500,000	91	75.8%
	IDR 2,500,000 – 5,000,000	20	16.7%
	IDR 5,000,000 – 7,500,000	7	5.8%
	> IDR 7,500,000	2	1.7%

Source: Data Processed by the Researcher, 2026

The majority of respondents were female (74.2%), aged 21–25 years (56.7%), students (75.8%), and had a monthly income below IDR 2,500,000 (75.8%). The dominance of students with limited income indicates that respondents belong to a segment that is sensitive to price and promotions, making them susceptible to the influence of gamification, as they have flexible

free time to engage with reward features and digital promotions (Hidayat & Nugroho, 2021). Descriptive analysis of the four research variables using a 1–5 interval scale (Sugiyono, 2023) shows that all variables fall into the “Good” category, as presented in Table 3.

Table 3. Descriptive Statistics of Research Variables

Variable	Mean Score	Category	Item with the Highest Score
Gamification	4.12	Good	Rewards encourage purchases & are perceived as helpful (4.18)
Hedonic Motivation	3.95	Good	Enthusiasm when viewing GoFood promotions/rewards (4.17)
Perceived Value	4.12	Good	Benefits gained from GoFood promotions (4.17)
Impulse Buying	3.96	Good	Unplanned food purchases (4.05)

Source: Data Processed by the Researcher, 2026

The highest scores, on Gamification and Perceived Value (4.12), indicate that GoFood's reward system and promotions are perceived by respondents as offering commensurate benefits, while the relatively lower Hedonic Motivation score (3.95), particularly on the item concerning the use of GoFood as entertainment (3.52), suggests that the app is still predominantly perceived as a transactional platform rather than a recreational one (Arnold & Reynolds, 2003). Evaluation of the measurement model (outer model) shows that all indicators satisfy the convergent validity criteria, with outer loading values ranging from 0.722–0.926 (≥ 0.70) and AVE values ranging from 0.619–0.796 (≥ 0.50). Discriminant validity is also satisfied based on the Fornell-Larcker criterion, where the square root of the AVE for each construct (0.787–0.892) exceeds its correlation with other constructs, and is confirmed through cross loading, where every indicator loads highest on its own construct (Fornell & Larcker, 1981). Construct reliability is also satisfied, with composite reliability of 0.879–0.940 and Cronbach's alpha of 0.815–0.914 (≥ 0.70), as summarized in Table 4.

Table 4. Validity and Reliability Test Results

Variable	Outer Loading	AVE	Composite Reliability	Cronbach's Alpha	Description
Gamification	0.765–0.804	0.619	0.907	0.877	Valid & Reliable
Hedonic Motivation	0.722–0.850	0.645	0.879	0.815	Valid & Reliable
Perceived Value	0.855–0.926	0.796	0.940	0.914	Valid & Reliable
Impulse Buying	0.798–0.872	0.710	0.907	0.863	Valid & Reliable

Source: Data Processed by the Researcher, 2026

Evaluation of the structural model (inner model) shows R^2 values of 0.489 for Hedonic Motivation, 0.538 for Perceived Value, and 0.467 for Impulse Buying, all of which fall into the moderate category (Hair et al., 2019). The effect size (f^2) shows that the effect of Gamification on Hedonic Motivation (0.959) and Perceived Value (1.082) is large, the effect of Hedonic Motivation on Impulse Buying is moderate (0.150), while the direct effect of Gamification (0.047) and Perceived Value (0.001) on Impulse Buying is small to negligible (Cohen, 1988). The model fit test shows an SRMR value for the saturated model of 0.079 (< 0.10 , indicating good fit), while the NFI value of 0.764 has not reached the ideal threshold of ≥ 0.90 (Lohmöller, 1989); this is nonetheless acceptable in PLS-SEM, which emphasizes predictive power over overall model fit (Henseler et al., 2015). Hypothesis testing was conducted through a bootstrapping procedure with 5,000 subsamples, as visualized in Figure 2, with the results summarized in Table 5.

Table 5. Summary of Hypothesis Testing Results

H	Path	β	T-Statistics	P-Values	Description
H1	Gamification → Impulse Buying	0.231	2.255	0.024	Accepted
H2	Gamification → Hedonic Motivation	0.700	13.745	0.000	Accepted
H3	Gamification → Perceived Value	0.733	16.079	0.000	Accepted
H4	Hedonic Motivation → Impulse Buying	0.451	3.744	0.000	Accepted
H5	Perceived Value → Impulse Buying	0.060	0.465	0.642	Rejected
H6	Gamification → Hedonic Motivation → Impulse Buying	0.315	3.751	0.000	Accepted (partial mediation)
H7	Gamification → Perceived Value → Impulse Buying	0.044	0.460	0.645	Rejected

Source: Data Processed by the Researcher, 2026

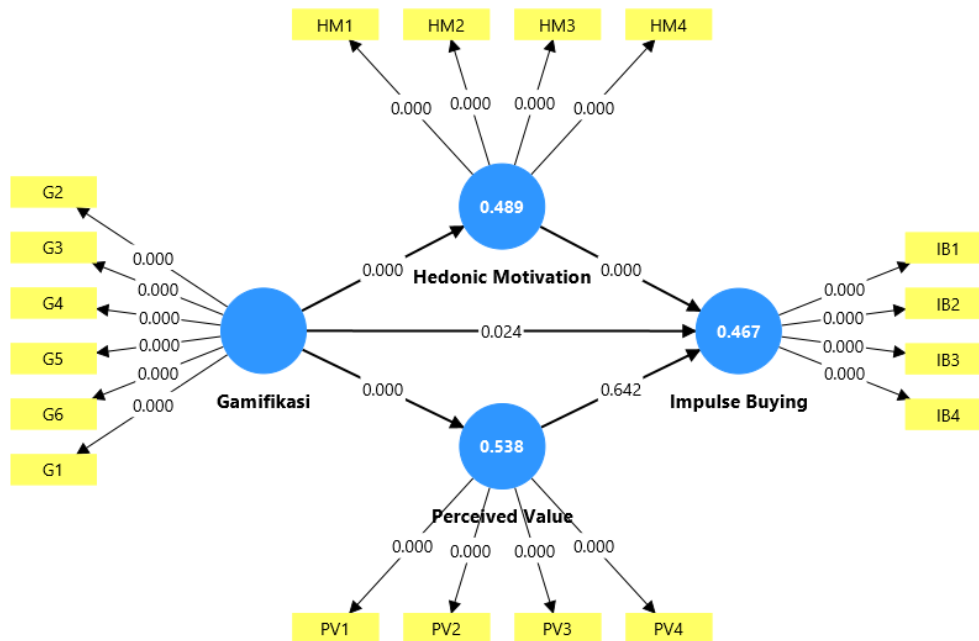


Figure 2. Structural Model Testing Results (Bootstrapping)

Source: SmartPLS 4 Output, Data Processed by the Researcher, 2026

Discussion

Of the seven hypotheses tested, five were accepted and two were rejected, offering a rich picture of the psychological mechanisms underlying impulse buying on a gamified food-delivery platform, particularly among Generation Z. Gamification is shown to have a positive and significant effect, both directly on impulse buying (H1: $\beta = 0.231$) and on hedonic motivation (H2: $\beta = 0.700$) and perceived value (H3: $\beta = 0.733$). The H1 finding is consistent with the Stimulus–Organism–Response framework (Mehrabian & Russell, 1974), in which gamification elements such as promotion countdowns and expiring-reward notifications function as situational stimuli that drive purchase decisions without extensive cognitive processing, consistent with the principles of scarcity and urgency in the theory of social influence (Cialdini, 2009). The strong effect of gamification on hedonic motivation (H2) aligns with Self-Determination Theory (Deci & Ryan, 2000), in which features such as level systems and daily challenges satisfy the basic psychological needs for competence and achievement—an experience that feels natural to Generation Z, who grew up alongside digital technology and games (Prensky, 2001). Meanwhile, the effect of gamification on perceived value (H3) can be explained through the concept of value co-creation (Grönroos & Voima, 2013), in which users who actively collect points and redeem rewards are no longer passive consumers but active participants in value creation, consistent with findings that gamification in mobile shopping

apps increases perceived value through simultaneous increases in perceived enjoyment and usefulness (Aw et al., 2021).

Hedonic motivation proves to be the strongest predictor of impulse buying (H4: $\beta = 0.451$), higher than any other direct path in the model, confirming that the emotional aspect of the digital shopping experience plays a far more dominant role than cognitive considerations. In contrast, perceived value is not found to significantly affect impulse buying (H5 rejected). This finding can be understood because impulse buying is, by definition, an affective and spontaneous behavior rather than a planned, cognitive one (Rook, 1987; Beatty & Ferrell, 1998), so the deliberative process of value evaluation tends instead to activate self-regulatory mechanisms that suppress impulsive urges. Generation Z's experience-oriented character (Francis & Hoefel, 2018) reinforces this pattern, in which perceived value appears to function more as a hygiene factor, a basic prerequisite that does not by itself create a purchasing urge. Hedonic motivation is found to partially mediate the effect of gamification on impulse buying (H6 accepted), with an indirect effect (0.315) even larger than gamification's direct effect on impulse buying. This finding indicates that gamification operates through two psychological pathways at once: a situational pathway that directly triggers a behavioral response, and a richer affective pathway through hedonic motivation, consistent with the view that gamification also works through motivational mechanisms within a Self-Determination Theory framework to drive continued use of gamified applications (Xu et al., 2022). In contrast, perceived value is not found to mediate the effect of gamification on impulse buying (H7 rejected), consistent with the rejection of H5, since, by the logic of mediation, an indirect path cannot be significant if one of its components is not significant (Hair et al., 2019; Zhao et al., 2010).

Overall, these findings enrich prior research. Tarmidi and Setiawan's (2022) study on Shopee found that gamification affects Generation Z impulse buying by as much as 47.6%, whereas this study in the GoFood-Pekanbaru context confirms that this effect operates both directly and through hedonic motivation. The pattern in which hedonic motivation dominates over perceived value is also consistent with the argument that in food-delivery services, impulsive decisions are more often triggered by affective and visual stimuli than by economic calculation (Yeo et al., 2022), which further reinforces the relevance of consumer behavior theory emphasizing the role of internal factors, such as emotion and motivation, in shaping consumer responses to digital marketing stimuli (Schiffman & Wisenblit, 2019). The practical implication of this finding is that GoFood needs to maintain and strengthen time-based urgency elements while continuing to develop an enjoyable and interactive experience, whereas marketing communication that emphasizes "economic value" alone appears less effective at driving impulse buying compared with an approach that highlights enjoyment and emotional experience.

CONCLUSION

This study concludes that gamification plays an important role in driving impulse buying among Generation Z GoFood users in Pekanbaru, both directly and through hedonic motivation as a partial mediator, while perceived value is not found to significantly affect impulse buying or to mediate this relationship. This finding indicates that emotional factors play a far more dominant role than cognitive evaluation in driving impulse buying behavior on a gamified food-delivery platform, a novel contribution that enriches understanding of gamification's dual mechanism—a situational pathway that operates directly and an affective pathway that operates through hedonic motivation—within a developing-city context that has so far received little attention in the digital consumer literature.

This study has several limitations worth noting. Its scope, limited to Generation Z GoFood users in Pekanbaru, restricts the generalizability of the findings to broader populations or geographic regions, while the variables tested were limited to gamification, hedonic motivation, perceived value, and impulse buying, leaving other potentially relevant factors, such as fear of missing out, customer engagement, shopping lifestyle, or emotional satisfaction, unexplored. Future research is therefore recommended to broaden the respondent scope to multiple cities or regions in Indonesia and to incorporate these additional variables to obtain a more comprehensive picture of digital consumer behavior dynamics. The author would like to thank the Faculty of Economics and Business, Universitas Riau, the thesis advisors, and all Generation Z GoFood users in Pekanbaru who participated in this study.

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