

Sustainable Brand Engagement: Bridging Gamification and Dual-Dimensional Loyalty in Coffee Shops

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Abstract

This study examines the impact of gamification on customer loyalty through sustainable brand engagement in Indonesia's coffee shop industry. Despite rapid industry growth, customer loyalty remains relatively low, prompting an investigation into how gamification elements influence sustainable brand engagement and both transactional and non-transactional loyalty dimensions. Employing a quantitative approach, data were collected from 350 respondents who are customers of local coffee shops across Indonesia's five main islands. Partial Least Squares analysis was utilized to test inter-variable relationships. Results demonstrate that gamification significantly influences sustainable brand engagement, which subsequently exhibits strong effects on both loyalty dimensions. Notably, gamification shows no direct significant impact on loyalty, indicating full mediation through sustainable brand engagement. This study contributes theoretically by developing an integrative model that analyzes gamification's influence on two distinct loyalty dimensions within Indonesia's socio-cultural context. Findings imply the importance of designing gamification elements that build emotional connections and brand communities, rather than focusing solely on transactional aspects.

Keterlibatan Merek Berkelanjutan: Menjembatani Gamifikasi dan Loyalitas Dua Dimensi di Kedai Kopi

Abstrak

Penelitian ini mengkaji dampak gamification terhadap loyalitas pelanggan melalui sustainable brand engagement di industri kedai kopi Indonesia. Pada pertumbuhan industri yang pesat namun tingkat loyalitas pelanggan yang relatif rendah, penelitian ini menginvestigasi bagaimana elemen gamification mempengaruhi sustainable brand engagement serta loyalitas transaksional dan non-transaksional. Menggunakan pendekatan kuantitatif, data dikumpulkan dari 350 responden pelanggan kedai kopi lokal di lima pulau utama Indonesia. Analisis Partial Least Square digunakan untuk menguji hubungan antar variabel. Hasil penelitian menunjukkan bahwa gamification berpengaruh signifikan terhadap sustainable brand engagement, yang selanjutnya berdampak kuat pada kedua dimensi loyalitas pelanggan. Gamification tidak menunjukkan pengaruh langsung terhadap loyalitas, mengindikasikan mediasi penuh melalui sustainable brand engagement. Penelitian ini berkontribusi teoretis dengan mengembangkan model integratif yang menganalisis pengaruh gamification terhadap dua dimensi loyalitas berbeda dalam konteks sosio-kultural Indonesia. Temuan mengimplikasikan pentingnya perancangan elemen gamification yang membangun koneksi emosional dan komunitas merek, bukan hanya fokus pada aspek transaksional.

JEL Classification: D12, M31, Z13

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INTRODUCTION

The coffee industry in Indonesia has demonstrated significant development, marked by the exponential growth in the number of coffee shops in recent years. Data from Toffin Indonesia (2020) recorded a dramatic increase from approximately 1,000 outlets in 2016 to more than 3,000 outlets in 2020, reflecting a 200% growth within four years. This phenomenon is supported by the rise in national coffee consumption and shifting consumer preferences, where 53% of coffee consumers now prefer enjoying coffee in shops rather than brewing it at home (Toffin, 2020). However, amid these encouraging growth prospects, the coffee shop industry faces challenges in the form of intensified competition and a relatively high consumer switching behaviour rate. In this increasingly competitive landscape, building and maintaining customer loyalty becomes a crucial determinant for the sustainability of coffee shop businesses. According to a survey by Toffin Indonesia (2020), the level of customer loyalty to local coffee shops in Indonesia is still relatively low, at only about 30%. This phenomenon indicates that although many consumers are interested in trying local coffee shops, they have not yet engaged emotionally with the brand in the long term. This condition drives the urgency of developing mechanisms that can enhance customer engagement sustainably. The paradox between rapid industry growth and low customer loyalty suggests that traditional marketing approaches may be insufficient in fostering the dual-dimensional loyalty construct encompassing both transactional behaviors (repeat purchases, premium willingness) and non-transactional behaviors (advocacy, tolerance) that is essential for sustainable competitive advantage in this dynamic market environment.

Responding to these challenges, one innovative approach gaining attention in

the coffee shop industry is the implementation of gamification as a form of marketing brand innovation. Gamification refers to the application of game design elements in non-game contexts to encourage engagement and desired customer behaviors (Deterding et al., 2011). In the coffee shop context, gamification can be implemented through various mechanisms such as reward point systems, membership levels, daily missions, and referral programs integrated into loyalty applications (Eisingerich et al., 2019). The implementation of gamification through elements such as rewards, sense of control, badges, and prompts can stimulate deeper engagement with coffee shop brands (Hofacker et al., 2016). Consistent with these findings, Xi & Hamari (2020) found that gamification features related to achievement and social interaction are positively associated with brand engagement, which can subsequently increase loyalty. Meanwhile, a study conducted by Högberg et al. (2019) revealed that gamification experiences can influence the hedonic value of an activity, which in turn strengthens continuous engagement intentions and brand engagement. From a theoretical perspective, these gamification mechanisms align with sustainable brand engagement theory, which posits that stable, long-term consumer-brand relationships require consistent interaction patterns that transcend purely transactional exchanges (Fernandes & Moreira, 2019), suggesting that gamified experiences may serve as catalysts for transforming sporadic customer interactions into sustained engagement behaviors.

As concrete evidence of this concept's implementation, in Indonesia, three leading local coffee shops—Kopi Kenangan, Fore Coffee, and Janji Jiwa—have implemented gamification strategies as their competitive differentiation. Kopi Kenangan, which has recorded expansive growth with more than 850 outlets across

64 cities, implements the Kenangan Rewards system that offers points for each transaction and tiered membership levels (Silver, Gold, Black) with increasing benefits at each level. Similarly, Fore Coffee applies a similar approach through the Fore Coffee Rewards application, which integrates daily streak features and bonus missions to encourage visit frequency. Meanwhile, Janji Jiwa adopts the Jiwa+ system that combines rewards points with social elements, allowing users to share achievements on social media to earn bonus points (Kopi Kenangan, 2024; Fore Coffee, 2024; Janji Jiwa, 2024). These real-world implementations provide natural experimental contexts for examining how different gamification designs may differentially influence the formation of sustainable brand engagement and its subsequent effects on dual-dimensional loyalty, with each brand's approach representing distinct theoretical pathways from gamification elements to loyalty outcomes.

In a broader strategic context, gamification in Indonesian coffee shops has the potential to become a catalyst for sustainable brand engagement—a strong and stable long-term relationship between consumers and the brand, where consumers consistently engage with and support the brand in various interactions and activities (Fernandes & Moreira, 2019; Gómez et al., 2019). This sustainable engagement can manifest in both transactional and non-transactional loyalty behaviors. Transactional loyalty refers to repeat purchasing behavior based on direct exchange of benefits between customers and companies (Sirohi et al., 1998). In the coffee shop context, transactional loyalty can be observed from high visit frequency, priority choice for certain brands, and willingness to pay premium prices (Cooil et al., 2007; Dwivedi, 2015). On the other hand, non-transactional loyalty involves supportive behaviors that transcend economic aspects, such as brand advocacy, constructive

feedback, helping behaviors, and tolerance towards brand shortcomings (Chuah et al., 2020). The theoretical distinction between these loyalty dimensions is crucial because it suggests that gamification may operate through different mechanisms to influence each type, with sustainable brand engagement potentially serving as the common mediating pathway that transforms gamified interactions into both economic (transactional) and social-emotional (non-transactional) loyalty manifestations.

Based on a comprehensive analysis of existing literature, the novelty of this research lies in three main aspects. First, this research develops an integrative model that simultaneously analyzes the influence of gamification on two different loyalty dimensions (transactional and non-transactional), considering the mediating role of sustainable brand engagement. This multidimensional approach offers a more comprehensive perspective compared to previous research that tends to treat loyalty as a unidimensional construct. This theoretical advancement is particularly significant because it addresses a fundamental limitation in existing gamification literature, where loyalty outcomes are often conceptualized in purely behavioral terms without distinguishing between economically-driven and emotionally-driven customer responses (Zichermann & Cunningham, 2011; Xi & Hamari, 2020), thereby providing a more nuanced understanding of how game design elements may trigger different psychological pathways to loyalty formation (Eisingerich & Rubera, 2010). Unlike previous studies, such as Chuah et al. (2020), who only focused on transactional loyalty in the airline industry, or Jung (2008), who explored loyalty in the fashion context without considering non-transactional dimensions, this research explicitly differentiates and analyzes both loyalty dimensions simultaneously. Meanwhile, studies such as Eisingerich et al. (2019) and Whittaker et al. (2021) that explored gami-

fication only focused on engagement without investigating how this affects various loyalty dimensions. Second, this research explores the cultural contextualization of gamification implementation in the Indonesian coffee shop setting, revealing how specific socio-cultural factors moderate the effectiveness of gamification strategies in building engagement and loyalty. This contribution is significant because most previous gamification research was conducted in developed countries with different cultural characteristics. For instance, research by Leckie et al. (2018) in Australia explored brand engagement phenomena without considering specific local cultural nuances. Furthermore, research by Ahmad et al. (2018) in Malaysia, despite being conducted in Asia, did not specifically analyze how socio-cultural contexts influence gamification strategy effectiveness. Third, this research investigates the dynamics of relationships between gamification, engagement, and loyalty across three leading local coffee shop brands in Indonesia (Kopi Kenangan, Fore Coffee, and Janji Jiwa), providing a comparative analysis that has not been previously conducted in the context of Indonesia's F&B industry. The uniqueness of this approach lies in its focus on local coffee shop brands that have different characteristics from global coffee chains that typically serve as previous research objects. For example, Thomas (2023) in India explored customer engagement in general restaurant contexts, but was not specific to coffee shops, and did not conduct a comparative analysis among local brands. Similarly, Yen et al. (2020) explored the F&B industry in Taiwan broadly without focusing on the coffee shop segment that has unique consumer behavior dynamics.

Although previous research has explored the impact of gamification on customer engagement in various contexts, there remains a limited understanding of the mechanisms connecting gamification

on with loyalty dimensions, particularly in the context of Indonesia's coffee shop industry. Additionally, the mediating role of sustainable brand engagement in the relationship between gamification and transactional and non-transactional loyalty has not been comprehensively explored. This research aims to fill these gaps by analyzing the influence of gamification on sustainable brand engagement and its implications for transactional and non-transactional loyalty among local coffee shop customers in Indonesia. Specifically, this research proposes seven hypotheses testing the direct relationships between gamification, sustainable brand engagement, and both loyalty dimensions, as well as the mediating effect of sustainable brand engagement in the relationship between gamification and these loyalty dimensions. The results of this research are expected to provide theoretical contributions in enriching understanding about the dynamics of gamification as a marketing brand innovation in the context of the coffee shop industry, as well as practical contributions for marketing managers in designing effective gamification strategies to build sustainable customer engagement and loyalty.

Hypothesis Development

Gamification as a marketing innovation strategy holds significant potential in building sustainable brand engagement. Deterding et al. (2011) define gamification as the use of game design elements in non-game contexts, which in this research is applied to the coffee shop industry. Through mechanisms such as reward systems, sense of control, badges, and prompts, gamification creates interactive experiences that stimulate consumers' cognitive, emotional, and behavioral engagement (Hofacker et al., 2016). These gamification elements trigger both intrinsic and extrinsic motivations that encourage consumers to interact with the brand sustainably. Research by Högberg et al.

(2019) found that gamification, through continuous engagement intentions, is positively related to brand engagement. When consumers feel stimulated by game-based activities, they tend to develop deeper and more sustainable engagement with the brand. In the context of Indonesian coffee shops, the implementation of gamification through loyalty applications has the potential to create an "engagement ecosystem" that combines the physical experience of enjoying coffee with consistent digital interactions, thereby strengthening sustainable brand engagement. Based on these findings, the following hypotheses are formulated:

H1: Gamification influences Sustainable Brand Engagement.

The direct relationship between gamification and transactional loyalty has a strong theoretical foundation. Gamification with reward mechanisms and measurable point systems creates stimuli for consumers to make repeat purchases as an effort to collect offered incentives (Zichermann & Cunningham, 2011). Transactional loyalty, defined as the direct exchange of benefits between customers and companies (Sirohi et al., 1998), can be manifested through purchase frequency, choice priority, and willingness to pay premium prices. Gamification elements such as reward point systems, membership levels, and daily missions create utilitarian value that motivates consumers to transact with the same brand consistently. Xi & Hamari (2019) found a positive correlation between gamification features and brand loyalty. In the context of Indonesian coffee shops, the implementation of gamification can encourage consistent transaction patterns through the creation of engagement cycles where consumers are motivated to achieve certain targets (such as higher membership levels or minimum point accumulation) that require sustained transaction frequen-

cy. Based on these findings, the following hypotheses are formulated:

H2: Gamification influences Transactional Loyalty.

Gamification not only drives transactional behavior but also has the potential to foster non-transactional loyalty that transcends the economic aspects of the consumer-brand relationship. Non-transactional loyalty encompasses supportive behaviors such as brand advocacy, constructive feedback, helping behaviors, and tolerance towards brand shortcomings (Chuah et al., 2020). Social mechanisms in gamification, such as shareable badges or community leaderboards, create platforms for consumers to publicly demonstrate their affiliation with the brand, thereby encouraging advocacy behavior. Research by Habachi et al. (2024) shows that game-based experiences influence behavioral intentions that go beyond economic transactions. Gamification elements designed to encourage community involvement, such as group challenges or social missions, can cultivate a sense of collective identification with the brand, which in turn drives non-transactional loyalty behaviors. In the context of Indonesian coffee shops, where the social dimension of coffee consumption is very prominent, gamification that integrates communal aspects has the potential to strengthen non-transactional loyalty manifested in active advocacy and emotional identification with the brand. Based on these findings, the following hypotheses are formulated:

H3: Gamification influences Non-Transactional Loyalty.

Sustainable brand engagement plays a fundamental role in the formation of transactional loyalty. When consumers are sustainably engaged with a brand, they develop strong cognitive and affective bonds, which in turn drive repeat purchase beha-

behavior (Fernandes & Moreira, 2019). Sustainable brand engagement creates familiarity and habits that reduce the complexity of purchase decisions, making consumers likely to return to the same brand for a consistent experience. Research by Hollebeek et al. (2014) confirms that deep customer engagement increases purchase frequency and willingness to pay premium prices. In the context of Indonesian coffee shops, sustainable engagement allows consumers to develop specific taste preferences and experiences that are difficult for competitors to substitute. This phenomenon is reinforced by the ritualistic aspect of coffee consumption, where regularity and repetition become important elements of the experience. Sustainable brand engagement also builds a reservoir of trust and satisfaction that serves as the foundation for long-term transactional loyalty, as confirmed by Haryanto et al. (2016), who found that emotional engagement with a brand significantly predicts repeat purchase behavior. Based on these findings, the following hypotheses are formulated:

H4: Sustainable Brand Engagement influences Transactional Loyalty.

Sustainable brand engagement has significant implications for the formation of non-transactional loyalty that reflects the emotional and social dimensions of the consumer-brand relationship. Sustainable engagement with a brand creates deep psychological connections that motivate consumers to act as brand advocates without direct economic incentives (Gómez et al., 2019). In this condition, consumers integrate the brand into their social self-concept, thus becoming motivated to defend and promote the brand as an expression of identity. Research by Vivek et al. (2012) confirms that consumers with high brand engagement tend to become active supporters who amplify brand value through recommendations and positive communication. Non-transactional

loyalty also involves a higher tolerance for brand deficiencies or mistakes, as sustainable engagement creates a more holistic understanding of brand identity and values. Chuah et al. (2020) confirm that deep emotional engagement strengthens consumers' willingness to help the brand through constructive feedback and spontaneous advocacy. In the context of Indonesian coffee shops with strong social dimensions, sustainable brand engagement has the potential to generate supporting communities that not only consume products but also actively build positive narratives about the brand across various platforms. Based on these findings, the following hypotheses are formulated:

H5: Sustainable Brand Engagement influences Non-Transactional Loyalty.

The relationship between gamification and transactional loyalty can be understood more comprehensively through the mediating mechanism of sustainable brand engagement. Gamification with elements such as rewards, sense of control, badges, and prompts does not directly generate sustainable transactional loyalty, but first builds deep and consistent brand engagement (Eisingerich et al., 2019). This sustainable engagement then transforms into repeat purchase patterns and consistent preferences for a particular brand. Research by Xi & Hamari (2020) confirms that brand engagement mediates the relationship between gamification features and loyalty, with a mediating effect stronger than the direct effect. This mediation mechanism can be explained through reciprocity theory, where gamification creates positive experiences that trigger sustainable engagement with the brand, which in turn builds a sense of obligation to reciprocate through consistent transactions. In the context of Indonesian coffee shops, the mediating role of sustainable brand engagement becomes increasingly significant given market characteristics

that tend to prioritize long-term relationships and emotional bonds as precursors to economic behavior. This mediation mechanism also affirms that gamification strategies that solely focus on transactional incentives without building substantial engagement tend to produce shallow loyalty that is easily eroded by competitive offers. Based on these findings, the following hypotheses are formulated:

H6: Gamification influences Transactional Loyalty with Sustainable Brand Engagement as a Mediating Variable.

The influence of gamification on non-transactional loyalty is mediated by sustainable brand engagement through the mechanism of transforming engagement into identification and active advocacy. Effective gamification creates interactive experiences that drive sustainable engagement with the brand, which then develops into strong emotional identification and intrinsic motivation to support the brand through non-transactional behaviors (Habachi et al., 2024). Sustainable brand engagement in this case serves as a "transformation engine" that converts game-based interactions into deep psychological connections with the brand. Previous research confirms that consistent emotional engagement is a crucial precursor to loyalty behaviors that transcend economic transactions (Chuah et al., 2020). In the context of Indonesian coffee shops, the mediation of sustainable brand engagement becomes increasingly significant due to socio-cultural characteristics that emphasize communal bonds and collective identification. Gamification that stimulates social engagement, such as community challenges or achievement sharing, creates space for the formation of sustainable brand engagement that then facilitates expressions of non-transactional loyalty. Furthermore, this mediation explains why some gamification implementations fail to generate

substantial non-transactional loyalty—such failures may be caused by the inability of gamification mechanisms to drive meaningful and sustainable engagement, which is the foundation for developing non-transactional loyalty. Based on these findings, the following hypotheses are formulated:

H7: Gamification influences Non-Transactional Loyalty with Sustainable Brand Engagement as a Mediating Variable.

METHOD

This study employed a quantitative survey approach to collect data from 350 consumers of local coffee shops across Indonesia's five main islands (Java, Sumatra, Kalimantan, Sulawesi, and Bali). Data were collected through purposive sampling using five-point Likert scales and analyzed using Smart PLS software. PLS-SEM was selected over CB-SEM based on three main considerations: the exploratory nature of examining emerging constructs (gamification and sustainable brand engagement), the complex model structure with multiple mediating relationships, and its tolerance for non-normal data distributions (Hair et al., 2020). PLS-SEM is particularly appropriate for exploratory and prediction-oriented studies in developing theoretical areas, while CB-SEM is preferred for theory confirmation in mature literatures (Henseler et al., 2015; Hair et al., 2019). This approach has been successfully applied in similar gamification-engagement studies (Eisingerich et al., 2019; Xi & Hamari, 2020) and loyalty research (Chuah et al., 2020). This structural equation modeling approach enables simultaneous assessment of construct dimensions and inter-construct relationships. However, the purposive sampling approach has limitations in terms of generalizability due to its focus on urban consumers who use coffee shop digital platforms; thus, the

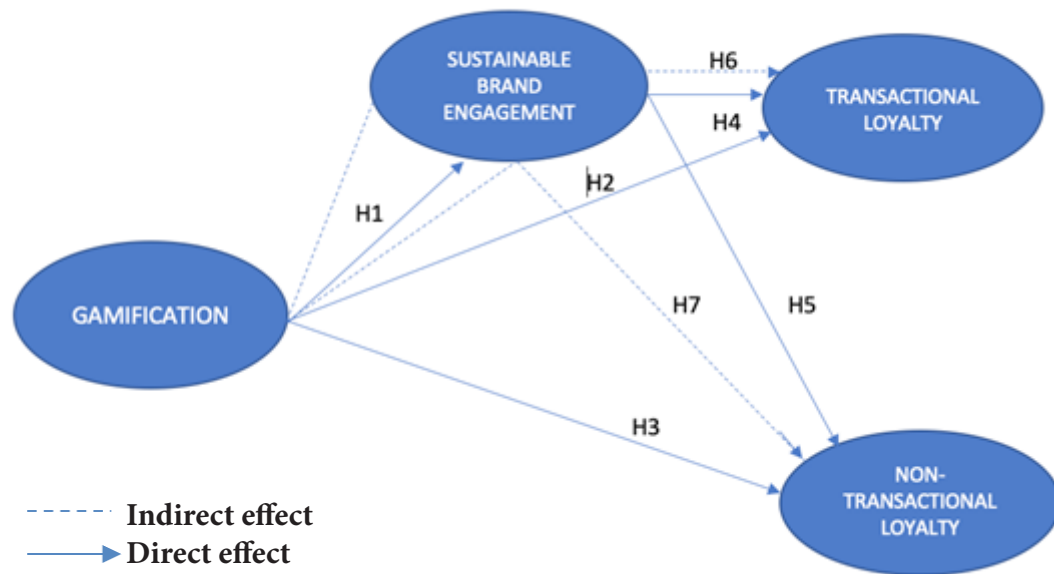


Figure 1. Framework of Research

Table 1. Variables, Definition, Variables and Indicators

Variables	Definition	Indicator
Gamification	The utilization of game design elements to enhance non-game products and services in order to encourage value-creation behaviors. (Deterding et al., 2011; Hofacker et al., 2016; Eisingerich et al., 2019)	1)Reward, 2) Sense of control, 3) Badges, 4) Prompt (Eisingerich et al., 2019; Aparicio et al., 2021)
Sustainable Brand Engagement (X)	A strong and stable long-term relationship between consumers and a brand, wherein consumers consistently engage with and support the brand across various interactions and activities (Fernandes & Moreira, 2019; Gómez et al., 2019).	1) Transactional engagement behaviors, 2) Non-transactional engagement behaviors (Chuah et al., 2020)
Transactional Loyalty (Y1)	The direct exchange of benefits between customers and companies, wherein customers demonstrate their loyalty to a brand or company based on their perception of the value they receive from each transaction (Sirohi et al., 1998).	1) Purchase frequency, 2) Willingness to pay more to support sustainable efforts and sustainability, 3) Priority of choice (Cooil et al., 2007; Dwivedi, 2015)
Non-Transactional Loyalty (Y2)	A deeper and more sustainable form of loyalty that transcends simple transactional exchanges between customers and brands, involving emotional attachment, identification, and strong advocacy toward the brand (Bowden, 2009).	1) Advocacy, 2) Feedback, 3) Helping, 4) Tolerance (Chuah et al., 2020)

findings may not be readily applicable to rural populations or different cultural contexts.

The parameter estimation process in PLS analysis comprised three main stages. First, the measurement model analysis (outer model) was conducted, which included convergent validity testing with a criterion of loading factor greater than 0.5 and AVE greater than 0.5, discriminant validity testing using cross-loading values greater than 0.5, and reliability testing with composite reliability greater than 0.7. Second, the structural model analysis (inner model) was performed by utilizing R-squared values for dependent constructs. Third, hypothesis testing was carried out using criteria of T-statistics equal to or greater than 1.96 with P-values less than 0.05 to accept the hypotheses.

RESULT AND DISCUSSION

Data analysis in this research was conducted systematically, beginning with an evaluation of the measurement model to ensure the validity and reliability of the research instruments, followed by an evaluation of the structural model to test the research hypotheses. The data processing results indicate that all indicators used in this study meet the required validity and reliability criteria. Table 2 displays the results of the convergent validity evaluation for each construct in this research, with adequate outer loading and Average Variance Extracted (AVE) values for each indicator. This indicates that the research instruments were able to effectively measure the concepts they were intended to measure in this study.

Table 2. Results of Testing the Validity of Research Instruments

Variable	Indicator	Outer-Loading	AVE	Conclusion
Gamification (X)	G1.1	0.716	0.604	Valid
	G1.2	0.805		
	G1.3	0.785		
	G2.1	0.714		
	G2.3	0.768		
	G2.4	0.742		
	G3.1	0.819		
	G3.2	0.818		
	G3.3	0.800		
	G3.4	0.828		
	G4.1	0.787		
	G4.2	0.770		
	G4.3	0.737		
Sustainable Brand Engagement (Z)	SBE1.1	0.869	0.678	Valid
	SBE1.2	0.785		
	SBE2.1	0.864		
	SBE2.2	0.782		
	SBE2.3	0.814		

Transactional Loyalty (Y1)	TL1.1	0.863	0.689	Valid
	TL1.2	0.821		
	TL2.1	0.821		
	TL2.2	0.773		
	TL3.1	0.844		
	TL3.2	0.857		
Non-Transactional Loy- alty (Y2)	NTL1.1	0.829	0.661	Valid
	NTL1.2	0.818		
	NTL1.3	0.827		
	NTL2.1	0.829		
	NTL2.2	0.854		
	NTL3	0.822		
	NTL4	0.704		

Notes: a = factor-Loading value < 0.50, b= factor-Loading value > 0.50 - < 0.70. n=196

Source: Processed Data (2025)

Table 3. Cross Loading Result

	Gamification	Non-Transaction- al Loyalty	Sustainable Brand Engagement	Transactional Loyalty
G1.2	0.805	0.604	0.627	0.620
G1.3	0.785	0.538	0.563	0.506
G2.1	0.714	0.549	0.587	0.566
G2.3	0.768	0.559	0.598	0.472
G2.4	0.742	0.546	0.615	0.550
G3.1	0.819	0.488	0.579	0.476
G3.2	0.838	0.516	0.629	0.516
G3.3	0.800	0.453	0.552	0.384
G3.4	0.828	0.594	0.609	0.564
G4.1	0.783	0.524	0.639	0.537
G4.2	0.770	0.519	0.638	0.444
G4.3	0.787	0.518	0.620	0.472
MTL1.1	0.621	0.829	0.739	0.703
MTL1.2	0.494	0.818	0.669	0.686
MTL1.3	0.636	0.827	0.710	0.738
MTL2.1	0.557	0.829	0.648	0.724
MTL2.2	0.628	0.854	0.672	0.675
MTL3	0.595	0.822	0.671	0.647
MTL4	0.478	0.704	0.613	0.535
SBE4.1	0.719	0.743	0.809	0.761
SBE4.2	0.579	0.659	0.785	0.659
SBE2.1	0.672	0.752	0.864	0.754
SBE2.2	0.623	0.616	0.782	0.689

SBE2.3	0.646	0.546	0.814	0.685
TL1.1	0.515	0.761	0.791	0.803
TL1.2	0.556	0.693	0.688	0.821
TL1.3	0.525	0.683	0.690	0.821
TL2.2	0.429	0.672	0.678	0.773
TL3.1	0.532	0.665	0.713	0.844
TL3.2	0.641	0.722	0.755	0.857
G1.1	0.716	0.682	0.582	0.568

Source: Processed Data (2025)

Discriminant validity in this research was evaluated through cross-loading analysis as displayed in Table 3. The results indicate that all indicators have the highest loading values on their measured constructs, with cross-loading values > 0.5 for all relationships. Gamification indicators (G1.1-G4.3) demonstrate the strongest correlation with their own construct, as do the sustainable brand engagement

indicators (SBE1.1-SBE2.3), transactional loyalty indicators (TL1.1-TL3.2), and non-transactional loyalty indicators (NTL1.1-NTL4). This pattern confirms that each indicator uniquely measures its intended construct without significant overlap with other constructs, thus meeting the discriminant validity criteria required in PLS-SEM analysis.

Table 4. Reliability Test Result

Construct	Cronbach's Alpha	Composite Reliability (rho_a)	Conclusion
Gamification	0.945	0.946	Reliable
Sustainable Brand Engagement	0.881	0.885	Reliable
Transactional Loyalty	0.910	0.912	Reliable
Non-Transactional Loyalty	0.914	0.916	Reliable

Source: Processed Data (2025)

The construct reliability testing demonstrated good results as presented in Table 4. All constructs in this research have Cronbach's alpha and composite reliability values that meet the minimum threshold of 0.7. Gamification shows the highest values ($\alpha=0.945$; $CR=0.946$), followed by Non-Transactional Loyalty ($\alpha=0.914$; $CR=0.916$), Transactional Loyalty ($\alpha=0.910$; $CR=0.912$), and Sustainable Brand Engagement ($\alpha=0.881$; $CR=0.885$). These results confirm strong internal consistency across all measurement instruments, thus meeting the reliability criteria required for further analysis.

To evaluate the structural model (inner model), this research utilized R^2 values

that indicate the extent to which exogenous variables can explain the variability of endogenous variables. Figure 2 displays the structural model of the research along with path coefficient values and R-squared values for endogenous variables. The PLS analysis results show that the R^2 value for Sustainable Brand Engagement is 0.622, meaning that 62.2% of its variation can be explained by gamification. Meanwhile, the Transactional Loyalty variable has an R^2 value of 0.745, indicating that 74.5% of its variation is explained by Gamification and Sustainable Brand Engagement. For Non-Transactional Loyalty, the R^2 value of 0.699 shows that 69.9% of its variation is explained by these two predictors. These

values confirm good predictive capability of the model, especially for Transactional Loyalty, indicating that the selection of

variables in the research model has been appropriate.

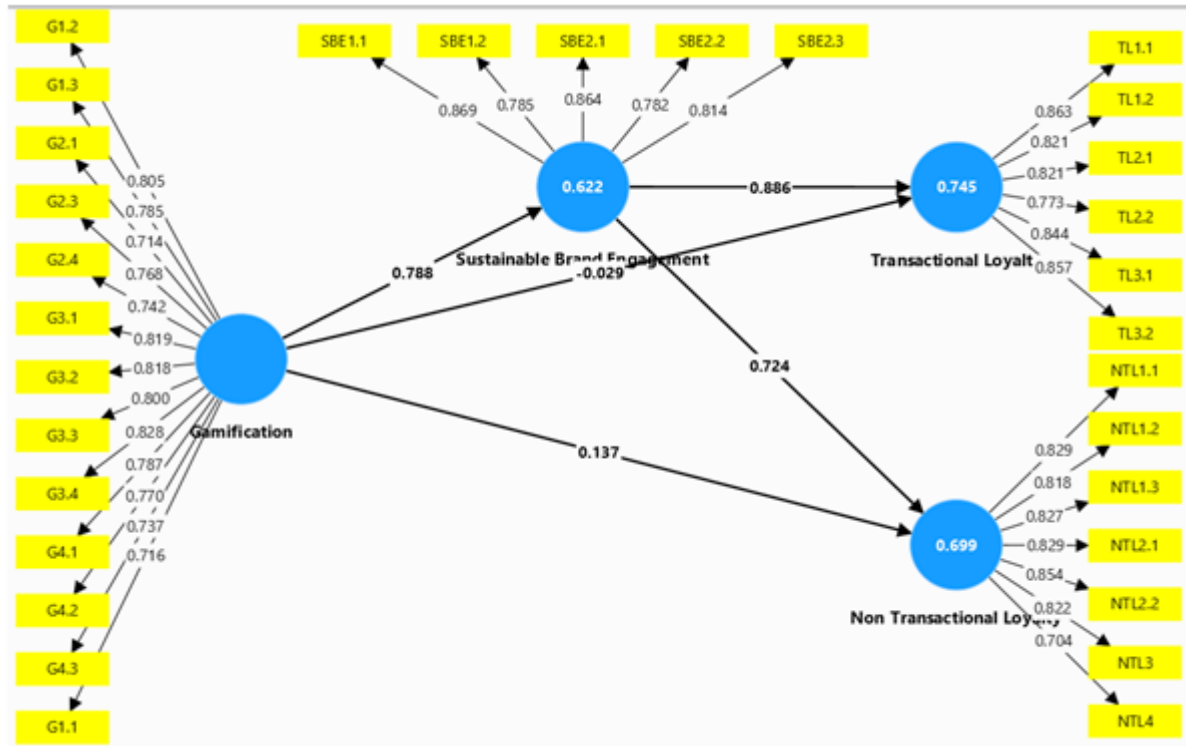


Figure 2. Model Fit with R-Square

Source: Processed Data (2025)

Table 5. The Result of Hypothesis Test (Direct Effect)

Hypothesis	Original Sample (O)	Standard deviation (STDEV)	T Statistic (O/STDEV)	P Values	Conclusion
Gamification Sustainable Brand Engagement (H1)	0.788	0.059	13.450	0.000	Supported
Gamification Transactional Loyalty (H2)	-0.029	0.084	0.353	0.724	Not-Supported
Gamification Non-Transactional Loyalty (H3)	0.137	0.093	1.470	0.142	Not-Supported
Sustainable Brand Engagement Transactional Loyalty (H4)	0.886	0.077	11.493	0.000	Supported
Sustainable Brand Engagement Non-Transactional Loyalty (H5)	0.724	0.090	8.038	0,000	Supported

Source: Processed Data (2025)

Table 6. The Result of Hypothesis Test (Indirect Effect)

Hypothesis	Original Sample (O)	Standard deviation (STDEV)	T Statistic (O /STDEV)	P Values	Conclusion
Gamification Sustainable Brand Engagement Transactional Loyalty (H6)	0.069	0.081	8.680	0.000	Supported
Gamification Sustainable Brand Engagement Non-Transactional Loyalty (H7)	0.571	0.080	7.159	0.000	Supported

Source: Processed Data (2025)

The hypothesis testing results for H1 demonstrate strong support ($\beta=0.788$, $t=13.450$, $p<0.001$) for the influence of gamification on sustainable brand engagement in Indonesia's coffee shop industry. These findings confirm that the implementation of gamification elements such as reward systems, sense of control, badges, and prompts significantly promotes the formation of sustainable brand engagement among Indonesian coffee shop consumers. This result aligns with research by Högberg et al. (2019), which revealed that gamification experiences influence the hedonic value of an activity, which in turn strengthens continuous engagement intentions and brand engagement. In the context of Indonesian coffee shops, gamification implemented through loyalty applications has successfully created an "engagement ecosystem" that combines the physical experience of enjoying coffee with consistent digital interactions. The reward point system, membership tiers (Silver, Gold, Black), and daily missions have proven effective in building sustainable brand engagement (Kopi Kenangan, 2024). These gamification elements trigger both intrinsic and extrinsic motivations that encourage consumers to interact with brands sustainably (Eisingerich et al., 2019).

Conversely, the testing of H2 and H3 reveals contrasting results, where gamification does not directly influence either loyalty dimension. H2 (gamification \rightarrow transactional loyalty) shows a non-significant negative coefficient ($\beta = -0.029$, $t=0.353$, $p=0.724$), while H3 (gamification \rightarrow non-transactional loyalty) is also unsupported ($\beta = 0.137$, $t=1.470$, $p=0.142$). These findings differ from research by Xi & Hamari (2020), which previously found positive relationships between gamification features and brand loyalty, but indicate that gamification elements require mediating mechanisms to influence loyalty behaviors. The non-significance of these direct relationships warrants further analysis, particularly considering the significance of mediation effects to be discussed subsequently. This non-significance occurs because consumers may require deeper experience and engagement before developing loyalty, where social and emotional aspects of the coffee-enjoying experience become important mediators in this relationship (Gómez et al., 2019).

H4 and H5 demonstrate strong support for the influence of sustainable brand engagement on both loyalty dimensions. H4 (engagement \rightarrow transactional loyalty) records the highest coefficient ($\beta=0.886$, $t=11.493$, $p<0.001$), while H5 (engage-

ment → non-transactional loyalty) is also significant ($\beta=0.724$, $t=8.038$, $p<0.001$). The very high coefficient values indicate the strong influence of sustainable brand engagement in forming repeat purchase patterns, priority choice for specific brands, willingness to pay premium prices, as well as advocacy behaviors and non-transactional support. These findings align with research by Vivek et al. (2012) and Hollebeek et al. (2014), which affirm that deep customer engagement enhances various forms of loyalty behaviors. In the context of Indonesian coffee shops with strong social dimensions, sustainable brand engagement has successfully created supportive communities that not only consume products but also actively build positive narratives about brands across various platforms (Vivek et al., 2012). Sustainable engagement integrates brands into consumers' social self-concept, motivating them to defend and promote brands as expressions of identity (Fernandes & Moreira, 2019). This condition also generates higher tolerance for brand deficiencies or mistakes, as sustainable engagement creates a more holistic understanding of brand identity and values (Chuah et al., 2020).

The mediation testing (H6 and H7) reveals significant full mediation phenomena. H6 demonstrates that although the direct influence of gamification on transactional loyalty is not significant, the indirect influence through sustainable brand engagement is highly significant ($\beta=0.069$, $t=8.680$, $p<0.001$). Similarly, H7 shows a stronger mediation effect for non-transactional loyalty ($\beta=0.571$, $t=7.159$, $p<0.001$). This full mediation pattern indicates that gamification operates as an engagement catalyst rather than a direct loyalty driver (Eisingerich et al., 2019). These findings align with research by Xi & Hamari (2020) and Habachi et al. (2024), which affirm the mediating role

of engagement in gamification-loyalty relationships. The mediation mechanism can be explained through reciprocity theory, where gamification creates positive experiences that trigger sustained brand engagement, which in turn builds a sense of obligation to reciprocate through loyalty behaviors (Deterding et al., 2011). The stronger mediation effect for non-transactional loyalty ($\beta=0.571$) compared to transactional loyalty ($\beta=0.069$) demonstrates that gamification is specifically effective in facilitating advocacy behaviors through engagement. This aligns with Indonesia's collectivist cultural context, where community identification and social influence play prominent roles. Sustainable brand engagement functions as a "transformation engine" that converts game-based interactions into deep psychological connections with brands (Fernandes & Moreira, 2019). The strategic implications of these mediation findings indicate that the success of gamification implementation in Indonesia's coffee shop industry depends heavily on designing elements that can facilitate sustained emotional and cognitive engagement (Hollebeek et al., 2014). Gamification strategies that rely solely on reward systems without integrating meaningful engagement experiences prove unable to generate sustainable loyalty (Zichermann & Cunningham, 2011). This mechanism becomes increasingly crucial in the context of intense coffee shop industry competition, where differentiation through emotional engagement becomes key to competitive advantage (Sirohi et al., 1998). Furthermore, this full mediation phenomenon confirms that investments in gamification technology should be directed toward creating interaction platforms that enable consumers to develop long-term relationships with brands, rather than merely short-term transactions (Vivek et al., 2012).

CONCLUSION AND RECOMMENDATION

This research directly addresses the fundamental question of how gamification influences customer loyalty in Indonesia's coffee shop industry by revealing that gamification operates exclusively through sustainable brand engagement rather than through direct pathways to loyalty. This research demonstrates that gamification influences customer loyalty in Indonesia's coffee shop industry exclusively through sustainable brand engagement as a full mediator. While gamification significantly builds sustainable brand engagement, it shows no direct effect on either loyalty dimension, indicating that engagement serves as the critical transformation mechanism converting gamification strategies into both transactional and non-transactional loyalty behaviors. The study answers the core research inquiry about mediating mechanisms by demonstrating complete mediation rather than partial mediation effects, confirming that sustainable brand engagement is not merely an additional factor but the essential pathway through which gamification creates loyalty outcomes. The study contributes by empirically validating the mediating role of sustainable brand engagement and differentiating transactional from non-transactional loyalty within Indonesia's socio-cultural context.

Responding to the research question about effective implementation strategies, for practical implementation, coffee shop managers should prioritize immediate restructuring of reward systems by moving beyond simple point accumulation to include community challenges, collaborative missions, and shared achievements that foster emotional connections. Integration of social features such as user-generated content sharing, customer story highlights, and peer recognition systems within loyal-

ty apps represents essential first steps. Additionally, creating consistent engagement touchpoints through daily check-ins, personalized coffee recommendations, and brewing tips establishes the foundation for sustainable brand relationships.

Addressing the inquiry about strategic development approaches, Medium-term strategies should focus on developing authentic brand communities through exclusive member events, coffee tastings, and local barista meet-and-greets to strengthen brand identification. Progressive engagement systems where higher participation levels unlock unique benefits like behind-the-scenes content, early access to new products, or co-creation opportunities can deepen customer involvement. Monitoring engagement metrics, including time spent in applications, community participation rates, and user-generated content, serves as a leading indicator of developing loyalty behaviors rather than relying solely on transactional measures.

Long-term positioning requires building emotional narratives that connect gamification elements to brand storytelling, sustainability initiatives, and local community support, moving beyond transactional incentives to meaningful brand relationships. Establishing feedback loops where customers influence menu development, store design, or sustainability practices through their engagement activities creates genuine co-creation opportunities that strengthen both transactional and non-transactional loyalty dimensions.

Future research should examine demographic moderators such as age, income, and digital nativity, apply longitudinal approaches to understand engagement evolution, and validate findings across other Southeast Asian markets with varying collectivist cultural orientations to enhance the generalizability of these gamification-engagement-loyalty mechanisms.

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