



Research Paper

Beyond Engagement: Examining the Effects of Brand Love and Gamification Marketing on Hedonic and Utilitarian Value in Roblox

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ABSTRACT

Gamification marketing has become an important strategy for strengthening consumer-brand relationships in immersive digital environments. However, limited empirical research has examined how gamified brand experiences in Roblox influence consumers' hedonic motivation and utilitarian value through brand-related psychological responses. This study investigates the effects of brand engagement, brand love, and gamification marketing on hedonic motivation and utilitarian value in Roblox-based brand interactions. A quantitative survey was conducted with 100 Roblox users, and the data were analyzed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The results show that brand engagement does not significantly influence hedonic motivation or utilitarian value, suggesting that interaction alone is insufficient to generate enjoyment or perceived usefulness. In contrast, brand love significantly enhances both hedonic motivation and utilitarian value, highlighting the importance of emotional attachment in shaping consumer experiences. Gamification marketing also has a significant positive effect on hedonic motivation, confirming the role of game design in promoting enjoyment and immersive participation. These findings contribute to gamification marketing literature by demonstrating that emotional attachment and experiential design are more influential than engagement alone in creating consumer value in virtual brand environments. The study also offers practical guidance for brands designing engaging and meaningful experiences in Roblox.

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1. INTRODUCTION

Digital technologies have shifted marketing from one-way persuasion toward interactive, experience-centric exchanges in which connected consumers actively participate and co-create value through ongoing dialogue and networked interaction rather than remaining passive audiences (Rodrigues et al., 2021; Helme Falk & Marcusson, 2019). In this environment, gamification marketing integrating game design elements into non-game contexts has been adopted to make digital brand experiences more engaging and enjoyable and to stimulate continued participation in platforms and services capes (digital/physical) that shape cognitive and affective responses (e.g., flow, emotions) linked to approach behaviors and marketing outcomes (Helme Falk & Marcusson, 2019; Sheetal et al., 2022; Thorpe & Roper, 2017)

Empirical studies indicate that gamified applications can strengthen engagement and brand attitudes via social influence mechanisms (e.g., social circles increasing intentions to interact with the brand) RODRIGUES et al. (2021) and that gameful experiences can improve users' attitudes toward embedded advertising, partly through psychological ownership, while mitigating perceived intrusiveness when perceived ad effectiveness is high (Mishra & Malhotra, 2021). However, multiple sources caution that gamified marketing can raise ethical dilemmas (including "stealth" influence) and may negatively affect user welfare, with evidence of adverse mental and emotional outcomes in gamified online community contexts (Thorpe & Roper, 2017; Sheetal et al., 2022; Srivastava et al., 2022).

Gamification marketing is an important contemporary digital-marketing trend because it applies game design elements in non-game contexts to create gameful experiences that stimulate motivation, engagement, and loyalty-related behaviors (Rodrigues et al., 2021; Helme Falk & Marcusson, 2019, Mishra & Malhotra, 2021). In

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services and platform environments (“servicescapes”), gamified mechanics can be designed as visible or non-visible and platform-dependent features that shape cognitive and affective responses (e.g., engagement, flow, emotions), which then influence short- and long-term marketing outcomes (Helmefalk & Marcusson, 2019). Accordingly, commonly deployed elements (e.g., challenges/levels, rewards, competition/leaderboards, avatars, and social interaction) are used to make brand touchpoints more enjoyable and participation-oriented, strengthening customer experience and brand-related responses (Rodrigues et al., 2021), Sheetal et al., 2022). Evidence from gamified brand applications further suggests that social influence within gamified systems can increase intentions to interact with brands and improve brand attitudes (Rodrigues et al., 2021). At the same time, gamification can be positioned as less intrusive when design builds psychological ownership and perceived advertising effectiveness, which can counteract perceived ad intrusiveness (Mishra & Malhotra, 2021). However, scholars also emphasize ethical risks and potential welfare harms from covertly persuasive or manipulative engagement designs, implying the need for careful governance and evaluation (Thorpe & Roper, 2017; , Sheetal et al., 2022).

One platform that is particularly relevant for examining gamification marketing is Roblox. Roblox is a relevant empirical setting for gamification marketing because it can be conceptualized as a gamified co-creation platform where value emerges through ongoing user participation and dialogue, consistent with evidence that connected consumers increasingly co-create experiences and that gamified co-creation can improve firms’ competitiveness while also introducing potential downsides (Rodrigues et al., 2021). Framed through a servicescape lens, such platforms can be analyzed as environments in which platform-dependent and visible/non-visible gamified mechanics act as stimuli shaping users’ cognitive and affective states (e.g., engagement and flow), which in turn influence approach behaviors and marketing outcomes (Helmefalk & Marcusson, 2019; Rodrigues et al., 2021). Moreover, research on gameful experiences and advertising suggests that when users develop psychological ownership and perceive advertising as effective, gamified advertising can reduce perceived intrusiveness while improving attitudes, offering a mechanism by which branded experiences inside game platforms may feel less disruptive (Mishra & Malhotra, 2021). Nevertheless, marketing ethics scholarship cautions that gamification may operate as “stealth” persuasion and can raise consumer-welfare risks, requiring careful evaluation and governance in platform-based campaigns (Thorpe & Roper, 2017; Rodrigues et al., 2021).

From a marketing perspective, Roblox can be *theorized* as a fertile setting for gamification marketing because prior research links gamification to enhanced engagement, motivation, and loyalty when game elements are embedded into digital customer experiences (Sheetal et al., 2022; Helmefalk & Marcusson, 2019). Conceptually, a platform can be treated as a (digital) servicescape in which platform-dependent gamified mechanics operate as stimuli shaping users’ cognitive/affective states (e.g., engagement, flow, emotions) that subsequently influence approach behaviors and marketing outcomes (Helmefalk & Marcusson, 2019). Likewise, gamification is argued to support co-creation by enabling more active, connected consumer participation and interactive dialogue, potentially strengthening firms’ competitiveness while also requiring attention to implementation risks (RODRIGUES et al., 2021).

Empirical evidence from gamified brand applications further suggests that social circles within gamified systems can increase intentions to interact with a brand and improve brand attitudes (RODRIGUES et al., 2021). However, the literature also cautions that gamification may reduce perceived intrusiveness only under conditions such as high perceived advertising effectiveness and psychological ownership (Mishra & Malhotra, 2021), and that ethical and consumer-welfare risks (“stealth” influence; negative well-being impacts) must be explicitly evaluated (Thorpe & Roper, 2017; Srivastava et al., 2022). Previous studies have shown that digital engagement plays an important role in shaping relationships between consumers and brands. Ali and Alqudah (2022) found that influencer marketing affects overall brand equity through brand awareness and customer brand engagement in the context of five-star hotels in Jordan. Their study confirms that consumer engagement and brand awareness serve as important mechanisms for strengthening brand equity. This finding is relevant to the context of Roblox, as community-based platforms such as Roblox also facilitate user engagement, social interaction, and the dissemination of digital experiences that may strengthen the relationship between users and brands. Subsequently, Coelho et al. (2023) demonstrated that hedonic shopping motivation mediates the relationship between personal values and impulse buying. Their findings indicate that enjoyment, entertainment, emotional satisfaction, and pleasurable experiences can influence consumer behavioral responses. In the context of gamification marketing, hedonic aspects are particularly important because users are likely to be attracted to experiences that are enjoyable, challenging, and exploratory. In the same year, Song et al. (2023) found that social media engagement contributes to relationship quality and brand performance in higher education marketing. This finding further supports the argument that user engagement in digital platforms is a crucial factor in building relationship quality and improving brand performance.

In a later development, Behl et al. (2024) emphasized that gamification can be understood as a form of marketing innovation capable of improving organizational marketing performance and supporting the sustainability of international firms. This study extends the understanding of gamification beyond entertainment or promotional functions by positioning it as an innovation strategy that can enhance marketing effectiveness. This

insight is highly relevant to Roblox, as the platform provides opportunities for developing innovative marketing experiences through games, user creativity, and virtual interaction. More recent studies have further highlighted the importance of immersive digital experiences in marketing. Al-Adwan et al. (2025) found that gamification in metaverse environments can enhance consumer engagement, purchase intention, word of mouth, and brand loyalty. Their findings suggest that well-designed virtual experiences can strengthen consumer-brand relationships. Similarly, tom Dieck et al. (2025) showed that augmented reality technology can create both hedonic and utilitarian value for users. This finding reinforces the view that immersive digital experiences can provide consumers with both emotional and functional benefits.

Despite the growing body of research on hedonic motivation, social media engagement, gamification, metaverse marketing, and augmented reality, several research gaps remain. First, prior studies have largely focused on hotels and hospitality, where influencer marketing and customer brand engagement have been linked to brand equity (Ali & Alqudah, 2022), as well as retailing, where hedonic motivation has been shown to influence impulse buying behavior (Coelho et al., 2023). Other studies have examined social media engagement in higher education marketing (Song et al., 2023), gamification as a marketing innovation for international firms (Behl et al., 2024), metaverse gamification in relation to engagement, purchase intention, word of mouth, and loyalty (Al-Adwan et al., 2025), and augmented reality as a source of hedonic and utilitarian value (tom Dieck et al., 2025). However, studies that specifically position Roblox as a research object within the context of gamification marketing remain relatively limited. Second, most existing studies discuss digital engagement or gamification in general terms, while limited attention has been paid to how Roblox's creative, participatory, avatar-based, and community-oriented features may shape distinctive marketing experiences. This gap is important because social interaction within gamified brand applications can increase intentions to interact with a brand and improve brand attitudes (Rodrigues et al., 2021). Third, the Indonesian context, as a rapidly growing digital market, remains underexplored, particularly in relation to how Indonesian users respond to gamification-based marketing strategies on Roblox. In addition, ethical and consumer-welfare concerns, including stealth influence, perceived intrusiveness, and potential well-being impacts, also need to be considered in gamified marketing research (Mishra & Malhotra, 2021; Thorpe & Roper, 2017; Srivastava et al., 2022).

Based on these gaps, this study positions Roblox as an important context for advancing the literature on gamification marketing. Roblox combines game elements, user creativity, social interaction, virtual communities, and digital experiences within an open digital ecosystem. These characteristics make Roblox a promising platform for explaining how gamification marketing may shape user engagement and consumer behavioral responses. This study is expected to provide theoretical contributions by extending the understanding of gamification marketing within platforms based on user-generated virtual experiences. It also offers practical contributions for digital marketers, application developers, content creators, and business actors in designing more interactive, creative, and consumer-oriented marketing strategies.

Therefore, research on gamification marketing in Roblox is important not only because it reflects current digital trends, but also because it offers a new research context within the marketing literature. Roblox enables marketing experiences to be delivered not merely through promotional messages, but through play, exploration, creativity, and social interaction. Accordingly, this study seeks to address the existing literature gap by positioning Roblox as a research object in the context of gamification marketing, while enriching academic discussions on experience-based digital marketing in the era of virtual platforms, the metaverse, and the digital creative economy.

2. HYPOTHESIS DEVELOPMENT

2.1. Brand Engagement and Hedonic Motivation

Brand engagement is expected to enhance hedonic motivation because consumers' active involvement with a brand often generates positive affective responses, such as fun, pleasure, enjoyment, and emotional stimulation. These affective responses are central to hedonic motivation, particularly in digital and gameful environments where consumers do not merely receive brand information but also participate in interactive and entertaining brand experiences (Sheetal et al., 2022; Mishra & Malhotra, 2021). From the perspective of the Stimulus-Organism-Response framework, gamified stimuli embedded in digital or physical servicescapes can activate internal organismic states, including emotion, flow, and engagement, which subsequently encourage approach-oriented responses (Helmefalk & Marcusson, 2019). Empirical evidence from gamified brand applications further suggests that engagement can strengthen brand attitudes by creating more enjoyable, interactive, and psychologically involving brand experiences (Rodrigues et al., 2021). Nevertheless, prior studies also caution that gamification-driven engagement may involve ethical concerns and potential negative implications for consumers' psychological and emotional well-being, suggesting that hedonic outcomes should be interpreted with theoretical nuance (Sheetal et al., 2022; Srivastava et al., 2022). Taken together, these arguments indicate that stronger brand engagement is likely to intensify consumers' hedonic motivation. Accordingly, this study advances the following hypothesis: H1. Brand engagement has a positive effect on hedonic motivation.

2.2. Brand Engagement and Utilitarian Value

Brand engagement may also strengthen utilitarian value because consumers who actively interact with, respond to, and share information about a brand are more likely to obtain clearer, more relevant, and more useful information. Such engagement can improve relationship quality between consumers and brands, which subsequently contributes to more favorable brand evaluations, including brand image and brand loyalty (Song et al., 2023). In this regard, engagement does not only generate emotional involvement but also supports functional outcomes by reducing uncertainty, improving information clarity, and increasing perceived efficiency in decision-making. Within the S-O-R-based servicescape framework, gamified or interactive brand stimuli can trigger cognitive and affective responses, including engagement and flow, which then influence marketing outcomes (Helmefalk & Marcusson, 2019). This logic suggests that engagement may serve as a psychological mechanism through which consumers perceive the brand experience as more purposeful, informative, and task-supportive. Empirical evidence from gamified applications also shows that engagement contributes to more favorable brand attitudes (Rodrigues et al., 2021), while research on augmented reality experiences indicates that interactive characteristics can strengthen utilitarian experiences by increasing reality congruence, satisfaction, and word-of-mouth intention (Dieck et al., 2024). Therefore, brand engagement is expected to improve consumers' perception of utilitarian value. On this theoretical basis, the following hypothesis is formulated:

H2. Brand engagement has a positive effect on utilitarian value.

2.3. Brand Love and Hedonic Motivation

Brand love reflects consumers' strong affective attachment, emotional connection, passion, and positive relationship with a brand. When consumers develop love for a brand, their interaction with the brand is likely to become more emotionally rewarding, personally meaningful, and enjoyable. This affective attachment can strengthen hedonic motivation because consumers are not only driven by functional benefits but also by the pleasure, excitement, and emotional satisfaction derived from brand-related experiences. Carroll and Ahuvia (2006) conceptualized brand love as passionate emotional attachment toward a brand and showed that brand love is strongly associated with hedonic product categories and favorable consumer outcomes. Similarly, Batra et al. (2012) emphasized that brand love represents a rich emotional relationship between consumers and brands, involving passion, attachment, positive affect, and long-term connection. In digital and gamified contexts, positive brand experiences can further stimulate enjoyment, flow, and experiential satisfaction, thereby reinforcing hedonic motivation (Sheetal et al., 2022; Helmefalk & Marcusson, 2019). Research on immersive digital experiences also indicates that interaction and immersion can intensify hedonic responses when consumers perceive the experience as entertaining and emotionally engaging (Dieck et al., 2024). Thus, consumers who feel stronger love toward a brand are more likely to experience pleasure-oriented motivation in their interaction with that brand. Following this line of reasoning, this study proposes the following hypothesis:

H3. Brand love has a positive effect on hedonic motivation.

2.4. Brand Love and Utilitarian Value

Brand love can also contribute to utilitarian value because consumers who have a strong emotional bond with a brand tend to evaluate the brand more favorably, not only in affective terms but also in functional terms. Consumer-brand relationship theory suggests that strong brand relationships influence how consumers interpret, evaluate, and sustain their interactions with brands (Fournier, 1998). When consumers love a brand, they are more likely to perceive the brand as reliable, useful, efficient, and capable of supporting their goals. Although prior studies often position functional or utilitarian value as an antecedent of brand love, this relationship can also operate in the opposite direction when emotional attachment creates a positive evaluative lens through which consumers assess the brand's practical benefits. Bairrada et al. (2018) demonstrated that both functional and symbolic or emotional brand qualities are important in explaining brand love, indicating that affective and functional evaluations are closely interconnected. Recent evidence in digital retail also shows that perceived value and brand love are strongly linked, particularly when consumers experience interactivity, informativeness, entertainment, and perceived relevance in brand communication (Hanaysha & Alhyasat, 2025). In this study context, consumers who love a brand are therefore expected to perceive the brand experience as more useful, informative, efficient, and decision-supportive. Literature on perceived value also commonly treats functional, emotional, and social value as interrelated dimensions of consumer evaluation, strengthening the argument that affective attachment may shape perceptions of practical usefulness. Consequently, the following hypothesis is developed:

H4. Brand love has a positive effect on utilitarian value.

2.5. Gamification Marketing and Hedonic Motivation

Gamification marketing is expected to increase hedonic motivation because it integrates game-like elements, such as challenges, points, rewards, badges, levels, and interactive tasks, into the consumer experience. These elements can transform ordinary brand interactions into more enjoyable, stimulating, and emotionally

engaging experiences. In online retail contexts, gamification has been reported to make shopping activities more enjoyable and attractive by increasing consumers' motivation, engagement, and experiential satisfaction (Sheetal et al., 2022). Conceptually, when gamification mechanics operate as stimuli within a servicescape, they can activate affective responses such as emotion, enjoyment, and flow, which subsequently encourage approach behavior and favorable marketing outcomes (Helmefalk & Marcusson, 2019). Evidence from gamification brand environments also shows that gamified experiences are associated with positive emotions, including pleasure, fun, and enjoyment, while psychological mechanisms such as psychological ownership may further strengthen consumers' positive responses (Mishra & Malhotra, 2021). However, gamification marketing should not be viewed as entirely risk-free. Prior studies have warned that gamification may raise ethical concerns, including stealth marketing and the exploitation of cognitive biases (Thorpe & Roper, 2017), and may negatively affect consumers' mental and emotional well-being when game mechanics encourage excessive attachment or distraction (Srivastava et al., 2022). Despite these concerns, the dominant theoretical and empirical evidence suggests that gamification marketing can stimulate pleasurable and enjoyable consumption experiences. In light of the above discussion, this study posits the following hypothesis:

H5. Gamification marketing has a positive effect on hedonic motivation.

3. METHODS

This study examined the determinants of consumers' responses to gamification marketing by employing a rigorous quantitative approach through survey research. The research design is causal, aiming to empirically test the influence of Hedonic Motivation and Utilitarian Value on Brand Engagement and Brand Love within the context of Gamification Marketing. In this study, gamification marketing is positioned as a digitally mediated marketing strategy that integrates game-like elements into brand-related interactions to enhance consumers' experiential, emotional, and behavioral responses. Accordingly, the proposed model seeks to explain how consumers' pleasurable and functional evaluations of gamified brand experiences contribute to stronger engagement and affective attachment toward the brand.

Data were collected using an online questionnaire administered via the Easypaths platform. The respondents were selected based on specific eligibility criteria, namely individuals who had experienced or interacted with gamification-based marketing activities, such as branded games, reward systems, digital challenges, points, badges, leaderboards, virtual brand experiences, or other game-like marketing features within the previous 12 months. A purposive sampling technique was employed to ensure that the selected respondents possessed relevant experience with gamified marketing contexts and were therefore able to provide meaningful responses to the research constructs. This sampling strategy is appropriate for behavioral marketing research because it enables researchers to target participants whose prior experiences are theoretically aligned with the objectives of the study.

The questionnaire was developed using validated measurement items adapted from prior studies in brand engagement (Gligor et al., 2016), brand love (Bazi et al., 2023). Hedonic Motivation was measured by capturing the extent to which consumers perceive gamified marketing activities as enjoyable, entertaining, exciting, and emotionally stimulating (Wu and Huang, 2023). Utilitarian Value was assessed by measuring consumers' perceptions of the practical, functional, and informational benefits obtained from gamified marketing experiences (Lee et al., 2020). Brand Engagement was measured through consumers' cognitive, emotional, and behavioral involvement with the brand during or after interacting with gamified marketing activities. Brand Love was assessed by examining consumers' emotional attachment, passion, affection, and long-term positive feelings toward the brand. All constructs were measured using a structured Likert-type scale to capture respondents' level of agreement with each statement.

The data analysis used the Partial Least Squares Structural Equation Modelling (PLS-SEM) method, utilizing SEMinR software (Edeh et al., 2022). This method was chosen due to its ability to handle complex models while minimizing potential estimation bias (Hair et al., 2022) and its robustness in handling complex predictive models, suitability for exploratory and theory-building contexts, and tolerance for non-normal data distributions (Henseler et al., 2015). Prior to hypothesis testing, we performed a comprehensive assessment of the measurement model. Instrument reliability and validity were evaluated using Cronbach's Alpha and Average Variance Extracted (AVE) to ensure internal consistency and convergent validity across all constructs (Hair et al., 2017). Discriminant validity was further assessed through the heterotrait-monotrait ratio (HTMT), which is widely acknowledged as a more stringent and reliable criterion for establishing construct distinctiveness (Henseler et al., 2015).

To mitigate potential Common Method Bias (CMB), a frequent concern in self-reported behavioral studies, the full collinearity variance inflation factor (FCVIFs) technique was applied. This procedure provides a robust assessment of common method variance and confirms that the results are not substantially affected by single-source response patterns (Kock, 2015). Collectively, this methodological approach provides a strong foundation for generating robust empirical insights into the antecedents of revisit intention within the tourism context, thereby contributing to both theoretical advancement and managerial relevance (Chin, 2008).

4. RESULTS

4.1. Respondent Profile

The characteristics of the respondents in this study were classified based on gender, educational background, and income level. This classification was used to describe the demographic composition of Roblox users who participated in the study and to provide contextual information before further statistical analysis. The detailed respondent profile is presented in Table 1.

Profile	Classification	Count	%
Gender	Men	45	44.79%
	Women	55	55.21%
Education	Junior/Senior High School	14	13.54%
	Diploma/bachelor's degree	81	83.33%
	Master's/Doctoral Degree	5	3.13%
Income (IDR)	< 500.000	34	34.38%
	500.000 - 1.000.000	30	30.21%
	>1.000.000	36	35.42%

The demographic data indicate that the majority of respondents in this study are female, accounting for 55.21% of the total sample, while male respondents represent 44.79%. In terms of educational background, the sample is predominantly composed of individuals holding a diploma or bachelor's degree, comprising 83.33% of all respondents. This suggests that the participants generally possess a relatively high level of educational attainment, while those with secondary education (13.54%) and postgraduate qualifications (3.13%) constitute only a small proportion of the sample. With regard to monthly income, the distribution of respondents is relatively balanced across the three categories. Respondents earning above 1,000,000 form the largest group at 35.42%, followed closely by those earning less than 500,000 at 34.38%, and those in the middle-income category (500,000–1,000,000) at 30.21%. The combination of relatively high educational attainment and a varied income distribution suggests that the sample may consist largely of university students or young professionals in the early stages of their careers.

4.2. Reliability Testing

Before proceeding to the validity assessment, the reliability of each construct was evaluated to ensure that the measurement items demonstrated adequate internal consistency. Cronbach's Alpha was used as the basis for assessing the consistency of the indicators within each construct. The results of the reliability testing are presented in Table 2.

Variable	Cronbach Alpha	Note
Brand Engagement	0.905	Very good
Brand Love	0.924	Very good
Gamification Marketing	0.828	Very good
Hedonic Motivation	0.850	Very good
Utilitarian Value	0.856	Very good

Based on the reliability testing results presented in Table 2, all variables in this study demonstrate Cronbach's Alpha values above the commonly accepted threshold of 0.70. This indicates that all constructs have a very good level of internal consistency. Specifically, Brand Engagement obtained a Cronbach's Alpha value of 0.9050, while Brand Love showed the highest value at 0.9243, suggesting that the measurement items for these constructs are highly reliable. Furthermore, Gamification Marketing recorded a Cronbach's Alpha value of 0.8280, Hedonic Motivation obtained 0.8500, and Utilitarian Value obtained 0.8564. These values also fall within the very good reliability category. Therefore, it can be concluded that all measurement items used in this study are internally consistent and reliable in measuring their respective constructs. Accordingly, the research instrument is considered appropriate for further statistical analysis.

4.3. Convergent Validity Result

The outer loading results presented in Table 3 indicate that all measurement indicators have loading values above the recommended threshold of 0.70, as suggested by Hair et al. (2019). This finding confirms that each indicator demonstrates adequate indicator reliability and is able to explain more than 50% of the variance in its respective construct. Therefore, none of the indicators fall within the range of 0.40–0.70, which would require consideration for removal, and no indicator has a loading below 0.40, which would indicate poor measurement quality. For the Brand Engagement construct, the outer loading values range from 0.7699 to 0.8566, indicating that all six indicators reliably measure brand engagement. Similarly, the Brand Love construct shows loading values ranging from 0.7361 to 0.8376, suggesting that all ten indicators have sufficient convergent quality and can be retained in the measurement model. The Gamification Marketing construct also demonstrates strong indicator reliability, with loading values between 0.8523 and 0.8803, reflecting a high level of consistency among its indicators. Furthermore, the indicators of Hedonic Motivation have outer loading values ranging from 0.7780 to 0.8678, confirming that the items are appropriate for measuring respondents' hedonic motivation. The Utilitarian Value construct shows particularly strong outer loadings, ranging from 0.8788 to 0.8831, indicating that its indicators have very high reliability in representing the construct. Overall, the results demonstrate that all indicators meet the recommended criteria for outer loadings. Thus, all measurement items are considered reliable and valid for representing their respective latent constructs. Consequently, no indicator needs to be removed, and the measurement model is suitable for further analysis.

Table 3. Outer Loadings

Indicators	Brand Engagement	Brand Love	Gamification Marketing	Hedonic Motivation	Utilitarian Value
BraEng1	0.814				
BraEng2	0.843				
BraEng3	0.856				
BraEng4	0.769				
BraEng5	0.847				
BraEng6	0.807				
BraLov1		0.778			
BraLov10		0.749			
BraLov2		0.748			
BraLov3		0.817			
BraLov4		0.766			
BraLov5		0.736			
BraLov6		0.747			
BraLov7		0.767			
BraLov8		0.837			
BraLov9		0.762			
GamMar1			0.855		
GamMar2			0.880		
GamMar3			0.852		
HedMot1				0.852	
HedMot2				0.867	
HedMot3				0.822	
HedMot4				0.778	
UtiVal1					0.882
UtiVal2					0.883
UtiVal3					0.878

4.4. Validity and Reliability

Before testing the structural relationships among constructs, the measurement model was evaluated to ensure that all constructs met the required standards of validity and reliability. Table 4 presents the results of construct validity and reliability assessment, including Cronbach's alpha, composite reliability, and average variance extracted (AVE) for each construct. These indicators were used to assess the internal consistency reliability and convergent validity of Brand Engagement, Brand Love, Gamification Marketing, Hedonic Motivation, and Utilitarian Value.

Table 4. Construct Validity & Reliability

Variable	Cronbach Alpha	Composite Reliability	Average Variance Extracted
Brand Engagement	0.905	0.926	0.678
Brand Love	0.924	0.936	0.595
Gamification Marketing	0.828	0.897	0.744
Hedonic Motivation	0.850	0.899	0.690
Utilitarian Value	0.856	0.912	0.776

The results of construct validity and reliability testing are presented in Table 4. Overall, all constructs demonstrate satisfactory internal consistency reliability and convergent validity. The Cronbach's Alpha values range from 0.8280 to 0.9243, which are above the minimum acceptable threshold of 0.70 and fall within the recommended reliability range. This indicates that the measurement items used for each construct are internally consistent. In addition, none of the Cronbach's Alpha values exceed 0.95, suggesting that the indicators are not redundant and that the constructs maintain adequate content validity. The Composite Reliability values also support the reliability of the measurement model. All constructs show Composite Reliability values above 0.70, ranging from 0.8972 for Gamification Marketing to 0.9363 for Brand Love. These results indicate that the indicators consistently represent their respective latent variables. Specifically, Brand Engagement recorded a Composite Reliability value of 0.9268, Brand Love 0.9363, Gamification Marketing 0.8972, Hedonic Motivation 0.8990, and Utilitarian Value 0.9126. Therefore, all constructs meet the recommended criteria for internal consistency reliability. Furthermore, the Average Variance Extracted values indicate that convergent validity has been achieved. All AVE values are above the minimum threshold of 0.50, ranging from 0.5955 to 0.7768. Brand Love has the lowest AVE value at 0.5955, but it still exceeds the acceptable criterion, while Utilitarian Value has the highest AVE value at 0.7768. These findings suggest that each construct can explain more than 50% of the variance in its indicators. Based on these results, it can be concluded that all constructs in the measurement model have adequate reliability and convergent validity. Thus, the measurement model is considered valid, reliable, and appropriate for further structural model analysis.

4.5. Convergent Validity

After assessing construct reliability and convergent validity, discriminant validity was evaluated to ensure that each construct was empirically distinct from the other constructs in the model. Table 5 presents the discriminant validity results based on the Fornell-Larcker criterion, where the diagonal values indicate the square root of the AVE and the off-diagonal values represent the correlations among constructs. This assessment was conducted to examine whether each construct shares more variance with its own indicators than with other constructs in the measurement model.

Table 5. Discriminant Validity - Fornell-Larcker Criterion

Variables	Brand Engagement	Brand Love	Gamification Marketing	Hedonic Motivation	Utilitarian Value
Brand Engagement	0.823				
Brand Love	0.792	0.771			
Gamification Marketing	0.663	0.787	0.862		
Hedonic Motivation	0.710	0.847	0.774	0.830	
Utilitarian Value	0.624	0.705	0.696	0.727	0.881

4.6. Discriminant Validity Based on the HTMT Criterion

Table 5 presents the discriminant validity assessment using the heterotrait-monotrait ratio of correlations (HTMT). The HTMT criterion is recommended by Henseler et al. (2015) as a more reliable and sensitive approach for detecting discriminant validity problems compared with the traditional Fornell-Larcker criterion. HTMT measures the degree of similarity between constructs by comparing the correlations of indicators across different constructs with the correlations of indicators within the same construct. In general, discriminant validity is considered problematic when HTMT values exceed 0.90 for constructs that are conceptually similar or exceed 0.85 for constructs that are theoretically distinct.

The results in Table 5 show that several construct pairs meet the recommended threshold for discriminant validity. For example, the HTMT values between Brand Engagement and Gamification Marketing (0.7619), Brand

Engagement and Hedonic Motivation (0.8015), Brand Engagement and Utilitarian Value (0.7072), Brand Love and Utilitarian Value (0.7890), Gamification Marketing and Utilitarian Value (0.8276), and Hedonic Motivation and Utilitarian Value (0.8472) remain below or close to the acceptable threshold. These results suggest that these constructs are generally distinguishable from one another within the measurement model. However, some HTMT values indicate potential discriminant validity concerns. The relationship between Brand Love and Hedonic Motivation shows the highest HTMT value of 0.9515, exceeding the recommended threshold of 0.90. This finding suggests a substantial empirical overlap between these two constructs. Conceptually, this result is understandable because both Brand Love and Hedonic Motivation are strongly affective in nature. In the context of gamification marketing on Roblox, enjoyable, immersive, and emotionally engaging brand experiences may simultaneously stimulate hedonic motivation and strengthen emotional attachment to the brand. In addition, the HTMT value between Gamification Marketing and Hedonic Motivation is 0.9199, which also exceeds the 0.90 threshold. This indicates that respondents may perceive gamification elements, such as interactivity, challenges, rewards, entertainment, and immersive gameplay, as closely related to hedonic pleasure. Therefore, the overlap between Gamification Marketing and Hedonic Motivation may reflect the experiential nature of gamified platforms, where marketing stimuli are designed to create enjoyment, excitement, and playful engagement.

The HTMT value between Brand Love and Gamification Marketing is 0.8984, which is slightly below the 0.90 threshold but above the stricter 0.85 criterion for conceptually distinct constructs. This result should also be interpreted cautiously, as it suggests a relatively strong relationship between gamified brand experiences and consumers' emotional attachment to the brand. In other words, gamification marketing may not only function as a promotional strategy but also as an affective mechanism that contributes to the development of brand love. Overall, the HTMT results indicate that discriminant validity is supported for most construct pairs, but not fully established across the entire measurement model. The main concerns are found in the relationships between Brand Love and Hedonic Motivation, and between Gamification Marketing and Hedonic Motivation. These findings suggest that affective and experience-based constructs in the model may share substantial conceptual and empirical similarities. Therefore, the interpretation of the structural model should be conducted carefully, and further evaluation of item wording, cross-loadings, and conceptual distinctions among constructs is recommended.

Table 5 presents the coefficient of determination, or R-square, for the endogenous constructs in the structural model. The R-square value indicates the proportion of variance in a dependent construct that can be explained by its predictor variables. In PLS-SEM, R-square values are commonly used to evaluate the explanatory power of the model, where values around 0.75, 0.50, and 0.25 may be interpreted as substantial, moderate, and weak, respectively.

Table 5. Discriminant Validity – HTMT

Variables	1	2	3	4	5
Brand Engagement	0.823				
Brand Love	0.792	0.771			
Gamification Marketing	0.663	0.787	0.862		
Hedonic Motivation	0.710	0.847	0.774	0.830	
Utilitarian Value	0.624	0.705	0.696	0.727	0.881

As shown in Table 5, Hedonic Motivation has an R-square value of 0.7506 and an adjusted R-square value of 0.7425. This result indicates that 75.06% of the variance in Hedonic Motivation can be explained by the independent variables included in the model. Based on the classification criteria, this value falls into the substantial category. Therefore, the model has strong explanatory power in predicting Hedonic Motivation. This finding suggests that the predictors in the model are highly relevant in explaining consumers' pleasure, enjoyment, and emotional stimulation in the context of gamification marketing on Roblox.

Table 5 also shows that Utilitarian Value has an R-square value of 0.5574 and an adjusted R-square value of 0.5430. This means that 55.74% of the variance in Utilitarian Value can be explained by its predictor variables. This value is categorized as moderate, indicating that the model has an acceptable level of explanatory power in explaining consumers' perceived functional and practical value. Although the model explains Utilitarian Value reasonably well, the moderate classification also suggests that other factors outside the current model may still contribute to consumers' perceptions of usefulness, efficiency, and informational value. Overall, the R-square results in Table 5 indicate that the structural model demonstrates adequate explanatory power. The model is particularly strong in explaining Hedonic Motivation, while its explanatory power for Utilitarian Value is moderate. These findings imply that gamification-related and brand-related factors are more dominant in shaping hedonic responses than utilitarian evaluations in the Roblox-based gamification marketing context.

Table 6 presents the coefficient of determination, or R-square, for the endogenous constructs in the structural model. The R-square value indicates the proportion of variance in a dependent construct that can be explained by its predictor variables. In PLS-SEM, R-square is commonly used to assess the explanatory power of the model, with values of approximately 0.75, 0.50, and 0.25 generally interpreted as substantial, moderate, and weak, respectively.

Table 6. R-Square

Dependent	R-Square	R-Square Adjusted	Status*
Hedonic Motivation	0.750	0.742	Substantial
Utilitarian Value	0.557	0.543	Moderate

As shown in Table 6, Hedonic Motivation has an R-square value of 0.7506 and an adjusted R-square value of 0.7425. This indicates that 75.06% of the variance in Hedonic Motivation can be explained by the predictors included in the model. Based on the classification criteria, this value falls into the substantial category. Therefore, the model demonstrates strong explanatory power in explaining consumers' hedonic motivation. This finding suggests that the proposed predictors are highly relevant in shaping consumers' enjoyment, pleasure, excitement, and emotional stimulation in the context of gamification marketing on Roblox. Table 6 also shows that Utilitarian Value has an R-square value of 0.5574 and an adjusted R-square value of 0.5430. This means that 55.74% of the variance in Utilitarian Value is explained by the predictor variables in the model. This value is categorized as moderate, indicating that the model has an acceptable and meaningful level of explanatory power in explaining consumers' perceived functional and practical value. However, the moderate level also suggests that other factors outside the current model may still contribute to the formation of utilitarian value, such as perceived usefulness, information quality, ease of use, or task-related benefits. Overall, the R-square results in Table 6 indicate that the structural model has adequate explanatory capability. The model is particularly strong in predicting Hedonic Motivation, while its explanatory power for Utilitarian Value is moderate. These findings imply that gamification-related and brand-related factors may be more influential in generating hedonic responses than in shaping utilitarian evaluations within the Roblox-based gamification marketing context.

Table 7. Path Coefficients

Hypothesis	Sample Mean	Standard Deviation	T-Test	Upper CI	Lower CI	Status
Brand Engagement → Hedonic Motivation	0.073	0.100	0.735	-0.100	0.238	Not Significant
Brand Engagement → Utilitarian Value	0.137	0.118	1.162	-0.052	0.325	Not Significant
Brand Love → Hedonic Motivation	0.573	0.089	6.400	0.431	0.723	Significant
Brand Love → Utilitarian Value	0.314	0.135	2.317	0.081	0.527	Significant
Gamification Marketing → Hedonic Motivation	0.274	0.092	2.955	0.128	0.427	Significant
Gamification Marketing → Utilitarian Value	0.357	0.108	3.308	0.178	0.534	Significant

4.7. Hypothesis Testing and Path Coefficients

Table 7 presents the results of hypothesis testing based on the path coefficients, standard deviation, t-statistics, confidence intervals, and significance status. In PLS-SEM, a relationship is generally considered significant when the t-value exceeds 1.96 at the 5% significance level and the confidence interval does not include zero. The results show that four hypotheses are supported, while two hypotheses are not supported.

The first hypothesis examines the effect of Brand Engagement on Hedonic Motivation. The result shows a positive but insignificant effect, with a path coefficient of 0.0739 and a t-value of 0.7359. Since the t-value is below the recommended threshold of 1.96 and the confidence interval ranges from -0.1004 to 0.2388, this relationship is not statistically significant. This finding indicates that brand engagement does not directly influence consumers' hedonic motivation in the Roblox-based gamification marketing context.

The second hypothesis investigates the effect of Brand Engagement on Utilitarian Value. The path coefficient is 0.1379, with a t-value of 1.1625. Although the relationship is positive, it is not statistically significant because the t-value is below 1.96 and the confidence interval ranges from -0.0524 to 0.3256, which includes zero. Therefore, Brand Engagement does not have a significant direct effect on Utilitarian Value. This suggests that consumer engagement with the brand may not be sufficient to shape perceptions of practical, functional, or informational value.

In contrast, the third hypothesis, which examines the effect of Brand Love on Hedonic Motivation, is supported. The result shows a strong positive and significant effect, with a path coefficient of 0.5730 and a t-value of 6.4009. The confidence interval ranges from 0.4314 to 0.7233, indicating that the effect is statistically significant.

This finding suggests that consumers who have stronger emotional attachment and affection toward a brand are more likely to experience enjoyment, pleasure, and emotional stimulation in gamified brand interactions.

The fourth hypothesis also shows a significant relationship between Brand Love and Utilitarian Value. The path coefficient is 0.3146, with a t-value of 2.3175, and the confidence interval ranges from 0.0817 to 0.5278. This indicates that Brand Love significantly contributes to consumers' perceptions of utilitarian value. In other words, emotional attachment to the brand may enhance consumers' perception that the gamified experience is useful, meaningful, and functionally valuable.

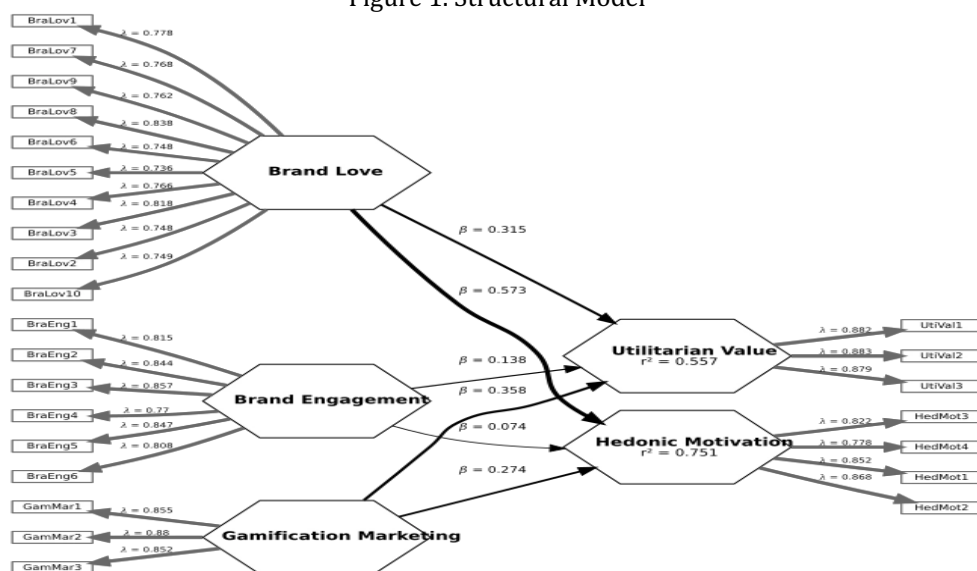
The fifth hypothesis tests the effect of Gamification Marketing on Hedonic Motivation. The result indicates a positive and significant effect, with a path coefficient of 0.2744 and a t-value of 2.9551. The confidence interval ranges from 0.1284 to 0.4272, confirming the significance of this relationship. This finding implies that gamification elements, such as interactivity, challenges, rewards, entertainment, and immersive experiences, can stimulate consumers' hedonic motivation in the Roblox environment.

The sixth hypothesis examines the effect of Gamification Marketing on Utilitarian Value. The result shows a positive and significant effect, with a path coefficient of 0.3578 and a t-value of 3.3088. The confidence interval ranges from 0.1784 to 0.5343, indicating that the relationship is statistically significant. This suggests that gamification marketing not only provides enjoyment but also contributes to consumers' perception of functional and practical value. In the Roblox context, gamified brand experiences may help users obtain useful information, interact more effectively with brand content, and perceive the marketing experience as valuable.

Overall, the results in Table 7 indicate that Brand Love and Gamification Marketing are significant predictors of both Hedonic Motivation and Utilitarian Value. Among all relationships, the strongest effect is found in the relationship between Brand Love and Hedonic Motivation with a path coefficient of 0.5730. Meanwhile, Brand Engagement does not significantly influence either Hedonic Motivation or Utilitarian Value. These findings suggest that, in the context of Roblox-based gamification marketing, emotional attachment to the brand and gamified marketing experiences are more influential than brand engagement in shaping consumers' hedonic and utilitarian responses.

The structural model tested in this study is presented in Figure 1. The figure illustrates the hypothesized relationships among Brand Engagement, Brand Love, Gamification Marketing, Hedonic Motivation, and Utilitarian Value. Specifically, the model shows that Brand Engagement, Brand Love, and Gamification Marketing are proposed as predictor variables, while Hedonic Motivation and Utilitarian Value serve as the endogenous constructs. This visual representation provides an overview of the proposed causal paths examined through the path coefficient analysis.

Figure 1. Structural Model



5. Discussion

The findings of this study offer important insights into the role of gamification marketing, brand engagement, and brand love in shaping consumer motivation within the Roblox-based marketing context. Overall, the results show that emotional attachment to a brand has a stronger influence on both hedonic motivation and utilitarian value than brand engagement alone. Specifically, brand engagement did not significantly affect hedonic

motivation or utilitarian value, whereas brand love significantly influenced both hedonic motivation and utilitarian value. In addition, gamification marketing was found to significantly enhance hedonic motivation. These findings suggest that in a gamified digital environment such as Roblox, consumer motivation is shaped not merely by interaction with the brand, but by the extent to which the brand experience generates emotional attachment, enjoyment, and perceived value.

First, the insignificant effect of brand engagement on hedonic motivation indicates that consumer interaction with a brand does not automatically create pleasure, enjoyment, or entertainment. This finding is somewhat different from previous studies suggesting that digital engagement can strengthen consumer-brand relationships and enhance brand-related responses. For example, Ali and Alqudah (2022) found that customer brand engagement plays an important role in strengthening brand equity through brand awareness in the hospitality context. Similarly, Rodrigues et al. (2021) showed that social interaction within gamified brand applications can increase consumers' intention to interact with brands and improve brand attitudes. However, the present finding suggests that in the Roblox context, engagement may remain at a behavioral or cognitive level if it is not accompanied by deeper emotional involvement. Users may interact with branded features, avatars, virtual spaces, or game-based activities, but such engagement does not necessarily produce hedonic feelings unless the experience is perceived as fun, immersive, and personally meaningful.

Second, brand engagement also did not significantly affect utilitarian value. This result suggests that interaction with a brand in Roblox does not necessarily lead users to perceive the brand as useful, practical, or functionally valuable. This finding may be explained by the nature of Roblox as a platform that is primarily associated with entertainment, creativity, and social play rather than functional decision-making. In this sense, brand engagement in gamified environments may be more symbolic and experiential than instrumental. Although previous studies have emphasized the potential of gamification to improve marketing performance and consumer responses (Behl et al., 2024), the current result indicates that engagement alone may not be sufficient to generate utilitarian value. Consumers may participate in brand-related activities, but they may not directly interpret such participation as providing practical benefits unless the gamified experience clearly communicates usefulness, relevance, or problem-solving value.

Third, brand love was found to have a significant positive effect on hedonic motivation. This finding confirms that emotional attachment is a key driver of pleasure-oriented motivation in gamified brand experiences. When users develop affection, passion, and emotional closeness toward a brand, they are more likely to experience enjoyment, excitement, and satisfaction during brand interaction. This result is consistent with the argument that hedonic motivation is closely related to positive emotions, pleasure, and enjoyable consumption experiences (Coelho et al., 2023). In the Roblox context, brand love may strengthen the emotional meaning of virtual brand experiences, making consumers more willing to explore, participate, and enjoy brand-related activities. Therefore, hedonic motivation in gamification marketing is not only driven by game mechanics, but also by the emotional bond that consumers develop with the brand.

Fourth, brand love also had a significant effect on utilitarian value. This finding is important because brand love is often understood as an affective construct, yet the result shows that emotional attachment can also shape consumers' rational evaluation of value. Consumers who love a brand may perceive its products, services, or digital experiences as more useful, relevant, and beneficial. This indicates that emotional brand relationships can influence both affective and functional evaluations. In other words, when users feel emotionally connected to a brand, they may be more likely to interpret the brand experience as meaningful and valuable. This finding extends previous research by showing that brand love does not only contribute to pleasure and enjoyment, but also enhances perceived usefulness in a gamified digital environment.

Fifth, gamification marketing was found to significantly influence hedonic motivation. This result supports previous studies arguing that gamification can create enjoyable and engaging consumer experiences through gameful elements such as rewards, challenges, competition, social interaction, and immersive digital environments. Al-Adwan et al. (2025), for example, demonstrated that metaverse-based gamification can influence purchase intention, word of mouth, and loyalty by creating interactive and engaging brand experiences. Behl et al. (2024) also emphasized that gamification functions as an innovation tool that can improve marketing performance. In the Roblox context, this finding is particularly relevant because the platform itself is built around play, creativity, virtual interaction, and user-generated experiences. Therefore, when brands integrate gamified elements into Roblox, they can strengthen consumers' hedonic motivation by making brand interaction more entertaining, immersive, and emotionally rewarding. However, the findings also highlight that gamification marketing should be designed carefully. Previous research has warned that gamification may not always generate positive consumer outcomes, especially when consumers perceive the experience as intrusive, manipulative, or overly commercial. Mishra and Malhotra (2021) argued that gamification can reduce perceived intrusiveness only under certain psychological conditions, such as perceived advertising effectiveness and psychological ownership. Thorpe and Roper (2017) and Srivastava et al. (2022) also emphasized the importance of considering ethical issues and consumer welfare in gamified marketing practices. Therefore, although gamification marketing can enhance hedonic motivation, brands

need to ensure that gamified experiences remain transparent, enjoyable, and beneficial for users rather than merely functioning as hidden persuasive tools.

Taken together, the findings suggest that in Roblox-based gamification marketing, emotional and experiential mechanisms are more influential than simple engagement. Brand engagement alone does not necessarily lead to hedonic or utilitarian outcomes, while brand love plays a stronger role in shaping both pleasure-oriented and functional value perceptions. This indicates that marketers should not only focus on increasing interaction metrics, such as participation, clicks, visits, or time spent in branded virtual spaces. Instead, they should design gamified experiences that build emotional attachment, strengthen brand meaning, and create enjoyable interactions. The findings therefore reinforce the importance of integrating gamification strategies with affective brand-building efforts.

6. CONCLUSION

This study concludes that gamification marketing in Roblox-based brand experiences does not automatically generate consumer value through brand engagement alone. The empirical findings indicate that brand engagement has no significant effect on either hedonic motivation or utilitarian value. This suggests that consumer interaction with a brand in a gamified environment may not be sufficient to create enjoyment, pleasure, usefulness, or functional value unless such engagement is accompanied by stronger emotional attachment and meaningful brand experiences. In contrast, brand love plays a significant role in shaping both hedonic motivation and utilitarian value. Consumers who develop emotional affection toward a brand are more likely to perceive the gamified experience as enjoyable, meaningful, and functionally valuable. Furthermore, gamification marketing significantly enhances hedonic motivation, confirming that gameful elements in Roblox can stimulate enjoyment, excitement, and playful interaction among users.

Overall, the findings highlight that emotional bonding and well-designed gamification are more influential than simple brand engagement in shaping consumer motivation and perceived value in immersive digital environments. In the Roblox context, gamification marketing should not only focus on increasing user interaction but also on creating emotionally appealing, enjoyable, and meaningful experiences that strengthen brand love. Theoretically, this study contributes to the gamification marketing literature by showing that the effectiveness of gamified brand experiences depends on the quality of emotional connection and experiential design. Practically, the results suggest that brands using Roblox should design gamified interactions that combine entertainment, emotional resonance, and functional relevance to increase consumer motivation and value perception.

Future research should expand the model by examining additional psychological mechanisms that may explain how gamification marketing influences consumer responses in immersive platforms. Variables such as flow experience, perceived immersion, social presence, self-brand connection, perceived authenticity, and avatar identification may provide deeper insight into how users process gamified brand experiences. Future studies may also test mediating effects, particularly whether brand love mediates the relationship between gamification marketing and consumer motivation or whether hedonic motivation subsequently influences behavioral outcomes such as brand loyalty, purchase intention, word-of-mouth, or continued platform engagement.

Further research should also consider moderating variables that may influence the strength of these relationships. User age, gaming experience, gender, digital literacy, frequency of Roblox use, and prior familiarity with the brand may affect how consumers respond to gamification marketing. Since Roblox is highly popular among younger users, future studies should compare different generational groups to determine whether gamified brand experiences produce similar effects among adolescents, young adults, and older consumers. Cross-cultural studies are also recommended to examine whether consumer responses to gamification marketing differ across cultural and market contexts.

Methodologically, future research should employ longitudinal or experimental designs to strengthen causal interpretation. The present study provides valuable cross-sectional evidence, but longitudinal data would allow researchers to examine how brand love, engagement, and motivation develop over time within gamified environments. Experimental studies could manipulate specific gameful elements, such as rewards, challenges, leaderboards, avatars, missions, or social interaction features, to determine which components are most effective in generating hedonic and utilitarian value. In addition, qualitative or mixed-method approaches could be used to explore users' lived experiences in Roblox more deeply, especially how they interpret brand presence, emotional attachment, and perceived value in virtual spaces.

Finally, future research should address the ethical and consumer-welfare implications of gamification marketing in immersive platforms. Since gamified environments may encourage prolonged engagement, persuasive interaction, and subtle brand influence, future studies should examine issues such as perceived intrusiveness, manipulation, digital well-being, privacy concerns, and responsible gamification design. This direction is particularly important in platforms such as Roblox, where many users are young and may be more vulnerable to persuasive marketing strategies. Therefore, future research should not only investigate the effectiveness of

gamification marketing but also develop ethical guidelines for designing brand experiences that are engaging, transparent, and consumer centered.

7. CONTRIBUTION

Theoretically, this study contributes to the gamification marketing literature by showing that brand engagement and brand love have different motivational consequences. While brand engagement reflects consumers' interaction with a brand, brand love represents a deeper emotional bond that can influence both hedonic motivation and utilitarian value. This distinction is important because previous studies often emphasize engagement as a key outcome of digital marketing and gamification (Ali & Alqudah, 2022; Rodrigues et al., 2021). The present study shows that engagement may not be sufficient unless it is supported by emotional attachment. Moreover, the significant role of gamification marketing in shaping hedonic motivation strengthens the view that game-based digital environments can function as effective experiential marketing platforms, particularly when they are designed to generate enjoyment, immersion, and emotional involvement.

Practically, the results imply that brands using Roblox as a gamification marketing platform should move beyond simple interaction-based campaigns. Marketers should develop branded experiences that are emotionally meaningful, visually attractive, socially interactive, and enjoyable. Features such as immersive storytelling, virtual rewards, avatar-based identity expression, social challenges, and creative participation can help stimulate hedonic motivation. At the same time, brands should also communicate clear value, relevance, and usefulness to strengthen utilitarian perceptions. Since brand love significantly affects both hedonic motivation and utilitarian value, brands need to build long-term emotional relationships with users rather than relying only on short-term gamified promotions.

REFERENCES

- Abu Farha, A. K., El Hedhli, K., Alnawas, I., Zourrig, H., & Becheur, I. (2024). Drivers and outcomes of a shopper-retailer's app relationship. *Journal of Retailing and Consumer Services*, 81, 104002. <https://doi.org/10.1016/j.jretconser.2024.104002>
- Al-Adwan, A. S., Yaseen, H., Alkhwalid, A. F., Jafar, R. M. S., Fauzi, M. A., & Abdullah, A. (2025). Treasure Hunting for Brands: Metaverse Marketing Gamification Effects on Purchase Intention, WOM, and Loyalty. *Journal of Global Marketing*, 38(4), 392–416. <https://doi.org/10.1080/08911762.2025.2463897>
- Alshreef, M. A., Hassan, T. H., Helal, M. Y., Saleh, M. I., Tatiana, P., Alrefae, W. M., Elshawarbi, N. N., Al-Saify, H. N., Salem, A. E., & Elsayed, M. A. S. (2023). Analyzing the Influence of eWOM on Customer Perception of Value and Brand Love in Hospitality Enterprise. *Sustainability*, 15(9), 7286. <https://doi.org/10.3390/su15097286>
- Amalia Suzianti, Aprieza Nurizki, Rheinanda Kanaswari, & Safira Nurul Fathia. (2024). Gamification Design for Mobile Marketing Strategy in Food and Beverage Company Application. *Evergreen*, 11(4), 3374–3382. <https://doi.org/10.5109/7326973>
- Amegbe, H., Hanu, C., & Zungu, N. P. (2023). The dynamics of customer value and brand love among shoppers in emerging market. *Cogent Business & Management*, 10(3), 2272382. <https://doi.org/10.1080/23311975.2023.2272382>
- Aragonés-Jericó, C., Rodríguez Santos, C., Kuster-Boluda, I., & Vila-Lopez, N. (2024). Brand loyalty and electronic word-of-mouth antecedents: The moderating effects of experiences. *British Food Journal*, 126(12), 4242–4259. <https://doi.org/10.1108/BFJ-10-2023-0877>
- Arya, V., Sambyal, R., Sharma, A., & Dwivedi, Y. K. (2024). Brands are calling your AVATAR in Metaverse—A study to explore XR-based gamification marketing activities & consumer-based brand equity in virtual world. *Journal of Consumer Behaviour*, 23(2), 556–585. <https://doi.org/10.1002/cb.2214>
- Bazi, S., Filieri, R., & Gorton, M. (2023). Social media content aesthetic quality and customer engagement: The mediating role of entertainment and impacts on brand love and loyalty. *Journal of Business Research*, 160, 113778. <https://doi.org/10.1016/j.jbusres.2023.113778>
- Bazi, S., & Hajawi, D. (2025). Customer inspiration in the metaverse: Antecedents, mechanisms, and outcomes. *Journal of Retailing and Consumer Services*, 87, 104439. <https://doi.org/10.1016/j.jretconser.2025.104439>
- Behl, A., Jayawardena, N., Pereira, V., Islam, N., Giudice, M. D., & Choudrie, J. (2022). Gamification and e-learning for young learners: A systematic literature review, bibliometric analysis, and future research agenda. *Technological Forecasting and Social Change*, 176, 121445. <https://doi.org/10.1016/j.techfore.2021.121445>

- Behl, A., Pereira, V., Jayawardena, N., Nigam, A., & Mangla, S. (2024). Gamification as an innovation: A tool to improve organizational marketing performance and sustainability of international firms. *International Marketing Review*, 41(1), 107–137. <https://doi.org/10.1108/IMR-05-2022-0113>
- Coelho, F., Aniceto, I., Bairrada, C. M., & Silva, P. (2023). Personal values and impulse buying: The mediating role of hedonic shopping motivations. *Journal of Retailing and Consumer Services*, 72, 103236. <https://doi.org/10.1016/j.jretconser.2022.103236>
- Dikcius, V., Urbonavicius, S., Adomaviciute, K., Degutis, M., & Zimaitis, I. (2021). Learning Marketing Online: The Role of Social Interactions and Gamification Rewards. *Journal of Marketing Education*, 43(2), 159–173. <https://doi.org/10.1177/0273475320968252>
- Dzandu, M. D., Hanu, C., & Amegbe, H. (2022). Gamification of mobile money payment for generating customer value in emerging economies: The social impact theory perspective. *Technological Forecasting and Social Change*, 185, 122049. <https://doi.org/10.1016/j.techfore.2022.122049>
- Edeh, E., Lo, W.-J., & Khojasteh, J. (2023). Review of Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R: A Workbook: By Joseph F. Hair Jr., G. Tomas M. Hult, Christian M. Ringle, Marko Sarstedt, Nicholas P. Danks, Soumya Ray. Cham, Switzerland: Springer, (2021). 197 pp. \$0, Open Access; \$59.99, Hardcover Book. *Structural Equation Modeling: A Multidisciplinary Journal*, 30(1), 165–167. <https://doi.org/10.1080/10705511.2022.2108813>
- Employing Gamification Methods to Increase Customer Engagement in Digital Marketing. (2019). *International Journal of Recent Technology and Engineering*, 8(2S8), 869–872. <https://doi.org/10.35940/ijrte.B1366.0882S819>
- Eppmann, R., Klein, K., & Bekk, M. (2018). WTG (Way to Go)! How to Take Gamification Research in Marketing to the Next Level. *Marketing ZFP*, 40(4), 44–54. <https://doi.org/10.15358/0344-1369-2018-4-44>
- F. Hair Jr, J., Sarstedt, M., Hopkins, L., & G. Kuppelwieser, V. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106–121. <https://doi.org/10.1108/EBR-10-2013-0128>
- Gligor, D., Bozkurt, S., & Russo, I. (2019). Achieving customer engagement with social media: A qualitative comparative analysis approach. *Journal of Business Research*, 101, 59–69. <https://doi.org/10.1016/j.jbusres.2019.04.006>
- Hamşioğlu, A. B., Nalci, M. M., & Papatya, İ. K. (2025). Bibliometric Analysis of Publications Containing the Words Social Marketing and Technology. *PaperASIA*, 41(2b), 60–73. <https://doi.org/10.59953/paperasia.v41i2b.375>
- Helmefalk, M., & Marcusson, L. (2019). Gamification in a servicescape context: A conceptual framework. *International Journal of Internet Marketing and Advertising*, 13(1), 22. <https://doi.org/10.1504/IJIMA.2019.097894>
- Hernandez, S. (2021). Marketing. *Journal of Popular Music Studies*, 33(3), 41–44. <https://doi.org/10.1525/jpms.2021.33.3.41>
- Hofacker, C. F., De Ruyter, K., Lurie, N. H., Manchanda, P., & Donaldson, J. (2016). Gamification and Mobile Marketing Effectiveness. *Journal of Interactive Marketing*, 34(1), 25–36. <https://doi.org/10.1016/j.intmar.2016.03.001>
- Högberg, J., Ramberg, M. O., Gustafsson, A., & Wästlund, E. (2019). Creating brand engagement through in-store gamified customer experiences. *Journal of Retailing and Consumer Services*, 50, 122–130. <https://doi.org/10.1016/j.jretconser.2019.05.006>
- Hsu, C.-L., & Chen, M.-C. (2018). How gamification marketing activities motivate desirable consumer behaviors: Focusing on the role of brand love. *Computers in Human Behavior*, 88, 121–133. <https://doi.org/10.1016/j.chb.2018.06.037>
- Huang, M., Mohamad Saleh, M. S., & Zolkepli, I. A. (2024). The moderating effect of environmental gamification on the relationship between social media marketing and consumer-brand engagement: A case study of Ant Forest Gen Z users. *Heliyon*, 10(4), e25948. <https://doi.org/10.1016/j.heliyon.2024.e25948>
- Huotari, K., & Hamari, J. (2017). A definition for gamification: Anchoring gamification in the service marketing literature. *Electronic Markets*, 27(1), 21–31. <https://doi.org/10.1007/s12525-015-0212-z>

- Jaskari, M.-M., & Syrjälä, H. (2023). A Mixed-Methods Study of Marketing Students' Game-Playing Motivations and Gamification Elements. *Journal of Marketing Education*, 45(1), 38–54. <https://doi.org/10.1177/02734753221083220>
- Jhamb, D., Chandel, A., Mittal, A., & Tandon, U. (2023). Does the use of organic personal care products persuade sustainable consumption behaviour? Understanding the moderating role of health consciousness. *Young Consumers*, 24(6), 807–830. <https://doi.org/10.1108/YC-01-2023-1668>
- Kim, K., & Ahn, S. J. (Grace). (2019). Retraction notice to “The Role of Gamification in Enhancing Intrinsic Motivation to Use a Loyalty Program” [Journal of Interactive Marketing 40 (2017) 41–51]. *Journal of Interactive Marketing*, 45(1), 113–113. <https://doi.org/10.1016/j.intmar.2018.10.001>
- La Cuadra, M. T.-D., Vila-Lopez, N., & Hernandez-Fernández, A. (2019). Could gamification improve visitors' engagement? *International Journal of Tourism Cities*, 6(2), 317–334. <https://doi.org/10.1108/IJTC-07-2019-0100>
- Lee, J.-Y., & Jin, C.-H. (2019). The role of gamification in brand app experience: The moderating effects of the 4Rs of app marketing. *Cogent Psychology*, 6(1), 1576388. <https://doi.org/10.1080/23311908.2019.1576388>
- Lee, K. Y., Sheehan, L., Lee, K., & Chang, Y. (2021). The continuation and recommendation intention of artificial intelligence-based voice assistant systems (AIVAS): The influence of personal traits. *Internet Research*, 31(5), 1899–1939. <https://doi.org/10.1108/INTR-06-2020-0327>
- Li, M., Jiang, Z. (Jack), & Ma, G. (2023). The puzzle of experience vs. memory: Peak-end theory and strategic gamification design in M-commerce. *Information & Management*, 60(2), 103749. <https://doi.org/10.1016/j.im.2022.103749>
- Li, M., Lu, M., Akram, U., & Cheng, S. (2024). Understanding how customer social capital accumulation in brand communities: A gamification affordance perspective. *Journal of Retailing and Consumer Services*, 78, 103761. <https://doi.org/10.1016/j.jretconser.2024.103761>
- Li, Y., Li, Y., Zhou, X., & Ma, K. (2023). Impact of Gamification on Consumers' Favorability in Cause-Related Marketing Programs: Between-Subjects Experiments. *JMIR Serious Games*, 11, e35756. <https://doi.org/10.2196/35756>
- Lim, X., Cheah, J., & Cheah, I. (2026). Green Apps in Action: How Motivational Forces Shape Intention to Use. *Business Strategy and the Environment*, 35(1), 1182–1198. <https://doi.org/10.1002/bse.70223>
- Loureiro, S. M. C., Bilro, R. G., & Angelino, F. J. D. A. (2021). Virtual reality and gamification in marketing higher education: A review and research agenda. *Spanish Journal of Marketing - ESIC*, 25(2), 179–216. <https://doi.org/10.1108/SJME-01-2020-0013>
- Luong, V. H., & Manthiou, A. (2026). Video game-inspired tourism: A synergistic framework. *Tourism Management*, 112, 105282. <https://doi.org/10.1016/j.tourman.2025.105282>
- Madadi, R., Torres, I. M., Fazli-Salehi, R., & Zúñiga, M. Á. (2024). Social identification theory and the elaboration likelihood model: Impact of strength of ethnic identification among African American consumers on services advertising evaluations. *Journal of Consumer Marketing*, 41(2), 196–212. <https://doi.org/10.1108/JCM-08-2022-5547>
- Mahapatra, S., & Basak, S. (2022). Decision dilemma at Biziga. *Emerald Emerging Markets Case Studies*, 12(2), 1–25. <https://doi.org/10.1108/EEMCS-06-2020-0188>
- Malik, G., Sharma, P., & Pradhan, D. (2026). Leveraging gamification for tourism marketing activities: Toward a comprehensive conceptual model. *Journal of Vacation Marketing*, 32(1), 147–167. <https://doi.org/10.1177/13567667241268725>
- Marco Perles, G. S., & Moya Rozalén, S. (2022). Tradiciones éticas en torno al marketing y la ludificación: Algunos apuntes críticos. *ENDOXA*, (50). <https://doi.org/10.5944/endoxa.50.2022.26719>
- Miao, X., Niu, B., Yang, C., & Feng, Y. (2023). Examining the gamified effect of the blindbox design: The moderating role of price. *Journal of Retailing and Consumer Services*, 74, 103423. <https://doi.org/10.1016/j.jretconser.2023.103423>
- Milanesi, M., Guercini, S., & Runfola, A. (2023). Let's play! Gamification as a marketing tool to deliver a digital luxury experience. *Electronic Commerce Research*, 23(4), 2135–2152. <https://doi.org/10.1007/s10660-021-09529-1>

- Mishra, S., & Malhotra, G. (2021). The gamification of in-game advertising: Examining the role of psychological ownership and advertisement intrusiveness. *International Journal of Information Management*, 61, 102245. <https://doi.org/10.1016/j.ijinfomgt.2020.102245>
- Mitchell, R., Schuster, L., & Drennan, J. (2017). Understanding how Gamification Influences Behaviour in Social Marketing. *Australasian Marketing Journal*, 25(1), 12–19. <https://doi.org/10.1016/j.ausmj.2016.12.001>
- Nguyen-Viet, B., & Nguyen, Y. T. H. (2025). Green gamification in marketing: Bibliometric mapping, framework-based systematic review, and future research agenda. *Acta Psychologica*, 261, 105874. <https://doi.org/10.1016/j.actpsy.2025.105874>
- Nigam, A. (2022). Online Gaming and OTT Consumption: An Exploratory Study of Generation Z. *Journal of Promotion Management*, 28(4), 420–442. <https://doi.org/10.1080/10496491.2021.2008576>
- Noorbehhahani, F., Salehi, F., & Jafar Zadeh, R. (2019). A systematic mapping study on gamification applied to e-marketing. *Journal of Research in Interactive Marketing*, 13(3), 392–410. <https://doi.org/10.1108/JRIM-08-2018-0103>
- Punwatkar, S., & Verghese, M. (2025). Investigating the impact of gamification on customer engagement, brand loyalty and purchase intent in marketing. *Journal of Applied Research and Technology*, 23(1), 94–102. <https://doi.org/10.22201/icat.24486736e.2025.23.1.2592>
- Ramchandani, M., Bhattacharya, S., & Coste-Maniere, I. (2024). Effects of bimanual vs unimanual motor actions on consumer behavior intention and attitude. *Journal of Consumer Marketing*, 41(7), 693–705. <https://doi.org/10.1108/JCM-04-2023-5980>
- Rodrigues, I., Lopes, J. M., Borges, A., Oliveira, J., & Oliveira, M. (2021). How Can Gamified Applications Drive Engagement and Brand Attitude? The Case of Nike Run Club Application. *Administrative Sciences*, 11(3), 92. <https://doi.org/10.3390/admsci11030092>
- Rodrigues, I. M. F. M., Soares, N. F. M., Lopes, J. M., Oliveira, J. C., & Lopes, J. M. N. G. (2021). GAMIFICATION AS A NEW TREND IN THE CO-CREATION PROCESS. *RAM. Revista de Administração Mackenzie*, 22(4), eRAMR210132. <https://doi.org/10.1590/1678-6971/eramr210132>
- SanMiguel, P., Sádaba, T., & Sayeed, N. (2024). Fashion brands in the metaverse: Achievements from a marketing perspective. *Journal of Global Fashion Marketing*, 15(3), 320–340. <https://doi.org/10.1080/20932685.2024.2331518>
- Santos, M., & Schlesinger, W. (2026). Does age affect love? Exploring the antecedents and outcomes of brand love and the influence of generational cohorts on streaming services. *Journal of Marketing Analytics*, 14(1), 138–157. <https://doi.org/10.1057/s41270-024-00329-8>
- Santos, P. M., Dias, J. M., & Bairrada, C. M. (2024). Gamification in marketing: Insights on current and future research directions based on a bibliometric and theories, contexts, characteristics and methodologies analysis. *Heliyon*, 10(11), e32047. <https://doi.org/10.1016/j.heliyon.2024.e32047>
- Sharma, V., Payal, R., Dutta, K., Poulouse, J., & Kapse, M. (2024). A comprehensive examination of factors influencing intention to continue usage of health and fitness apps: A two-stage hybrid SEM-ML analysis. *Cogent Business & Management*, 11(1), 2391124. <https://doi.org/10.1080/23311975.2024.2391124>
- Sharma, W., Lim, W. M., Kumar, S., Verma, A., & Kumra, R. (2024). Game on! A state-of-the-art overview of doing business with gamification. *Technological Forecasting and Social Change*, 198, 122988. <https://doi.org/10.1016/j.techfore.2023.122988>
- Shatila, K., Martínez-Climent, C., Enri-Peiró, S., & Perez-Ruiz, P. (2025). The impact of gamification on academic performance: The case of digital marketing in Lebanon. *European Journal of Innovation Management*, 28(8), 4061–4082. <https://doi.org/10.1108/EJIM-04-2024-0411>
- Sheetal, Tyagi, R., & Singh, G. (2023). Gamification and customer experience in online retail: A qualitative study focusing on ethical perspective. *Asian Journal of Business Ethics*, 12(1), 49–69. <https://doi.org/10.1007/s13520-022-00162-1>
- Shekhar, S. K., & Kumar, C. G. (2025). The power of gamification in marketing and brand engagement: Trends and insights. *International Journal of Process Management and Benchmarking*, 20(4), 513–537. <https://doi.org/10.1504/IJPMB.2025.147409>

- Singh, G., Kumar, B., & Jain, K. (2021). Gamification in marketing. *International Journal of Information Management*, 61, 102415. <https://doi.org/10.1016/j.ijinfomgt.2021.102415>
- Singh, Y., & Milan, R. (2025). Utilitarian and Hedonic Values of Gamification and Their Influence on Brand Engagement, Loyalty, Trust and WoM. *Entertainment Computing*, 52, 100868. <https://doi.org/10.1016/j.entcom.2024.100868>
- Song, B. L., Lee, K. L., Liew, C. Y., & Subramaniam, M. (2023). The role of social media engagement in building relationship quality and brand performance in higher education marketing. *International Journal of Educational Management*, 37(2), 417–430. <https://doi.org/10.1108/IJEM-08-2022-0315>
- Srivastava, G., & Bag, S. (2021). Diagnosing key factors for gamification in marketing using hierarchical clustering technique. *International Journal of Technology Marketing*, 15(4), 354. <https://doi.org/10.1504/IJTMKT.2021.119074>
- Srivastava, G., Bag, S., Rahman, M. S., Pretorius, J. H. C., & Gani, M. O. (2023). Examining the dark side of using gamification elements in online community engagement: An application of PLS-SEM and ANN modeling. *Benchmarking: An International Journal*, 30(9), 2921–2947. <https://doi.org/10.1108/BIJ-03-2022-0160>
- Sundborn, G., Thornley, S., Grey, C., Gentles, D., Jackson, R. T., Swinburn, B., Veatupu, L., & Lang, B. (2021). Gamification and Sugar: A School-Based Pilot Study of Social Marketing and Gamification Approaches to Reduce Sugary Drink Intake in Pasifika School Students. *Asia Pacific Journal of Public Health*, 33(6–7), 727–733. <https://doi.org/10.1177/10105395211030133>
- Thorpe, A. S., & Roper, S. (2019). The Ethics of Gamification in a Marketing Context. *Journal of Business Ethics*, 155(2), 597–609. <https://doi.org/10.1007/s10551-017-3501-y>
- Tom Dieck, M. C., Krey, N., & Cranmer, E. (2025). The value of augmented reality: Exploring hedonic and utilitarian augmented reality experiences. *Internet Research*, 35(3), 1252–1273. <https://doi.org/10.1108/INTR-11-2023-1048>
- Tran, M. T. (2026). Advancing retail and service strategies: AI-driven consumer behavior prediction, gamification, and ethical marketing. *Journal of Retailing and Consumer Services*, 88, 104558. <https://doi.org/10.1016/j.jretconser.2025.104558>
- Tran, T. P., May, M., & Kowalczyk, C. M. (2022). Understanding Key Factors Motivating Customers to Purchase Brands via Brand Apps: A Service Dominant Logic Perspective. *Services Marketing Quarterly*, 43(1), 67–86. <https://doi.org/10.1080/15332969.2021.1997503>
- Whittaker, L., Mulcahy, R., & Russell-Bennett, R. (2021). ‘Go with the flow’ for gamification and sustainability marketing. *International Journal of Information Management*, 61, 102305. <https://doi.org/10.1016/j.ijinfomgt.2020.102305>
- Worimegbe, P. M., Worimegbe, T. M., & Akinyede, O. (2021). Gamification and Firms Competitiveness: An Analysis of Deposit Money Banks. *Market-Tržište*, 33(2), 129–147. <https://doi.org/10.22598/mt/2021.33.2.129>
- Wu, Y., & Huang, H. (2023). Influence of Perceived Value on Consumers’ Continuous Purchase Intention in Live-Streaming E-Commerce—Mediated by Consumer Trust. *Sustainability*, 15(5), 4432. <https://doi.org/10.3390/su15054432>
- Xi, N., & Hamari, J. (2020). Does gamification affect brand engagement and equity? A study in online brand communities. *Journal of Business Research*, 109, 449–460. <https://doi.org/10.1016/j.jbusres.2019.11.058>
- Xu, F., Tian, F., Buhalis, D., Weber, J., & Zhang, H. (2016). Tourists as Mobile Gamers: Gamification for Tourism Marketing. *Journal of Travel & Tourism Marketing*, 33(8), 1124–1142. <https://doi.org/10.1080/10548408.2015.1093999>
- Yang, Y., Asaad, Y., & Dwivedi, Y. (2017). Examining the impact of gamification on intention of engagement and brand attitude in the marketing context. *Computers in Human Behavior*, 73, 459–469. <https://doi.org/10.1016/j.chb.2017.03.066>
- Zafar, A. U., Sajjad, A., Agarwal, R., Lamprinakos, G., & Yaqub, M. Z. (2025). Digital transformation portrays a play or ploy for brands: Exploring the impact of green gamification as a digital marketing strategy. *International Marketing Review*, 42(4), 585–603. <https://doi.org/10.1108/IMR-04-2024-0110>

- Zhang, W.-Y., Zhang, S.-N., Ruan, W.-Q., & Li, Y.-Q. (2025). Can gamification marketing enhance the digital destination image of cultural heritage sites? *Journal of Vacation Marketing*, 13567667251333476. <https://doi.org/10.1177/13567667251333476>
- Zheng, L. (2024). How to make users fall in love with a mobile application: A moderated-mediation analysis of perceived value and (brand) love. *Information Technology & People*, 37(3), 1360–1378. <https://doi.org/10.1108/ITP-06-2022-0465>
- Zhou, F., Lin, Y., Mou, J., Cohen, J., & Chen, S. (2023). Understanding the dark side of gamified interactions on short-form video platforms: Through a lens of expectations violations theory. *Technological Forecasting and Social Change*, 186, 122150. <https://doi.org/10.1016/j.techfore.2022.122150>