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The Role of Gamification in Marketing in Enhancing Brand Loyalty through Customer Engagement: An Applied Study on the E-Commerce Sector in Saudi Arabia

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Abstract

This study examines the influence of gamification on brand loyalty, mediated by customer engagement, within the e-commerce sector in Saudi Arabia. Grounded in relationship marketing and self-determination theory, the research conceptualizes gamification as a multidimensional construct comprising fun, rewards, competition, and storytelling. A quantitative approach was adopted, and data were collected using a structured questionnaire from 384 online shoppers familiar with gamified e-commerce platforms. The study employed the partial least squares structural equation modeling (PLS-SEM) technique via SmartPLS 4.0 to assess both measurement and structural models. The findings indicated that gamification exerts a substantial and favorable impact on customer engagement ($\beta = 0.687$, $p < 0.01$) and brand loyalty ($\beta = 0.385$, $p < 0.01$). Furthermore, consumer engagement is a strong predictor of brand loyalty ($\beta = 0.480$, $p < 0.01$) and partially mediates the association between gamification and brand loyalty ($\beta = 0.330$, $p < 0.01$).

These findings support the notion that gamification strategies not only increase user interaction but also foster emotional and behavioral engagement that translates into stronger loyalty to the brand. The study contributes to the theoretical understanding of gamification's role in marketing by highlighting its indirect pathways of influence. From a practical perspective, the findings provide actionable insights for marketers in the e-commerce domain aiming to build long-term customer relationships through engaging gamified experiences. The research also aligns with Saudi Vision 2030 by promoting digital innovation and enhancing customer satisfaction in the retail sector.

Keywords: Gamification, Customer Engagement, Brand Loyalty, E-commerce, Saudi Arabia, PLS-SEM, Vision 2030.



1. Introduction

In a progressively competitive and digital marketplace, companies are persistently pursuing novel tactics to cultivate lasting relationships with their customers. Gamification, the integration of game design features into non-game contexts (Sabaa et al., 2025), has emerged as an effective instrument for improving consumer experiences, increasing involvement, and cultivating deeper engagement (Gupta et al., 2024; Lopes et al., 2023). Gamification utilizes psychological mechanisms, including enjoyment, competition, rewards, and narrative, to convert mundane interactions into engaging experiences that fulfill consumers' inherent needs for competence, autonomy, and social connection, as outlined by Self-Determination Theory (Deci & Ryan, 1985).

Studies across several industries have consistently shown that gamification effectively improves consumer engagement. Research in the tourism and hospitality sectors indicates that interactive maps, challenges, and storytelling significantly enhance tourist engagement and foster brand loyalty (Abou-Shouk & Soliman, 2021; Elgarhy et al., 2023). In the banking sector, the incorporation of points, leaderboards, and incentives in mobile applications enhanced user engagement, subsequently affecting purchase intentions and loyalty behaviors (Raza et al., 2023; Kosiba et al., 2018). Research in e-commerce and telecommunications has demonstrated that gamification alleviates browsing tedium, fosters engagement, and motivates users to share experiences, thereby enhancing their emotional connections to businesses (Banerjee & Bhattacharya, 2022; Elwakeel et al., 2025).

The established connection between gamification and customer outcomes is well-documented, with various studies highlighting the mediating function of customer engagement, which serves as a psychological and behavioral conduit through which gamification enhances brand loyalty (Hollebeek et al., 2021; Penampe et al., 2024). This mediation emphasizes that gamified experiences are inadequate on their own; their effectiveness depends on their capacity to engage customers meaningfully, fostering enduring emotional and behavioral ties with companies (Bravo et al., 2024; Ting et al., 2020).

Furthermore, associating this study with Saudi Vision 2030 is quite pertinent. The Kingdom aims to diversify its economy and evolve into a

premier digital hub, prioritizing the improvement of customer experiences and the cultivation of brand loyalty in dynamic e-commerce and service sectors, which closely corresponds with the strategic objectives of Vision 2030. This national roadmap clearly promotes innovation, digital transformation, and the enhancement of customer-centric standards across all industries. This research investigates the impact of gamification on consumer engagement and brand loyalty in Saudi Arabia. Addressing theoretical deficiencies while offering practical insights that align with the Kingdom's goal of establishing a vibrant, competitive, and digitally advanced economy (Elgebaly et al., 2025). Consequently, the findings are anticipated to provide practical contributions that align with both academic research and the Kingdom's overarching socio-economic reform goals.

2. Literature Review and Hypothesis Development

2.1. Gamification and Customer Engagement

Gamification is increasingly viewed in marketing and consumer behavior theories as a strategic tool that utilizes game design elements—such as points, badges, leaderboards, and challenges—to improve customer engagement by satisfying intrinsic psychological needs (Deci & Ryan, 1985). Self-determination theory posits that when individuals view experiences as fulfilling their requirements for competence, autonomy, and relatedness, they are more inclined to participate profoundly and maintain their participation Sabaa et al., 2025. In the tourism industry, gamification has been shown to markedly enhance consumer engagement by encouraging travelers to engage actively, interact socially, and experience locations in more profound ways (Abou-Shouk & Soliman, 2021). Gamification, with elements such as interactive maps, challenges, incentives, and storytelling, evolves beyond simple entertainment to serve as a purposeful instrument for cultivating sustained engagement, effectively matching with experiential marketing paradigms.

Moreover, in the realm of digital retailing and e-commerce, research has shown that gamification converts buying from a mere transactional activity into an immersive experience that appeals to customers' inherent impulses for accomplishment and pleasure. Integrating game components like quizzes, spin-wheels, and reward systems has been demonstrated to markedly improve customer engagement by rendering purchasing more



engaging and pleasurable (Punwatkar & Verghese, 2025). Qualitative research on platforms such as Flipkart and Amazon indicates that gamification alleviates the tedium of conventional browsing, prompting consumers to engage more extensively with the brand, enhance social sharing, and foster greater purchase intentions (Banerjee & Bhattacharya, 2022).

In addition, studies on gamified loyalty programs offer additional evidence of how gamification enhances customer engagement via intrinsic and extrinsic motivators. Hollebeek et al. (2021) defined gamified participation as encompassing both direct actions, such as purchases, and indirect contributions, including advocacy and social sharing. Their findings indicated that gamified experiences enhance pleasure of difficulties and self-expression while utilizing extrinsic incentives such as unpredictability and rewards, thereby maintaining elevated levels of engagement over time. This aligns with research in hospitality settings, indicating that the incorporation of gamification elements—such as quizzes, points, and playful systems—into loyalty programs enhances perceived hedonic and utilitarian value, thereby promoting repeat bookings, referrals, and feedback, even when tangible rewards are minimal (Bravo et al., 2024).

Furthermore, in service sectors such as banking and tourism, gamification has demonstrated the capacity to foster more engaging and significant connections. Elgarhy et al. (2023) discovered that the integration of gamification components, including awards, competitions, badges, and ranking systems, within Egyptian hotels and travel agencies markedly improved consumer engagement by rendering interactions more pleasurable and individually pertinent. The application of structural equation modeling demonstrated that consumer engagement mediated the effect of gamification on intrinsic motives and repurchase intentions. Similarly, in mobile banking, the incorporation of points, challenges, awards, and leaderboards enhanced app interactivity and enjoyment, hence directly boosting engagement and indirectly influencing purchase intentions (Raza et al., 2023).

Research in language learning applications further emphasizes the significance of meticulously crafted gamification in enhancing engagement. Penampe et al. (2024) established that enjoyment, creative cognition, and sentiments of superiority resulting from gameful experiences markedly

enhanced customer engagement, hence reinforcing brand loyalty. Yadav et al. (2022) found that the integration of gamified components, including points, badges, convenience features, and enjoyment-oriented interactions in shopping applications led to increased engagement, shaped by perceived usefulness, simplicity of use, and overall convenience.

Collectively, these studies offer substantial empirical evidence for the theoretical assertion that gamification amplifies customer engagement by fulfilling intrinsic psychological needs, generating pleasurable and interactive experiences, and cultivating profound cognitive and emotional connections with brands. This results in the hypothesis:

H1: There is a positive and significant relationship between gamification and customer engagement, such that higher levels of gamified experiences lead to increased customer engagement.

2.2. Customer Engagement and Brand Loyalty

Customer engagement (CE) has become a fundamental concept in relationship marketing theory, frequently regarded as a primary precursor to brand loyalty (BL). Utilizing the engagement theory proposed by Brodie et al. (2011), which characterizes customer engagement (CE) as a multifaceted construct encompassing cognitive, emotional, and behavioral involvement in brand encounters, several studies have empirically substantiated its influence on fostering consumer loyalty. Research has shown that both active and passive engagement—such as commenting, publishing, liking, or merely perusing a business’s social media—can enhance psychological connections and behavioral commitments to the brand (Greve, 2014). Significantly, elevated engagement levels mitigate the conventional impact of brand image on loyalty, thus diminishing reliance on brand image techniques (Greve, 2014).

Furthermore, expanding upon this theoretical framework, research in the FinTech industry has demonstrated that customer engagement behaviors, together with self-brand links, are essential mechanisms via which self-concept and communal orientation manifest as loyalty (Kini et al., 2024). This indicates that loyalty is not solely a result of self-concept congruence, but also arises from emotionally enriching engagement experiences. Research similarly underscored the mediating function of social interactivity, revealing that engagement activities, such as acquiring



knowledge about a brand or appreciating online content, exert a direct positive influence on brand loyalty, with interactions between customers and brands, as well as among customers, further reinforcing this connection (Ting et al., 2020).

Furthermore, researchers have examined how psychological engagement amplifies this association. Research indicates that brand attention amplifies enthusiasm, hence enhancing loyalty, especially on social media (Perez Benegas & Zanfardini, 2023). This supports the idea that the emotional and cognitive aspects of customer engagement can mutually reinforce one another to enhance brand loyalty. Similarly, gamification strategies that fulfill intrinsic psychological needs such as competence, autonomy, and relatedness have demonstrated the ability to enhance engagement and foster enduring loyalty (Tangsophon & Ketprapakorn, 2025), highlighting the significance of self-determination theory in elucidating these phenomena.

Moreover, numerous researches have emphasized the indirect mechanisms by which customer engagement promotes loyalty. In the context of tourist social media, it has been demonstrated that consumer engagement does not directly lead to loyalty but functions entirely through mediators such as brand attachment and customer trust (Li et al., 2020). Similarly, research on healthcare services indicated that while enthusiasm and interaction directly drive BL, dimensions like attention and absorption affect loyalty indirectly by first enhancing brand trust (Kholis & Ratnawati, 2021). These findings align with relational exchange theories, which assert that trust serves as a vital link between engagement and loyalty outcomes (Morgan & Hunt, 1994).

The significance of experiential marketing in fostering customer engagement and loyalty has become increasingly notable. Immersive experiences that engage clients' senses, emotions, and social connections markedly improve engagement, thus fostering loyalty in luxury fashion contexts (Lu et al., 2023). Similar trends have been noted in the hospitality sector, where personalized interactions informed by real-time customer data enhance immediate expenditure and strengthen long-term loyalty (Aluri et al., 2018), illustrating how technology-facilitated value co-creation can implement engagement frameworks.

Furthermore, other industry studies—ranging from banking (Kosiba et al., 2018) to healthcare (Tuti & Sulistia, 2022; Rasool et al., 2021)—validate the strength of this association. Research indicates that customer engagement—encompassing emotional, cognitive, and behavioral aspects—substantially affects the relationship between a bank's perceived trustworthiness and customer loyalty to the brand (Kosiba et al., 2018). CE repeatedly appears as a crucial precursor to loyalty, whether via affective identification (Rather et al., 2018) or through satisfaction and trust pathways (Tuti & Sulistia, 2022). These data collectively support the theoretical assertion that customer engagement, rooted in emotional, cognitive, and behavioral processes, is a fundamental driver of brand loyalty across many industry contexts.

H2: There is a positive and significant relationship between customer engagement and brand loyalty, such that higher levels of customer engagement led to increased brand loyalty.

2.3. Gamification and Brand Loyalty

Gamification is becoming recognized in marketing literature as a strategic method that utilizes game design elements—such as points, badges, leaderboards, and challenges—to enhance consumer engagement, satisfaction, and ultimately brand loyalty. Utilizing self-determination theory, which highlights the fulfillment of psychological needs for competence, autonomy, and relatedness to foster intrinsic motivation (Deci & Ryan, 1985), numerous researchers have explored how gamified experiences activate these needs to promote brand-supportive behaviors. In e-commerce marketplaces, gamification markedly improves customer engagement by rendering shopping more interactive and gratifying, hence positively affecting purchase decisions and fostering long-term loyalty (Sumarmi et al., 2025). Purchase decisions serve as a vital intermediary, demonstrating that gamification stimulates initial consumer behaviors that subsequently lead to enduring loyalty (Sumarmi et al., 2025).

Furthermore, research has shown the indirect mechanisms by which gamification enhances brand loyalty. Research indicates that whereas gameful experiences, like as badges, leaderboards, and interactive challenges, do not directly foster loyalty, they substantially enhance it through the mediating influence of customer–brand engagement (Habachi et al., 2024). In the tourism sector, gamification increases engagement by



motivating travelers to actively participate, contribute ideas within brand communities, and cultivate enthusiasm for places, hence reinforcing loyalty (Abou-Shouk & Soliman, 2021). These findings emphasize that customer involvement is a crucial psychological process that converts gamified encounters into lasting brand relationships (Habachi et al., 2024; Abou-Shouk & Soliman, 2021).

The complexity of gamification design significantly influences loyalty results. Research on mobile applications indicated that the incorporation of gaming aspects, including narrative, mechanics, aesthetics, and technology, not only enhanced consumer engagement but also favorably influenced brand loyalty and the desire to persist in app usage (Gödekmerdan Önder, 2023). This aligns with concepts from game studies that highlight the multifaceted aspect of engaging game design (Schell, 2008). A study on Duolingo indicated that frequent utilization of immersion- and achievement-oriented aspects markedly improved user loyalty, but dependence simply on social features proved inadequate (Mattke & Maier, 2021). These insights highlight that gamification should not be treated as a single homogeneous strategy but rather tailored to fulfill diverse user motivations (Mattke & Maier, 2021).

Furthermore, numerous researches indicate the emotional and cognitive mechanisms by which gamification influences loyalty. Research indicates that fun, creative thinking, and emotions of dominance derived from gamified experiences in language learning applications substantially enhance brand engagement, which completely mediates the impact on loyalty (Penampe et al., 2024). Similarly, incorporating gamification into digital marketing techniques cultivates emotional connections, promotes repeated engagement, and ultimately enhances brand loyalty (Noviany & Al-Amin, 2024). These results correspond with relationship marketing theories that underscore the necessity of profound psychological ties for cultivating enduring loyalty (Penampe et al., 2024; Noviany & Al-Amin, 2024).

The social aspect of gamification is also significant, since it fosters shared experiences that cultivate brand communities. Incorporating prizes, badges, and interactive challenges into social commerce enhances individual loyalty and fosters dynamic communities, hence reinforcing loyalty through social interactions (Kumar & Manjula, 2025).

Incorporating gamification elements such as storytelling, points, and levels into live brand events has been demonstrated to elevate enjoyment, satisfaction, and a sense of community, hence strengthening emotional ties and loyalty (Abdelhalim, 2025). In the hospitality industry, gamified loyalty programs enhanced both hedonic and utilitarian value perceptions, fostering favorable brand-supporting actions such as repeat reservations and referrals, despite low actual benefits (Bravo et al., 2024). Taken together, this literature supports the hypothesis that:

H3: There is a positive and significant relationship between gamification and brand loyalty, such that higher levels of customer engagement arising from gamified experiences lead to increased brand loyalty.

2.4. The Mediating Role of Customer Engagement

Customer engagement (CE) has arisen in modern marketing theory as a crucial psychological and behavioral phenomenon that mediates the impact of many marketing strategies—such as gamification—on brand loyalty. Self-determination theory (Deci & Ryan, 1985) posits those experiences satisfying customers' intrinsic requirements for enjoyment, competence, and social connection foster enhanced engagement, hence resulting in more robust brand relationships. This theoretical framework has guided various empirical studies exploring how gamification indirectly cultivates brand loyalty by improving customer engagement.

In the tourism sector, Abou-Shouk and Soliman (2021) showed that gamification elements like interactive maps, rewards, and storytelling encourage tourists to actively participate and engage socially, with engagement serving as the primary pathway linking these experiences to loyalty toward tourism brands. Elgarhy et al. (2023) discovered that in hospitality environments, the incorporation of gamification elements—such as points, badges, and competitive rankings—not only enhanced enjoyment but also elevated customer engagement, which completely mediated the connection between gamification and brand loyalty outcomes, including repurchase intentions.

Data from technology-driven services further emphasizes this mediating function. In mobile banking, gamification markedly improved consumer engagement, serving as a vital mechanism connecting these enjoyable experiences to loyalty-related results (Raza et al., 2023).



Similarly, Penampe et al. (2024) revealed that in language learning applications, fundamental gameful experiences—such as enjoyment and creative challenges—enhanced engagement, which subsequently mediated the impact on brand loyalty. This corresponds with overarching relationship marketing ideas indicating that engagement serves as a psychological conduit through which marketing initiatives foster enduring brand connections.

The hospitality sector provides analogous insights. Hollebeek et al. (2021) shown that gamified loyalty programs enhance both intrinsic and extrinsic motives, hence increasing customer engagement, which subsequently promotes repeat patronage and advocacy, reinforcing brand loyalty. Bravo et al. (2024) expanded upon this by demonstrating that gamified hotel loyalty programs enhanced perceived value, prompting customers to participate through repeat bookings and favorable word-of-mouth—further emphasizing engagement as the critical link to loyalty.

Collectively, these data substantiate the theoretical premise that customer engagement acts as a crucial mediator, converting gamified experiences into enhanced brand loyalty. This results in the subsequent hypothesis:

H4: Customer engagement mediates the relationship between gamification and brand loyalty.

3. Conceptual Framework

This study's conceptual framework is based on self-determination theory (Deci & Ryan, 1985), which asserts that fulfilling individuals' inherent psychological demands for competence, autonomy, and relatedness enhances motivation and engagement. The model identifies gamification as the principal external stimulus intended to activate intrinsic motivations by incorporating game elements like points, challenges, badges, leaderboards, and storytelling into digital customer experiences (Hollebeek et al., 2021; Punwatkarn & Verghese, 2025).

This study posits, based on substantial empirical evidence, that gamification has a beneficial effect on customer engagement. Multiple studies have shown that incorporating game components onto online platforms converts mundane or transactional encounters into more engaging, pleasurable, and personally significant experiences.

Gamification elements in banking applications (Raza et al., 2023), e-commerce platforms (Banerjee & Bhattacharya, 2022), and language learning software (Penampe et al., 2024) have been demonstrated to markedly enhance users' cognitive, emotional, and behavioral engagement with the brand. This corresponds with research in hospitality and tourism, indicating that gamification promotes active participation and deeper engagement among tourists and guests with services (Abou-Shouk & Soliman, 2021; Elgarhy et al., 2023).

The framework asserts that client interaction enhances brand loyalty. As customers become increasingly immersed and emotionally invested in engaging experiences, they cultivate deeper attachments and commitments to the brand. This association has been thoroughly recorded across various industries. In hospitality, gamified loyalty programs increased repeat bookings and positive word-of-mouth (Bravo et al., 2024), while in education and mobile apps, engaging experiences translated into ongoing platform use and preference (Penampe et al., 2024).

This study posits that customer involvement modulates the relationship between gamification and brand loyalty. This mediation emphasizes that gamification alone may not directly produce brand loyalty; instead, it is through enhancing customer engagement—by rendering interactions more immersive, gratifying, and socially connected—that gamification ultimately fosters loyalty (Hollebeek et al., 2021; Bravo et al., 2024). This viewpoint is substantiated by research in mobile banking and hotels, where customer interaction acted as a vital conduit for converting gamified experiences into loyalty results (Raza et al., 2023; Elgarhy et al., 2023).

The Conceptual Framework consolidates these linkages into a cohesive framework, suggesting that gamification, by satisfying intrinsic motivating demands, amplifies customer involvement, hence cultivating brand loyalty. This model expands upon established theoretical frameworks while simultaneously addressing empirical deficiencies by examining these interrelationships within the evolving landscape of Saudi e-commerce and services, in accordance with the Kingdom's Vision 2030 objectives of improving digital experiences and cultivating sustainable customer relationships.

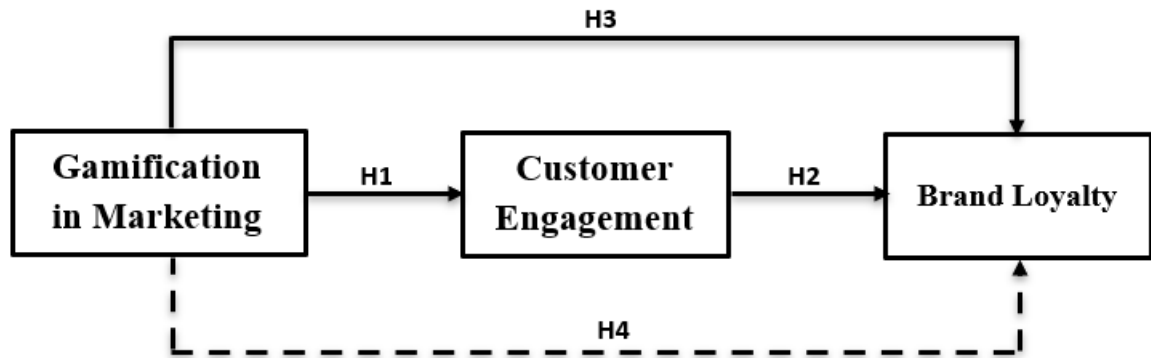


Fig 1. Research Conceptual Framework

4. Problem Statement

Despite the growing integration of gamification into marketing strategies, particularly in technologically advanced economies such as Saudi Arabia, there is a lack of empirical research regarding how gamification enhances brand loyalty through the mediating effect of customer engagement in e-commerce and service sectors. The predominant focus of the present study has been on direct impacts or intermediary variables such as trust and satisfaction, overlooking the critical role of engagement as a mediator between gamified interactions and enduring loyalty (Kini et al., 2024; Li et al., 2020). This gap is especially pertinent in the Saudi context, where rapid digital adoption and intense market competition necessitate more sophisticated methods for customer retention.

5. Research Questions

Consequently, the study aims to investigate the following principal research questions:

- What is the impact of gamification on customer engagement within Saudi e-commerce and services?
- What is the effect of consumer interaction on brand loyalty in these sectors?
- Does consumer engagement serve as a mediator in the engagement between gamification and brand loyalty?

6. Research gap

Despite the rapid surge in interest in gamification as a marketing strategy over the past decade, the literature remains fragmented about its long-term behavioral outcomes, particularly its impact on brand loyalty through customer engagement. While many studies have explored the effects of gamification on engagement or loyalty individually, there is a lack of research that evaluates comprehensive models assessing the mediating role of customer engagement between gamification and brand loyalty (Hollebeek et al., 2021; Raza et al., 2023). Furthermore, much prior research has concentrated on Western or Asian contexts, leading to a significant geographical gap in understanding how these dynamics function inside Middle Eastern markets, particularly in Saudi Arabia's burgeoning e-commerce sector. Furthermore, previous studies often treat gamification as a homogeneous construct, overlooking the unique effects of different gamification elements on engagement and loyalty. This study investigates the theoretical and contextual gap by analyzing the direct and indirect impacts of gamification on brand loyalty via customer engagement, employing data from the Saudi e-commerce sector, and grounding the research in Self-Determination and Social Exchange theories to clarify the fundamental psychological mechanisms.

7. Research Objectives

Consequently, the research intends to:

- Analyze the immediate impact of gamification on consumer engagement.
- Evaluate the impact of customer engagement on brand loyalty.
- Examine the mediating effect of customer engagement on the connection between gamification and brand loyalty.

8. Research Importance

This research is of considerable significance both academically and practically. This paper enhances the existing literature by merging gamification theory with the engagement–loyalty paradigm, providing a refined comprehension of the impact of game-based marketing methods on customer behavior via the mediating influence of engagement. This research addresses a theoretical gap by illustrating that customer



engagement is both a consequence of gamified experiences and a vital psychological process that fosters brand loyalty, unlike previous studies that only focused on the direct relationship between gamification and brand loyalty. The research further underscores the significance of Self-Determination Theory and Social Exchange Theory in elucidating contemporary digital consumer behavior.

The study provides relevant and actionable data for organizations, especially in the rapidly changing Saudi e-commerce sector. Given Vision 2030's emphasis on digital transformation, innovation, and customer pleasure, the findings provide essential solutions for enhancing consumer experiences and cultivating enduring loyalty. With the rising desire for interactive and meaningful digital experiences among Saudi customers, gamification has become a potent strategy for organizations aiming to distinguish themselves and enhance customer-brand relationships. Consequently, the study enhances theoretical understanding while closely aligning with national priorities, aiding firms in attaining customer-centric excellence in a digitally competitive economy.

9. Methodology

a. Measures

This study utilizes previously validated measuring scales, modified from three prior studies, to evaluate the proposed conceptual model. The gamification construct is assessed using items sourced from Elwakeel et al. (2025), who examined gamification in Saudi telecommunications marketing. Items represent components including points, badges, challenges, feedback, and competitiveness. The measurement scale for consumer engagement was modified from Yoong and Lian (2019), encompassing cognitive, emotional, and behavioral characteristics in digital platforms. Brand loyalty is ultimately assessed by items from Zameer et al. (2015), which include customers' intents to repurchase, recommend, and sustain a long-term relationship with the brand.

All constructs were assessed utilizing a five-point Likert scale, with representing 'strongly disagree' and 5 denoting 'strongly agree.' Before analysis, the questionnaire was evaluated by academic specialists in marketing and pilot tested with 30 respondents to verify clarity and reliability.

b. Data Collection and Sample

Data were collected through an online survey administered to consumers who have experience with e-commerce platforms in Saudi Arabia that integrate gamified features. A selective sample technique was employed to select respondents acquainted with gamified online purchasing settings. A total of 384 valid responses were obtained, meeting the minimal sample size criteria for partial least squares structural equation modeling (PLS-SEM) as specified by Hair et al. (2019).

Demographic data encompassed age, gender, educational attainment, frequency of online transactions, and knowledge with gamification. Participation was optional, and all participants were guaranteed the privacy and confidentiality of their comments.

Table 1: Sample Description

Variable	Classification	Frequency	Percentage (%)
Gender	Male	210	54.7%
	Female	174	45.3%
Age	18–24 years	126	32.8%
	25–34 years	158	41.1%
	35–44 years	72	18.8%
	45+ years	28	7.3%
Education Level	High school or less	35	9.1%
	Diploma	57	14.8%
	Bachelor's degree	216	56.3%
	Postgraduate (Master/PhD)	76	19.8%
Online Shopping Frequency	Rarely (1–2 times/month)	44	11.5%
	Occasionally (3–5 times/month)	139	36.2%
	Frequently (6–10 times/month)	123	32.0%
	Very Frequently (10+ times/month)	78	20.3%
Familiarity with Gamification	Not familiar	62	16.1%
	Somewhat familiar	128	33.3%
	Familiar	194	50.5%



Table 1 indicates the demographic and behavioral characteristics of the sample (N = 384). The gender distribution indicates a fairly balanced sample, with 54.7% male and 45.3% female individuals. The predominant age group among respondents is 25–34 years, with 41.1%, followed by 32.8% aged 18–24, signifying a largely youthful demographic. Regarding education, over half of the sample (56.3%) own a bachelor's degree, while 19.8% hold postgraduate qualifications, indicating a highly educated respondent pool. Concerning online shopping frequency, 36.2% engage infrequently (3–5 times per month), whereas 32.0% do so often (6–10 times each month), indicating active online consumer activity. Significantly, more than half of the participants (50.5%) indicated familiarity with gamification, reflecting a robust awareness of interactive marketing methods across the questioned cohort. The sample represents a digitally engaged and educated consumer demographic suitable for examining the impact of gamification on customer engagement and brand loyalty.

c. Data Analysis

This study uses SmartPLS 4.0 software to conduct data analysis through the Partial Least Squares Structural Equation Modeling (PLS-SEM) technique. PLS-SEM is appropriate for this study due to its effectiveness in modeling complex relationships involving mediation and its ability to handle measurement error in latent constructs (Hair et al., 2019).

10. Findings

a. Assessing the Reflective Measurement Framework

Table 2: First-order construct measurement elements

Construct and Items	Standardized Loading (sig.)	Alpha	CR	AVE
Gamification: Fun		0.823	0.895	0.739
1: The gamified elements of Saudi e-commerce platforms provide visually appealing and engaging experiences.	0.858**			
2: The engaging experience on the e-commerce site renders browsing enjoyable.	0.863**			
3: The platform's gamification aspects enhance entertainment throughout the buying experience.	0.858**			
Reward		0.828	0.897	0.744
4: I could improve my rating or advancement on the e-commerce platform by engaging in games or challenges.	0.848**			
5: The e-commerce platform provides diverse benefits, such as discount vouchers and loyalty points, via its gamified functionalities.	0.876**			
6: I can attain a distinctive identity or status (e.g., badge or title) by attaining elevated scores or rankings on the platform.	0.863**			

Competition		0.824	0.895	0.740
7: I can engage and cultivate relationships with other users via games offered on the e-commerce site.	0.859**			
8: I may juxtapose my scores or ranks with those of other users on the platform.	0.873**			
9: The platform enables me to engage in competition with other users effectively.	0.848**			
Storytelling		0.832	0.899	0.748
10: The e-commerce platform offers a compelling brand narrative that engages my interest.	0.863**			
11: I find the narrative or ethos of the brand on the platform to be attractive and engaging.	0.869**			
12: The brand narrative conveyed by the platform is clear and coherent.	0.862**			
Customer Engagement		0.934	0.950	0.792
1: I often browse e-commerce platforms to explore available products and services.	0.904**			
2: I often read product descriptions, reviews, and service information on e-commerce platforms.	0.886**			
3: I often use the "like" or "favorite" feature for products or services on e-commerce platforms.	0.885**			
4: I frequently leave comments or reviews on products I purchased or interacted with.	0.878**			
5: I often share product links, discounts, or promotions from e-commerce platforms with others.	0.895**			
Brand loyalty		0.947	0.958	0.790
1: This brand would be my preferred selection.	0.889**			
2: I regard myself as committed to this brand.	0.884**			
3: I will refrain from purchasing alternative brands if the identical product is available at the store.	0.883**			
4: I endorse this brand to individuals who solicit my counsel.	0.895**			
5: I receive substantial value for my expenditure.	0.885**			
6: I express favorable opinions about this brand to others.	0.898**			

Note: **P < 0.01. Alpha denotes Cronbach's Alpha, CR signifies Composite Reliability, and AVE represents Average Variance Extracted

Table 2 presents the reliability and validity metrics for the first-order measurement constructs utilized in the study: Gamification (divided into Fun, Reward, Competition, and Storytelling), Customer Engagement, and Brand Loyalty. All standardized factor loadings are statistically significant ($p < 0.01$), ranging from 0.848 to 0.904, demonstrating strong item dependability. Cronbach's Alpha coefficients for all constructs exceed the acceptable threshold of 0.70, varying from 0.824 to 0.947, indicating substantial internal consistency. The Composite Reliability (CR) values range from 0.895 to 0.958, hence confirming the constructions' reliability. Moreover, the Average Variance Extracted (AVE) for all constructs surpasses the 0.50 barrier, with values between 0.739 and 0.792, signifying convergent validity. The psychometric properties demonstrate that the measurement model is both reliable and valid, hence supporting the use of these constructs for structural model testing through PLS-SEM in Smart PLS 4.0.



Table 3. Descriptive statistics and correlations among constructs (Fornell-Larcker technique)

NO.	Construct	1	2	3	4	5	6
1	Fun	<i>0.860**</i>					
2	Reward	0.614**	<i>0.863**</i>				
3	Competition	0.657**	0.606**	<i>0.860**</i>			
4	Storytelling	0.583**	0.590**	0.659**	<i>0.865**</i>		
5	Customer Engagement	0.576**	0.574**	0.600**	0.572**	<i>0.890**</i>	
6	Brand Loyalty	0.610**	0.569**	0.633**	0.601**	0.745**	<i>0.889**</i>
	Mean	4.057	3.933	3.896	3.748	3.915	3.931
	Standard Deviation	0.798	0.850	0.903	0.972	0.842	0.786

Notes: **P < 0.001; The square root of AVE is presented in bold italics along the diagonal.

Table 3 displays the descriptive statistics and inter-construct correlations in accordance with the Fornell-Larcker criterion, thereby validating discriminant validity. The diagonal values represent the square root of the Average Variance Extracted (AVE) for each construct, all surpassing the corresponding inter-construct correlations, so confirming discriminant validity. The square root of the AVE values (in bold italics) varies from 0.860 (Fun and Competition) to 0.890 (Customer Engagement), indicating that each construct has larger variance with its indicators than with other constructs. Furthermore, all correlations across constructs are statistically significant at the 0.001 level, indicating strong positive associations between key factors, such as Customer Engagement and Brand Loyalty ($r = 0.745$), and Fun and Competition ($r = 0.657$). The results validate the theoretical framework, demonstrating the connection between gamification attributes, customer engagement, and brand loyalty, while also confirming the measurement methodology utilized in the research.

Table 4: The values of the Heterotrait-Monotrait (HTMT) criterion

NO.	Construct	1	2	3	4	5	6
1	Fun						
2	Reward	0.743					
3	Competition	0.796	0.734				
4	Storytelling	0.703	0.710	0.795			
5	Customer Engagement	0.658	0.652	0.683	0.648		
6	Brand Loyalty	0.690	0.642	0.716	0.678	0.791	

Table 4 presents the Heterotrait-Monotrait Ratio (HTMT) criterion values for assessing discriminant validity among the components. All HTMT values significantly fall below the conservative criterion of 0.85, varying from 0.642 to 0.796, indicating that each concept is empirically distinct from the others. The highest HTMT value (0.796) is seen between Fun and Competition, signifying a strong yet acceptable association. The HTMT values for Customer Engagement and Brand Loyalty (0.791) and

for Competition and Storytelling (0.795) are among the highest, however they stay within acceptable limits. These results further confirm the discriminant validity of the model components, strengthening the robustness of the measurement model and validating the distinctiveness of the latent variables examined in the study..

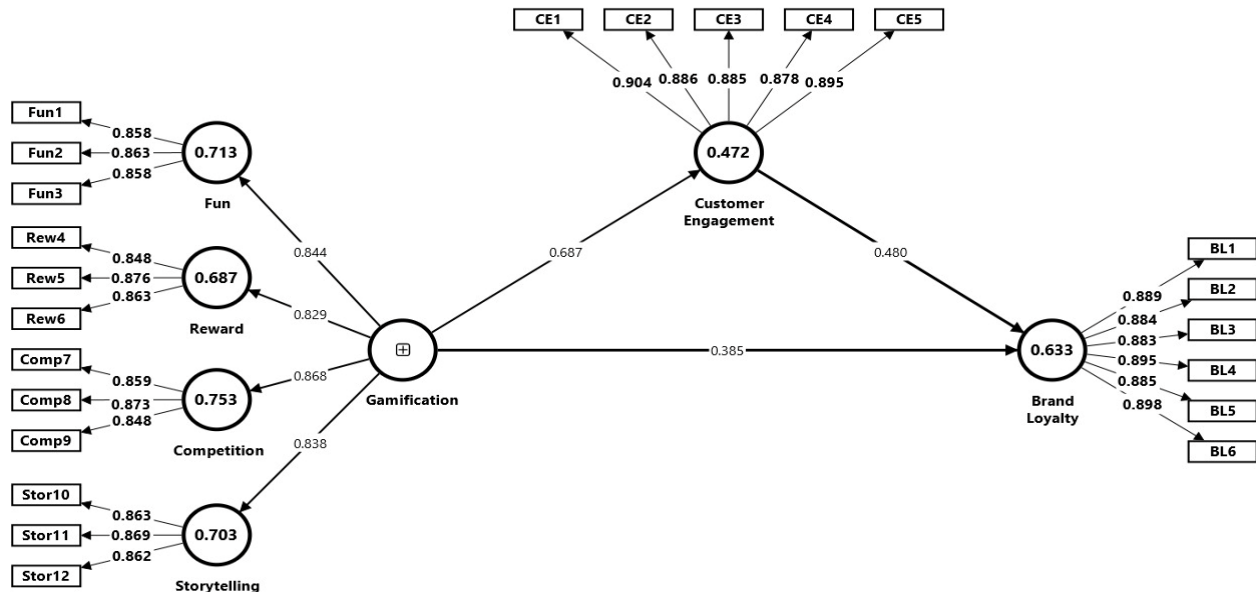


Figure 2. The reflective measurement model (First-order)

Figure 2 illustrates the first-order reflective measurement model, highlighting the interrelations among the constructs of gamification (comprising four dimensions: Fun, Reward, Competition, and Storytelling), Customer Engagement, and Brand Loyalty. All indicator loadings surpass 0.84, indicating robust dependability and indication validity. The latent variable "Gamification" is constituted by its dimensions, exhibiting loadings between 0.687 and 0.753, so affirming that each dimension greatly enhances the higher-order construct. The path coefficients indicate that gamification exerts a direct positive influence on customer engagement (0.687) and brand loyalty (0.385), whereas customer engagement considerably impacts brand loyalty (0.480). The R^2 values demonstrate that gamification accounts for 47.2% of the variance in consumer engagement and, when combined with engagement, constitutes 63.3% of the variance in brand loyalty. The findings validate the suggested research model and indicate that gamification, partially mediated via customer involvement, significantly contributes to the enhancement of brand loyalty.



Table 5: Measurement items of the second-order constructs

Construct and Items	Standardized Loading (sig.)	Alpha	CR	AVE
<i>Gamification</i>		0.866	0.909	0.714
Fun	0.845**			
Reward	0.827**			
Competition	0.869**			
Storytelling	0.837**			

Note: **P <0.01. **Alpha** refers to Cornbach's Alpha, **CR** refers to Composite reliability and **AVE** is average variance extracted

Table 5 establishes the measuring features of the second-order concept Gamification, which encompasses four dimensions: Fun, Reward, Competition, and Storytelling. The standardized loadings for all dimensions are statistically significant and elevated, ranging from 0.827 to 0.869, signifying substantial contributions of each dimension to the overall gamification construct. The internal consistency dependability is validated by a Cronbach's Alpha of 0.866 and a Composite dependability (CR) of 0.909, both beyond the suggested level of 0.70. The Average Variance Extracted (AVE) is 0.714, much exceeding the acceptable threshold of 0.50, indicating robust convergent validity. These qualities collectively affirm that the gamification construct is both reliable and valid, hence endorsing its application in structural model research.

Table 6: Heterotrait-monotrait (HTMT) criteria values for second-order constructs.

NO.	Construct	1	2	3
1	Gamification			
2	Customer Engagement	0.764		
3	Brand Loyalty	0.788	0.791	

Table 6 presents the Heterotrait–Monotrait (HTMT) ratio values for second-order items to assess discriminant validity. All HTMT values are below the recommended threshold of 0.90, indicating that the constructs of Gamification, Customer Engagement, and Brand Loyalty are empirically distinct. The HTMT scores range from 0.764 to 0.791, confirming adequate discriminant validity among each concept pair. These findings validate the model's structure and necessitate further investigation into the relationships among these constructs.

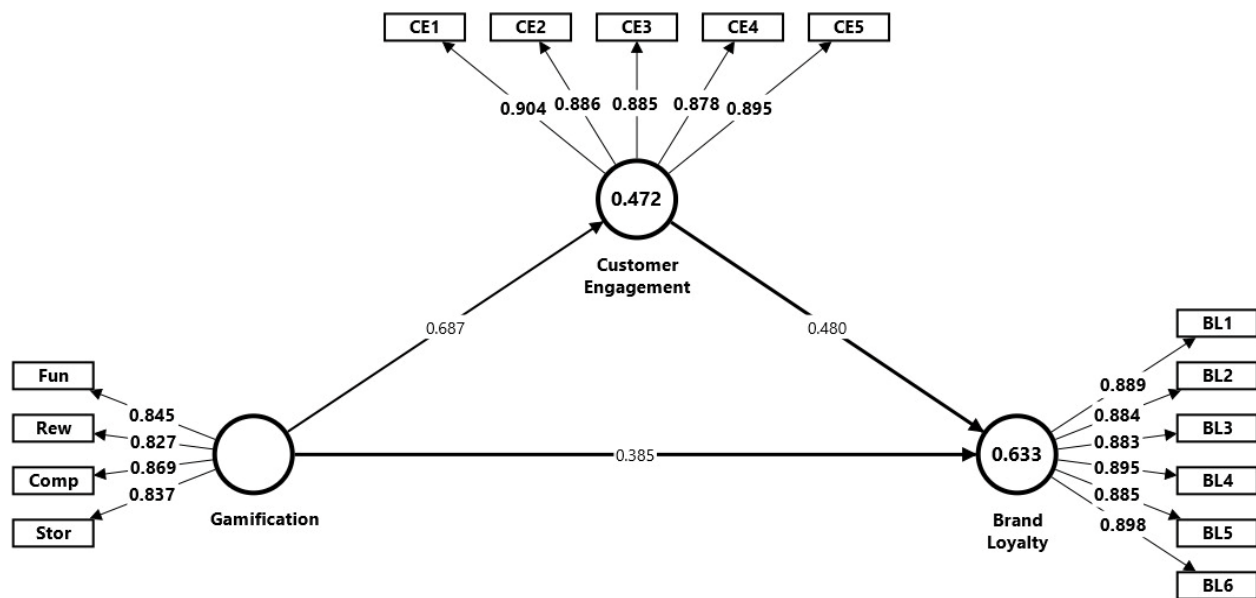


Figure 3. The second-order reflective measurement model

Figure 3 illustrates the second-order reflective measurement model, showcasing the structural relationships among the constructs of Gamification, Customer Engagement, and Brand Loyalty. The model demonstrates strong factor loadings for all observable indicators (ranging from 0.827 to 0.904), so confirming the reliability of the measurement items for their respective constructs. The path coefficients indicate that Gamification positively influences Customer Engagement ($\beta = 0.687$) and Brand Loyalty ($\beta = 0.385$), whereas Customer Engagement mediates this relationship by directly enhancing Brand Loyalty ($\beta = 0.480$). The R^2 values demonstrate that the model accounts for 47.2% of the variance in Customer Engagement and 63.3% of the variance in Brand Loyalty, indicating significant explanatory capability. This visual representation supports the hypothesis that Customer Engagement partially mediates the relationship between Gamification and Brand Loyalty.

b. Assessment of the Structural Model

To examine the structural model depicted in Figure 4, we employed the variance inflation factor (VIF), effect size (f^2), and coefficient of determination (R^2) to measure the explained variance. The outcomes of these three criteria are displayed in Table 7.



Table 7. Structural model evaluation

Construct	Variance Inflation Factor (VIF) Collinearity Assessment	Confidence Intervals 95% (BCa) Bootstrap		F ² Effect Size	Level of R ²
		2.5%	97%		
Gamification	1.000	0.605	0.753	0.894	
	1.894	0.271	0.500	0.213	
Customer Engagement	1.894	0.354	0.588	0.331	0.472
Brand loyalty					0.633

Table 7 presents the assessment of the structural model, including critical insights into collinearity, effect sizes, confidence intervals, and the explanatory power (R²) of the model constructs. The Variance Inflation Factor (VIF) values for all predictors are below the acceptable limit of 5, with Gamification at 1.000 and Customer Engagement at 1.894, indicating no multicollinearity issues. The bootstrapped confidence intervals at the 95% level for Gamification (0.605–0.753) and Customer Engagement (0.271–0.500) do not encompass zero, signifying statistically significant path coefficients. Concerning effect size (f²), gamification exhibits a significant impact on customer engagement (0.894) and a moderate influence on brand loyalty (0.213), whereas customer engagement shows a moderate effect on brand loyalty (0.331). The model exhibits substantial explanatory power, with an R² of 0.472 for customer engagement and 0.633 for brand loyalty, indicating that it explains 47.2% and 63.3% of the variance in these domains, respectively. The table confirms the model's robustness and substantiates the postulated connections.

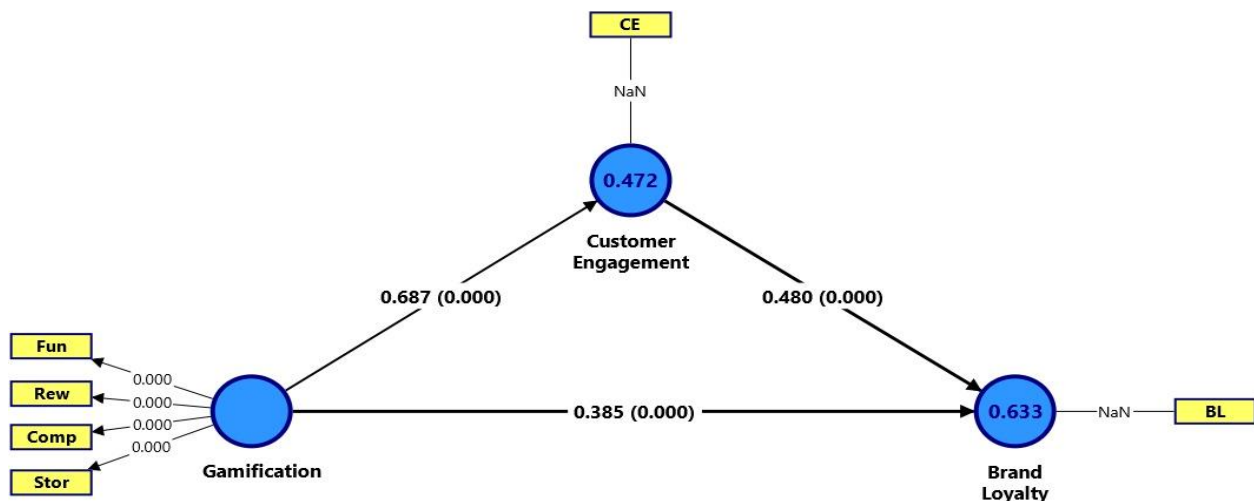


Figure 4: The structural model

Figure 4 illustrates the structural model, highlighting the direct and indirect relationships among the study's core constructs: Gamification, Customer Engagement, and Brand Loyalty. The path coefficients and their associated significance levels (p-values) indicate that all hypothesized relationships are statistically significant at the 0.001 level. Specifically, Gamification significantly influences Customer Engagement ($\beta = 0.687$, $p = 0.000$) and directly affects Brand Loyalty ($\beta = 0.385$, $p = 0.000$). Additionally, Customer Engagement significantly mediates the relationship between Gamification and Brand Loyalty ($\beta = 0.480$, $p = 0.000$), confirming its role as a partial mediator. The R^2 values further demonstrate the model's explanatory power, with 47.2% of the variance in Customer Engagement and 63.3% in Brand Loyalty being accounted for by the predictors. Overall, the figure visually confirms the strength and significance of the proposed model, supporting all research hypotheses.

c. Hypotheses tests

Table 8: Structural model estimates

Hypothesis	β	Critical ratio	P-Value	Results
H1 Gamification \rightarrow Customer Engagement	0.687	17.801	<0.01	Supported
H2 Customer Engagement \rightarrow Brand Loyalty	0.480	7.954	<0.01	Supported
H3 Gamification \rightarrow Brand Loyalty	0.385	6.579	<0.01	Supported
H4 Gamification \rightarrow Customer Engagement \rightarrow Brand Loyalty	0.330	7.196	<0.01	Partial mediation

Table 8 displays the findings of the structural model estimations, corroborating all presented theories. The results indicate a robust, affirmative, and statistically significant impact of Gamification on Customer Engagement ($\beta = 0.687$, $p < 0.01$), hence validating H1. Customer Engagement markedly influences Brand Loyalty ($\beta = 0.480$, $p < 0.01$), hence corroborating H2. Hypothesis 3 is also validated, as Gamification has a direct impact on Brand Loyalty ($\beta = 0.385$, $p < 0.01$). The mediation analysis (H4) indicates that Customer Engagement partially mediates the relationship between Gamification and Brand Loyalty ($\beta = 0.330$, $p < 0.01$), implying that Gamification exerts a direct influence on Brand Loyalty, with a portion of its effect transmitted through increased Customer Engagement. These findings cumulatively validate the significance of involvement as a mediating mechanism and reinforce the robustness of the suggested paradigm.



11. Discussion

The outcomes of this study experimentally confirm the theoretical claim that gamification improves brand loyalty, with customer involvement acting as a significant although partial mediator. According to self-determination theory (Deci & Ryan, 1985), the results validate that gamified experiences—such as points, badges, and interactive challenges—satisfy fundamental psychological needs for competence, autonomy, and relatedness. These variables consequently lead to increased levels of client engagement. This aligns with research indicating that gamification transforms customer-brand interactions into compelling experiences that enhance engagement (Abou-Shouk & Soliman, 2021; Hollebeek et al., 2021).

The confirmation of H1, which posited a significant positive correlation between gamification and customer engagement, aligns with studies in e-commerce, tourism, and finance that underscore how game elements augment user enjoyment and participation (Punwattkar & Verghese, 2025; Raza et al., 2023). These findings emphasize that gamification is not merely an amusement mechanism but a strategic marketing tool that amplifies emotional and behavioral engagement with businesses.

Furthermore, a confirmation of H2 demonstrates the substantial and direct influence of consumer interaction on brand loyalty. This corresponds with the research of scholars like Ting et al. (2020) and Greve (2014), who emphasized that both cognitive and emotional engagement can foster lasting brand loyalty. The present findings validate that active and immersive engagement fosters profound psychological connections, crucial for enhancing loyalty in competitive digital environments.

The findings support H3, indicating a direct association between gamification and brand loyalty. This discovery corroborates prior research indicating that gamified systems enhance positive brand perceptions and loyalty behaviors, especially within online and mobile application contexts (Mattke & Maier, 2021; Noviany & Al-Amin, 2024). The direct result demonstrates that gamification not only engages customers but also cultivates brand loyalty and encourages recurring usage, regardless of other mediating variables..

The partial mediation of customer participation in the link between gamification and brand loyalty (H4) provides subtle information. Gamification directly affects brand loyalty, with a considerable percentage of its influence stemming from increased customer interaction. This partial mediation corroborates established frameworks that identify involvement as a crucial process by which marketing stimuli convert into loyalty (Bravo et al., 2024; Penampe et al., 2024). The incomplete nature of mediation suggests that additional factors—such as contentment, trust, or brand experience—may influence loyalty results, indicating potential directions for further research.

Collectively, these findings underscore the multifaceted use of gamification in contemporary marketing techniques. By promoting significant client involvement, gamified experiences not only stimulate immediate actions such as purchase intention but also aid in cultivating enduring emotional loyalty. This is especially pertinent in the Saudi Arabian environment, where swift digitalization and Vision 2030 goals need innovative and customer-focused interaction techniques.

12. Conclusions

This study examined the influence of gamification on brand loyalty, mediated via customer interaction, specifically within the e-commerce industry of Saudi Arabia. The research findings demonstrate that gamification substantially affects customer engagement and brand loyalty. The mediation analysis demonstrated that customer engagement partially mediates the relationship between gamification and brand loyalty, suggesting that gamification exerts both a direct influence on loyalty and an indirect effect by augmenting customer involvement, participation, and emotional connection with the brand.

These data indicate that gamification is not simply a trend or entertainment element, but rather a potent strategic instrument that, when meticulously crafted, can promote significant engagement and develop enduring loyalty. In the swiftly changing Saudi e-commerce environment, where consumers are becoming more digitally adept and anticipate engaging experiences, gamification offers a viable strategy for distinction and ongoing client retention. This finding is consistent with the Kingdom's overarching Vision 2030 objectives, which emphasize innovation, digital transformation, and consumer happiness across all economic sectors.



a. Theoretical contributions

This study contributes to the academic conversation from a theoretical standpoint in several significant ways. Initially, it amalgamates the concept of gamification with the engagement–loyalty framework, so providing a holistic model that elucidates not only whether gamification is effective, but also the mechanisms by which it operates—through the intermediary function of consumer engagement. This addresses a significant gap in the literature, as many previous studies have seen gamification and loyalty as directly linked, neglecting the intermediate psychological processes involved.

Secondly, the results offer empirical support for the self-determination theory (SDT), which posits that satisfying intrinsic psychological needs fosters enhanced motivation and persistent behavior. Gamification fosters engagement by integrating game components that fulfill autonomy (choice), competence (achievement), and relatedness (interaction), ultimately leading to brand loyalty.

The study expands the application of social exchange theory by indicating that when customers recognize value in gamified interactions—via rewards, enjoyment, and acknowledgment—they are more inclined to reciprocate with loyalty behaviors. This enhances our comprehension of customer-brand connections in digitally mediated contexts and contributes to the existing literature on engagement-driven marketing.

b. Practical Implications

The findings provide numerous actionable insights for practitioners, especially marketers and digital strategy managers inside the Saudi e-commerce sector. Gamification should be regarded not simply as a marketing tactic, but as a strategic experience design process that effectively facilitates the stages of the customer journey—from awareness and engagement to retention and advocacy. Creating systems that incorporate challenges, progression tiers, social competitiveness (such as leaderboards), and concrete or symbolic prizes can substantially enhance user engagement and brand involvement.

Secondly, organizations ought to utilize data analytics to tailor gamified experiences based on user preferences, behaviors, and purchasing histories. Customized gamification can augment perceived significance and emotional connection, which are essential for engagement and loyalty.

Third, under the framework of Saudi Vision 2030, enterprises are urged to digitize services and enhance customer experiences. Gamification immediately enhances these aims by providing new, engaging, and scalable solutions to improve customer-brand interactions, particularly among younger and technologically adept Saudi customers.

Organizations should implement multi-channel gamification by extending experiences beyond websites to mobile applications, social media platforms, and real retail venues, thereby creating a unified and immersive brand experience.

c. Limitations and Suggestions for Future Research

The study provided useful insights; however, it possesses limitations. A key limitation is its cross-sectional nature, which constrains the capacity to infer causality or observe long-term impacts. Future research may employ longitudinal methodologies to evaluate the impact of prolonged exposure to gamification on engagement and loyalty over time.

An additional limitation pertains to the sectoral and geographic reach. Focusing solely on the Saudi e-commerce sector may limit the relevance of the findings to other service industries or international contexts. Comparative analyses across industries (e.g., banking, hotels, education) or countries with varying levels of digital development would yield comprehensive insights into the effectiveness of gamification.

This study concentrated on consumer engagement as a mediator; however, other mediators (e.g., satisfaction, trust, or brand attachment) and moderators (e.g., customer demographics, involvement level, or technology readiness) may also influence the efficacy of gamification. Future research may examine multi-mediation or regulated mediation models to reveal more intricate interactions.

The gamification elements in this study were seen as a unified entity. Future researchers may examine the varying impacts of distinct game mechanics (e.g., competition versus collaboration, monetary versus symbolic prizes) on different aspects of engagement and loyalty. This would enable more precise design and implementation tactics customized for particular consumer categories.



References

- Abdel Halim, N. (2025). The Impact of Gamification on Brand Engagement and Loyalty: A Study of Brand Events. *Journal of Design Sciences and Applied Arts*, 6(1), 38–62. <https://doi.org/10.21608/jdsaa.2024.263760.1396>
- Abou-Shouk, M., & Soliman, M. (2021). The impact of gamification adoption intention on brand awareness and loyalty in tourism: The mediating effect of customer engagement. *Journal of Destination Marketing & Management*, 20, 100559. <https://doi.org/10.1016/j.jdmm.2021.100559>
- Aluri, A., Price, B. S., & McIntyre, N. H. (2019). Using Machine Learning To Cocreate Value Through Dynamic Customer Engagement In A Brand Loyalty Program. *Journal of Hospitality & Tourism Research*, 43(1), 78–100. <https://doi.org/10.1177/1096348017753521>
- Bravo, R., Catalán, S., & Pina, J. M. (2023). The impact of gamified loyalty programmes on customer engagement behaviours. A hotel industry application. *Journal of Hospitality and Tourism Technology*, 14(5), 925–940. <https://doi.org/10.1108/jhtt-02-2022-0033>
- Elgarhy, S. D., Abdel Rahieem, W. M. A. N., & Abdulmawla, M. (2024). Influences of Gamification on Repurchase Intention and Intrinsic Motivations in Egyptian Hotels and Travel Agencies: The Mediating Role of Customer Engagement. *Journal of Quality Assurance in Hospitality & Tourism*, 25(2), 397–419. <https://doi.org/10.1080/1528008x.2023.2194705>
- Elgebaly, H., Elhariry, B., Noureldin, A., & Stohy, D. (2025). Digital Twin for Maintenance and Smart Manufacturing: The Mediating Role of Replacement Maintenance in the Saudi Industrial Sector. *Journal of Lifestyle and SDGs Review*, 5(4), 06107. <https://doi.org/10.47172/2965-730x.sdgsreview.v5.n04.pe06107>
- Elwakeel, N., Noureldin, A., Aboueldahab, M., Al-Hariry, B., & Fakhfakh, A. (2025). Gamification in Marketing: Enhancing Participation, Interaction, and Retention in Saudi Telecoms. *Journal of Management World*, 2025(2), 345–358. <https://doi.org/10.53935/jomw.v2024i4.931>
- Fakhfakh, A., Noureldin, A., Khalifa, T., Afify, G., & Al-Hariri, B. (n.d.). *AI Stimuli and Responsible Consumer Choices: Understanding the Pathways to Sustainability*.
- Gökmerdan Önder, L. (2023). Oyunlaştırma, Tüketici Katılımı, Marka Sadakati ve Uygulama Kullanmaya Devam Etme Niyeti Arasındaki İlişkilerin Belirlenmesi. *Business and Economics Research Journal*. <https://doi.org/10.20409/berj.2023.416>
- Greve, G. (2014). The Moderating Effect of Customer Engagement on the Brand Image – Brand Loyalty Relationship. *Procedia - Social and Behavioral Sciences*, 148, 203–210. <https://doi.org/10.1016/j.sbspro.2014.07.035>
- Habachi, S., Matute, J., & Palau-Saumell, R. (2024). Gamify, engage, build loyalty: Exploring the benefits of gameful experience for branded sports apps. *Journal of Product & Brand Management*, 33(1), 57–75. <https://doi.org/10.1108/jpbm-07-2022-4070>
- Habib, S., Noureldin, A., Aboueldahab, M., AbouSheashaa, A., Abaker, M., & Fakhfakh, A. (2025). The Power of Gamification in HRM: Exploring the Link Between Employee Resilience and Work Engagement in Saudi Arabia. *Journal of*

- Lifestyle and SDGs Review*, 5(3), e05565. <https://doi.org/10.47172/2965-730x.sdgsreview.v5.n03.pe05565>
- Hidayat, K. A., & Martini, E. (2020). PENGARUH SOCIAL MEDIA MARKETING PADA CUSTOMER ENGAGEMENT DAN DAMPAKNYA TERHADAP BRAND LOYALTY DI BUTTONGSCARVES. *Jurnal Mitra Manajemen*, 4(5), 679–691. <https://doi.org/10.52160/ejmm.v4i5.383>
- Hollebeek, L. D., Das, K., & Shukla, Y. (2021). Game on! How gamified loyalty programs boost customer engagement value. *International Journal of Information Management*, 61, 102308. <https://doi.org/10.1016/j.ijinfomgt.2021.102308>
- KHOLIS, N., & RATNAWATI, A. (2021). The Effects of Customer Engagement and Brand Trust on Brand Loyalty: A Case Study of BPJS Healthcare Participants in Indonesia. *The Journal of Asian Finance, Economics and Business*, 8(11), 317–324. <https://doi.org/10.13106/JAFEB.2021.VOL8.NO11.0317>
- Kini, A. N., Savitha, B., & Hawaldar, I. T. (2024). Brand loyalty in FinTech services: The role of self-concept, customer engagement behavior and self-brand connection. *Journal of Open Innovation: Technology, Market, and Complexity*, 10(1), 100240. <https://doi.org/10.1016/j.joitmc.2024.100240>
- Kosiba, J. P. B., Boateng, H., Okoe Amartey, A. F., Boakye, R. O., & Hinson, R. (2018). Examining customer engagement and brand loyalty in retail banking: The trustworthiness influence. *International Journal of Retail & Distribution Management*, 46(8), 764–779. <https://doi.org/10.1108/ijrdm-08-2017-0163>
- Li, M.-W., Teng, H.-Y., & Chen, C.-Y. (2020). Unlocking the customer engagement-brand loyalty relationship in tourism social media: The roles of brand attachment and customer trust. *Journal of Hospitality and Tourism Management*, 44, 184–192. <https://doi.org/10.1016/j.jhtm.2020.06.015>
- Lu, S., Marjerison, R. K., & Seufert, J. H. (2023). *Experiential Marketing, Customer Engagement, and Brand Loyalty in the Luxury Fashion Industry: Empirical Evidence from China*.
- Noureldin, A., Aboueldahab, M., & Eldin Saad, B. (2025). Exploring the Role of Gamification in Enhancing Customer Participation: A Study of Brand Interaction and Ease of Use in the Saudi Telecom Industry. *Academic Journal of Social Sciences*, 1(1), 47–72. <https://doi.org/10.21608/ajsc.2025.418340>
- Noviany, H. (n.d.). *GAMIFICATION IN DIGITAL MARKETING: BOOSTING CUSTOMER ENGAGEMENT AND BRAND LOYALTY*.
- Parihar, P., Dawra, J., & Sahay, V. (2019). The role of customer engagement in the involvement-loyalty link. *Marketing Intelligence & Planning*, 37(1), 66–79. <https://doi.org/10.1108/mip-11-2017-0318>
- Penampe, M. A. E., Fitriana, A., Purnomo, B. B., Afiah, N., & Juniwati, J. (2024). Gameful Experience and Brand Loyalty: Exploring Customer Brand Engagement in Language Learning Apps. *Journal of Applied Management Research*, 4(2), 94–104. <https://doi.org/10.36441/jamr.v4i2.2576>
- Perez Benegas, J. Y., & Zanfardini, M. (2025). Customer engagement and loyalty: The moderating role of involvement. *European Journal of Management and Business Economics*, 34(3), 319–339. <https://doi.org/10.1108/ejmbe-03-2022-0074>



- 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>
- Quynh, N. H. (2019). The Moderating Influence of Brand Image on the Relationship Between Customer Engagement and Customer Loyalty. *Indian Journal of Marketing*, 49(9), 42. <https://doi.org/10.17010/ijom/2019/v49/i9/146939>
- Rasool, A., Shah, F. A., & Tanveer, M. (2021). Relational Dynamics between Customer Engagement, Brand Experience, and Customer Loyalty: An Empirical Investigation. *Journal of Internet Commerce*, 20(3), 273–292. <https://doi.org/10.1080/15332861.2021.1889818>
- Rather, R. A., Tehseen, S., & Parrey, S. H. (2018). Promoting customer brand engagement and brand loyalty through customer brand identification and value congruity. *Spanish Journal of Marketing - ESIC*, 22(3), 319–337. <https://doi.org/10.1108/sjme-06-2018-0030>
- Raza, A., Rehmat, S., Ishaq, M. I., Haj-Salem, N., & Talpur, Q. (2024). Gamification in financial service apps to enhance customer experience and engagement. *Journal of Consumer Behaviour*, 23(4), 1653–1670. <https://doi.org/10.1002/cb.2294>
- Sabaa, S., Sumarmi, S., Al-Hariry, B., Soliman, A., & Elwakeel, N. (2025). The Role of Gamification and Artificial Intelligence Stimuli in Driving Customer Engagement: A Study on Saudi Telecom Users' Ability Readiness. *American Journal of Business Science Philosophy (AJBSP)*, 2(1), 73–85. <https://doi.org/10.70122/ajbsp.v2i1.28>
- Singh, V. K., Singh, D. P., Khatri, N., & Suman, B. U. J. (2025). *Integrating Gamification in Digital Marketing, HR, and IoT: Innovative Strategies for Enhancing Consumer Engagement, Workforce Productivity, and Brand Loyalty*.
- Sumarmi, S., Noureldin, A., Lestari, F. J. E., Widodo, S., & Putranti, L. (2025). Building Bonds: How Gamification and Online Reviews Influence Customer Loyalty. *Journal of Risk Analysis and Crisis Response*.
- T., B., & S., B. (2022). Analyzing Customer Engagement Online Using Gamification. *CARDIOMETRY*, 24, 662–672. <https://doi.org/10.18137/cardiometry.2022.24.663672>
- Tangsophon, S. (2025). *A PROPOSED CONCEPTUAL FRAMEWORK OF GAMIFICATION IN ENHANCING CUSTOMER EXPERIENCE, CUSTOMER ENGAGEMENT AND BRAND LOYALTY IN THAI E-MARKETPLACES*.
- Ting, D. H., Abbasi, A. Z., & Ahmed, S. (2021). Examining the mediating role of social interactivity between customer engagement and brand loyalty. *Asia Pacific Journal of Marketing and Logistics*, 33(5), 1139–1158. <https://doi.org/10.1108/apjml-10-2019-0576>
- Tuti, M., & Sulistia, V. (2022). The Customer Engagement Effect on Customer Satisfaction and Brand Trust and Its Impact on Brand Loyalty. *Jurnal Manajemen Bisnis*, 13(1), 1–15. <https://doi.org/10.18196/mb.v13i1.12518>
- University of Bamberg, Mattke, J., Maier, C., & University of Bamberg. (2021). Gamification: Explaining Brand Loyalty in Mobile Applications. *AIS Transactions on Human-Computer Interaction*, 62–81. <https://doi.org/10.17705/1thci.00142>