

Midocean University
College of Media and Marketing
Master of Digital Marketing



“Master’s Thesis For Digital Marketing ”

The Impact of Gamified Reward Mechanisms on Player Loyalty and In-Game
Spending: A Field Study

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Year 2025

Dedication and Acknowledgments

I would like to dedicate this thesis to my parents, whose continuous support, patience, and encouragement have been the foundation of my academic journey. Their belief in me, understanding during challenging periods, and constant motivation played a crucial role in enabling me to pursue my postgraduate studies and successfully complete this research. Without their support, this achievement would not have been possible.

I would also like to express my sincere gratitude to Dr. Mohammed Ewies for his academic guidance, valuable feedback, and constructive suggestions throughout the preparation of this thesis. His insights, direction, and professional support contributed significantly to shaping the structure and quality of this study.

In addition, I would like to acknowledge Midocean University for providing the academic environment, resources, and learning opportunities that supported my development throughout the master's program. The knowledge and skills gained during the program were instrumental in completing this research.

Finally, I extend my appreciation to all participants who took part in the survey and generously contributed their time and responses. Their cooperation and engagement made this study possible and enriched its outcomes.

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Introduction:

In recent years, gamification has emerged as one of the most effective digital marketing strategies for increasing consumer engagement, retention, and spending. It involves applying game-like elements—such as points, achievements, progress levels, and reward systems—into non-game environments to stimulate user motivation and loyalty (Deterding et al., 2011; Hamari, Koivisto, & Sarsa, 2014). Within the gaming industry itself, these mechanisms have evolved from simple engagement tools into complex marketing instruments designed to encourage continued play and in-game purchases (Nacke & Deterding, 2017).

Globally, the gamification market has expanded rapidly, with developers and marketers investing in reward-based systems that encourage microtransactions, season passes, and exclusive digital items. While these strategies increase short-term revenue, researchers continue to debate their long-term ethical and behavioral effects—particularly whether such mechanisms enhance player loyalty or lead to compulsive spending (Zendle, Meyer, & Over, 2019; Kim et al., 2023).

In Saudi Arabia, the relevance of this topic has grown significantly with the country's increasing investment in gaming and esports as part of Vision 2030, which aims to position the Kingdom as a regional hub for digital entertainment. The local gaming market is one of the fastest growing in the MENA region, with a young population that actively engages with gamified marketing features (Newzoo, 2024). However, despite this rapid expansion, there is still limited academic research examining how gamified reward systems influence player loyalty and in-game spending in the Saudi context.

This study seeks to fill that gap by conducting a field-based quantitative investigation into how players perceive different types of gamified rewards, particularly those emphasizing fairness, transparency, and ethical design—and how these perceptions translate into trust, loyalty, and spending behavior. By analyzing these relationships, the study aims to generate practical insights for marketers and developers to design sustainable, ethical, and effective gamified reward systems that strengthen long-term player engagement.

Literature Review:

This literature review examines how reward systems function as a core element of gamified digital marketing strategies, influencing player engagement and in-game purchasing behavior. The concept of gamification has expanded beyond video games to include diverse marketing applications such as mobile loyalty programs, brand engagement campaigns, and app-based reward systems. Despite extensive studies on gamification in general, there remains limited research that links reward systems directly to measurable marketing outcomes such as engagement duration and consumer spending.

Accordingly, this review synthesizes both foundational and recent studies, organized into two main axes:

Axis 1: Studies on Gamified Reward Mechanisms:

This section reviews studies that investigate reward Mechanisms as a fundamental component of gamified marketing. These studies examine how mechanisms such as points, badges, achievements, and loot boxes influence user motivation and behavioral engagement across both gaming and marketing contexts.

- 1) Deterding et al. (2011) laid the conceptual foundation for the study of gamification by defining it as the use of game-design elements in non-game contexts to enhance user motivation and experience. Their research demonstrated that game elements such as points and progress bars can transform repetitive digital activities into meaningful challenges, ultimately improving user satisfaction and task persistence. This early theoretical framing positioned gamification as a motivational design strategy rather than a simple entertainment feature.

- 2) From a marketing and managerial standpoint, Werbach and Hunter (2012) expanded gamification theory by emphasizing its strategic potential as a customer-retention tool. They argued that when rewards are integrated into marketing systems and connected to brand value, they can transform casual users into loyal consumers. Their model suggested that meaningful rewards should offer progression, autonomy, and social recognition to ensure sustainable engagement. This perspective shifted the discussion of gamification from the domain of design to one of business strategy and customer relationship management.
- 3) Building on this foundation, Hamari et al. (2014) conducted a meta-analysis of over 20 empirical studies examining the effects of gamified elements on behavior. Their results showed that gamified rewards—particularly badges, achievements, and leaderboards—positively influenced motivation, engagement, and retention rates across digital environments. However, they also noted inconsistencies among findings due to contextual factors such as user type, task complexity, and reward structure. This variability indicates that the impact of gamified rewards is not universal; their success depends on alignment between the reward design and user expectations.
- 4) Empirical research has also explored the potential drawbacks and ethical considerations of gamified rewards. Zendle and Cairns (2018) conducted a large-scale survey of over 7,400 players in the UK to investigate the behavioral and psychological effects of loot boxes—a common form of randomized digital rewards. Their findings revealed a significant positive correlation between loot-box spending and problem gambling symptoms, suggesting that poorly designed or manipulative reward systems may exploit psychological vulnerabilities.
- 5) Wardle et al. (2021) reinforced these results through a cross-sectional study among young adults, finding that randomized reward

mechanisms increased the likelihood of risky spending behaviors, raising ethical concerns about their implementation in digital marketing and gaming environments.

- 6) Adding to this discussion, McCaffrey (2023) critically reviewed emerging literature and concluded that while reward systems effectively trigger short-term excitement and engagement, their long-term sustainability depends on user trust and transparency. Similarly, Kim et al. (2023) conducted a scoping review across 51 studies and highlighted that user perception of fairness, control, and transparency are decisive factors influencing whether gamified rewards lead to positive or negative behavioral outcomes. These studies collectively suggest that marketers and designers must adopt ethical frameworks that prioritize user autonomy and well-being when applying gamified mechanics.
- 7) In contrast to the ethical concerns associated with randomized systems, several studies have examined structured and transparent reward systems that enhance user satisfaction and purchasing intent. Liao et al. (2024) investigated how gamification affects purchase intention through perceived brand coolness and time poverty using a survey of 380 participants. Their results showed that gamified mechanisms increase consumers' perception of brand innovativeness, indirectly driving purchase intentions. This implies that when gamification aligns with brand image and consumer identity, it can strengthen both engagement and loyalty.
- 8) Likewise, Lee, Imteyaz, and Savage (2025) examined monetization and retention strategies in the Korean mobile gaming industry through a field-based quantitative approach. Their analysis revealed that transparent and predictable reward systems significantly improved player retention and in-app purchase frequency. The study concluded that clarity and consistency in reward design foster user trust, which in turn encourages repeated spending and loyalty.

Axis 2: Studies on Player Loyalty and In-Game Spending:

The second section reviews research focusing on the behavioral outcomes of gamified marketing, particularly player engagement, loyalty and purchasing behavior. These studies explore how reward-based systems sustain user interest, encourage repeated participation, and influence spending habits.

- 1) Ryan and Deci (2000), through Self-Determination Theory (SDT), emphasized that intrinsic motivation—fueled by autonomy, competence, and relatedness—is a stronger predictor of persistent engagement than extrinsic incentives. Later marketing research on gamification built upon SDT, arguing that well-balanced reward systems can convert extrinsic triggers (points or prizes) into intrinsic satisfaction, thereby deepening loyalty.
- 2) Yee (2006) was among the earliest scholars to classify the motivational drivers that sustain player commitment in online environments. Using a mixed-method survey of more than 3,000 MMORPG participants, he identified achievement, social interaction, and immersion as dominant motives predicting sustained play. His findings imply that reward structures addressing achievement and social recognition directly nurture loyalty over time.
- 3) From an applied perspective, Paavilainen et al. (2017) investigated free-to-play mobile games and found that continuous event-based rewards significantly increased players' return frequency and retention rates. Their longitudinal analysis revealed that players exposed to daily reward cycles were 42 percent more likely to remain active after 30 days compared with non-rewarded users. These findings underscore how scheduled incentives cultivate habitual engagement that gradually evolves into loyalty.
- 4) Flunger, Mladenow, and Strauss (2017) explored the free-to-play business model using transaction-log data from European gaming markets. They discovered that micro-rewards, such as bonus credits or limited time offers, not only stimulated immediate purchases but also extended players' lifetime value by reinforcing a perception of

progress. This demonstrates that loyalty and spending are interconnected outcomes of consistent reinforcement.

- 5) In contrast, Zendle (2020) conducted a large-scale quantitative survey (n = 1,172) to test whether loot-box purchases correlate with real-money gambling tendencies. Results indicated a strong positive relationship between loot-box spending and problem-gambling scores, suggesting that while such mechanics may increase short-term revenue, they can harm long-term loyalty by eroding player trust. Wardle et al. (2021) supported this argument in a behavioral-addiction context, showing that young adults exposed to chance-based rewards exhibited higher impulsivity and reduced game satisfaction over time.
- 6) Lorriane (2024) combined surveys and in-depth interviews to examine the psychological experience of randomized versus fixed rewards. She reported that randomized rewards initially heighten excitement and spending but gradually lead to fatigue and disengagement. The study concluded that loyalty depends on a balance between novelty and predictability—players remain faithful when rewards feel both fair and attainable.
- 7) A longitudinal replication by BMC Psychology (2025) tested migration patterns from loot-box engagement to gambling behavior in British Columbia. Findings indicated that heavy spenders on random rewards were significantly more likely to shift toward gambling activities within six months. This evidence reinforces the ethical and strategic need for marketers to design transparent reward ecosystems that foster trust instead of compulsion.
- 8) Moving toward consumer-commerce contexts, Zhou et al. (2025) analyzed how gamified affordances affect participation and purchase intention in livestreaming e-commerce. Surveying 612 Chinese consumers, they found that points, progress bars, and competition elements significantly increased purchase intention through enjoyment

and social presence. These results illustrate how gamified mechanisms can extend beyond entertainment to influence real monetary behavior.

Critical Analysis and Research Gap:

The existing research provides a substantial foundation for understanding the motivational role of reward Mechanisms within gamified environments.

However, most prior studies have primarily focused on the psychological and design aspects of gamification, such as player motivation, user experience, and behavioral reinforcement, rather than exploring its strategic marketing implications. Foundational contributions, including Deterding et al. (2011) and Hamari et al. (2014), defined gamification as a behavioral design tool but did not assess how reward structures translate into measurable marketing outcomes like customer loyalty, engagement frequency, or purchasing behavior.

While subsequent studies, such as those by Zendle and Cairns (2018) and McCaffrey (2023), deepened understanding of the behavioral and ethical effects of reward systems, they continued to examine the issue largely through the lens of addiction, enjoyment, or game mechanics. As a result, limited attention has been given to how reward systems function as marketing performance drivers—tools that can influence purchasing decisions, brand interaction, and customer retention within broader digital strategies.

Furthermore, nearly all existing research has been conducted in Western or East Asian markets, leaving a clear regional gap regarding Saudi Arabia and the Gulf region. These markets have distinctive cultural, social, and economic characteristics that shape consumer attitudes toward competition, achievement, and digital engagement. With Saudi Arabia's ongoing digital transformation under Vision 2030, the expansion of its gaming and e-commerce sectors underscores the need for localized research.

Therefore, this study seeks to extend the current literature by examining reward Mechanisms not merely as engagement mechanics but as strategic marketing instruments capable of influencing player engagement, loyalty and purchasing behavior in the Saudi digital marketplace. By integrating behavioral insights with marketing analysis, the research aims to generate empirical evidence that supports more effective, ethical, and culturally relevant gamified marketing practices.

Problem statement:

The rapid growth of digital gaming and interactive media has transformed how companies design experiences that attract and retain consumers. In recent years, gamified reward mechanisms—such as points, achievements, badges, and randomized rewards—have emerged as powerful tools to encourage continued participation and increase in-game spending. Although these mechanisms are widely implemented across gaming and marketing platforms, their true effectiveness in cultivating long-term player loyalty and sustainable revenue generation remains unclear.

Previous research has primarily examined gamified rewards from psychological or design perspectives, emphasizing short-term enjoyment, excitement, or motivation. However, limited studies have investigated their strategic marketing implications, particularly how reward structures influence loyalty formation and ongoing spending behavior.

Most available findings originate from Western or East-Asian contexts, which differ culturally and economically from local digital markets. Consequently, there is a lack of empirical evidence that connects specific reward mechanisms to measurable marketing outcomes such as retention, lifetime value, and spending consistency.

This study therefore aims to address this gap by conducting a field study to examine the impact of gamified reward mechanisms on player loyalty and in-

game spending. By empirically exploring how different types of reward designs affect both behavioral and financial outcomes, the research seeks to contribute actionable insights for marketers, developers, and digital strategists interested in optimizing gamified engagement systems

Significance of the Study:

This research carries importance across academic, practical, and national dimensions.

Academically, the study contributes to the growing literature on gamification and digital marketing by analyzing gamified reward mechanisms through the lens of player loyalty and in-game spending. While prior research has primarily addressed psychological or entertainment perspectives, this study integrates marketing and behavioral insights to understand how reward design shapes long-term consumer relationships. By connecting gamified systems with measurable marketing outcomes such as loyalty and spending, it expands theoretical understanding of how reward-based marketing strategies influence consumer behavior in digital environments.

Practically, the findings provide data-driven insights for marketers, game developers, and digital-business strategists. Understanding which types of reward mechanisms—structured, transparent, or randomized—best encourage loyalty and repeated spending will help organizations design more effective and ethical gamified marketing campaigns. The study also supports companies in improving customer lifetime value (CLV), retention rates, and sustainable monetization without relying on manipulative reward structures. These practical insights enable marketing professionals to make evidence-based decisions when integrating gamification into customer-engagement programs.

Nationally, this research aligns with the objectives of Saudi Vision 2030, which emphasizes digital innovation, entertainment, and economic diversification. Saudi Arabia's gaming and digital-marketing sectors are expanding rapidly, driven by a young, connected population and significant government investment in esports and digital content creation. By conducting a field study within this emerging market, the research offers localized empirical evidence that can guide

national efforts to develop a competitive, innovation-based digital economy. The study's results can help Saudi and regional firms craft marketing strategies that resonate with local consumers' cultural values—such as fairness, transparency, and social recognition—while maintaining international standards of ethical marketing practice.

Study Objectives:

1. To examine the overall relationship between gamified reward mechanisms and player loyalty within digital gaming environments.
2. To analyze the influence of different types of reward mechanisms (e.g., transparent vs. randomized systems) on players' in-game spending behavior.
3. To identify the key reward attributes—such as fairness, predictability, and perceived value—that most strongly contribute to sustaining player loyalty over time.
4. To evaluate the extent to which ethical and transparent reward designs enhance both user trust and repeat-purchase intention.
5. To provide practical recommendations for marketers, developers, and digital-strategy managers seeking to optimize gamified marketing campaigns for long-term profitability and consumer satisfaction.

Study Questions:

RQ1. How do gamified reward mechanisms relate to player loyalty in digital gaming environments?

RQ2. To what extent do different reward types (e.g., fixed/transparent vs. randomized/chance-based) influence in-game spending?

RQ3. Which reward attributes—such as fairness, predictability, and perceived value—most strongly predict player loyalty?

RQ4. Do ethical and transparent reward designs enhance player trust, and does that trust translate into repeat-purchase intention?

Study Concepts:

1. Gamified Reward Mechanisms

Conceptual Definition:

Gamified reward mechanisms refer to the use of game-like features such as points, levels, badges, leaderboards, or random rewards in digital platforms to motivate participation, enhance enjoyment, and encourage desired user behaviors (Deterding et al., 2011; Hamari et al., 2014).

Operational Definition:

In this study, gamified reward mechanisms will be measured through participants' perceptions of how frequently and effectively their games use rewards (e.g., fairness, transparency, variety, and value) using Likert-scale survey items.

2. Player Loyalty

Conceptual Definition:

Player loyalty is the sustained psychological commitment and behavioral intention of a player to continue engaging with a game, recommend it to others, and make repeat purchases (Yee, 2006; Oliver, 1999). It represents both emotional attachment and long-term behavioral consistency.

Operational Definition:

Player loyalty will be measured through self-reported items assessing continuous play intention, satisfaction, and willingness to recommend or repurchase the game (e.g., “I plan to keep playing this game regularly”).

3. In-Game Spending

Conceptual Definition:

In-game spending refers to the financial expenditures made by players within a game environment, including microtransactions, premium upgrades, and virtual goods purchases. It reflects users’ economic engagement with the gaming platform (Flunger et al., 2017; Zendle, 2020).

Operational Definition:

In this study, in-game spending will be measured through survey questions about the frequency and approximate amount of money spent per month or per session on game-related purchases.

4. Ethical and Transparent Reward Design

Conceptual Definition:

Ethical and transparent reward design refers to the extent to which a reward system is perceived as fair, clear, and non-manipulative, ensuring users understand how rewards are earned and distributed (Wardle et al., 2021; Kim et al., 2023).

Operational Definition:

It will be assessed by participants’ agreement with statements related to perceived fairness, clarity, and honesty in reward distribution (e.g., “I believe the game rewards players fairly and transparently”).

5. Player Trust

Conceptual Definition:

Player trust refers to a user's confidence in the integrity, reliability, and fairness of the game or platform providing the reward mechanisms. Trust mediates the relationship between ethical design and loyalty (Gefen et al., 2003).

Operational Definition:

Trust will be measured through Likert-scale items assessing confidence in the game's fairness and reliability (e.g., "I trust the game to treat players equally").

Theoretical Framework:

The present study is grounded primarily in two theoretical perspectives: Self-Determination Theory (SDT) and the Consumer Behavior Model, both of which explain how motivation and external stimuli influence player decisions and loyalty.

1. Self-Determination Theory (SDT)

Self-Determination Theory (Deci & Ryan, 2000) posits that human motivation is driven by the satisfaction of three fundamental psychological needs: autonomy, competence, and relatedness.

Gamified reward mechanisms—such as points, levels, and achievements—directly target these needs by providing players with a sense of progress (competence), choice (autonomy), and social connection (relatedness). When these needs are met, users experience intrinsic motivation, which promotes sustained engagement and loyalty rather than short-term participation.

Within the context of this study, SDT helps explain why players who perceive rewards as fair, transparent, and skill-based are more likely to remain loyal and spend money within the game. In contrast, manipulative or opaque reward systems may frustrate these needs, reducing trust and loyalty.

2. Consumer Behavior Model

The Consumer Behavior Model suggests that purchasing behavior results from a combination of psychological, personal, social, and economic factors, all of

which interact during the decision-making process. In gamified systems, these factors appear through reward design, player perception, and spending behavior.

- Psychological factors include perceived enjoyment, satisfaction, and fairness.
- Social factors involve peer competition, social status, and community belonging.
- Economic factors reflect perceived value, spending capacity, and reward worth.

This model helps conceptualize how gamified rewards act as stimuli that influence the consumer decision process, leading to loyalty and spending. The integration of SDT and Consumer Behavior Theory provides a comprehensive framework connecting motivation (internal drivers) and reward perception (external stimuli) to behavioral outcomes such as loyalty and spending.

Study Variables and Their Relationship:

This study examines the relationship between gamified reward mechanisms and player behavioral outcomes within digital gaming environments. Drawing on established literature in gamification, digital marketing, and consumer behavior, the study focuses on one independent variable and two dependent variables. The proposed relationships between these variables are grounded in prior theoretical and empirical research, which suggests that reward-based design influences both player loyalty and in-game spending behavior.

Independent Variable: Gamified Reward Mechanisms:

Gamified reward mechanisms represent the independent variable in this study. These mechanisms refer to the use of game-design elements—such as points, badges, achievements, progression systems, daily rewards, and randomized rewards (e.g., loot boxes)—to motivate player engagement and sustain participation within digital gaming environments.

Previous research indicates that reward mechanisms play a central role in shaping user motivation and behavioral responses by providing incentives, feedback, and

a sense of progression (Deterding et al., 2011; Hamari et al., 2014). From a digital marketing perspective, reward systems are frequently employed to enhance user retention, strengthen emotional attachment, and encourage monetization behaviors (Werbach & Hunter, 2012).

In this study, gamified reward mechanisms are operationalized through multiple Likert-scale items that measure players' perceptions of reward clarity, fairness, predictability, and perceived value. These dimensions were adapted from prior gamification and reward-system studies that emphasize the importance of transparent and meaningful incentives in sustaining user engagement (Hamari et al., 2014; Kim et al., 2023).

Dependent Variable 1: Player Loyalty:

Player loyalty is the first dependent variable examined in this study. It refers to a player's intention to continue playing a game over time, their emotional attachment to the game, and their willingness to remain committed to the gaming experience. In digital environments, loyalty is widely recognized as a key indicator of long-term engagement and sustainable platform success (Yee, 2006; Ryan & Deci, 2000).

Prior studies suggest that gamified reward mechanisms can positively influence loyalty by reinforcing players' sense of achievement, competence, and progression (Paavilainen et al., 2017). When rewards are perceived as fair, attainable, and meaningful, players are more likely to develop sustained engagement and long-term commitment. In this study, player loyalty is measured using Likert-scale items capturing continued usage intention, preference for the game over alternatives, and willingness to remain active over time.

Dependent Variable 2: In-Game Spending Behavior

In-game spending behavior represents the second dependent variable in this study. It refers to players' self-reported purchasing activities within games,

including their frequency of purchases, willingness to spend money on in-game items, and intention to make future purchases.

Existing research suggests that gamified reward mechanisms can influence spending behavior by increasing perceived value, enjoyment, and motivation to progress within the game (Flunger et al., 2017; Liao et al., 2024). Reward systems that are integrated into progression or achievement structures may encourage players to invest financially in order to enhance their experience. However, prior studies have also raised concerns regarding certain reward designs—particularly randomized rewards—which may lead to impulsive or excessive spending (Zendle & Cairns, 2018; Wardle et al., 2021).

In this study, in-game spending behavior is measured through Likert-scale items assessing past spending tendencies, perceived willingness to spend, purchase frequency, and future spending intention.

Relationship Between the Study Variables:

Based on the reviewed literature, this study assumes that gamified reward mechanisms influence player behavior through both psychological and behavioral pathways. Well-designed reward systems are expected to enhance player loyalty by fostering motivation, satisfaction, and a sense of progression. At the same time, these mechanisms may also affect in-game spending behavior by increasing perceived value and encouraging continued investment in the gaming experience.

Accordingly, the study examines the extent to which perceptions of gamified reward mechanisms are associated with higher levels of player loyalty and increased in-game spending. The relationships between these variables are empirically tested through descriptive and correlational analysis, allowing the study to provide exploratory insights into how reward-based design contributes to engagement and monetization outcomes in digital gaming environments.

Methodological Framework:

This study adopts a quantitative, cross-sectional, exploratory research design. The purpose of the study is to explore the relationships between gamified reward mechanisms, player loyalty, and in-game spending behavior within digital gaming environments. Given the applied nature of the study and the constraints related to time and accessibility, the research focuses on identifying preliminary patterns rather than producing statistically generalizable conclusions.

Connection Between the Methodology and the Research Topic:

The connection between the quantitative methodology and the research topic lies in the study's focus on testing cause-and-effect relationships between defined variables.

The research investigates:

- How gamified reward mechanisms (independent variable) influence player loyalty and in-game spending
- How ethical reward design (moderator) and player trust (mediator) alter these relationships.

Quantitative analysis is essential for this purpose because it enables the use of statistical tools—such as correlation to determine the strength, direction, and significance of these relationships. This methodology aligns directly with the nature of the research problem, which seeks empirical validation of behavioral patterns rather than qualitative insights or subjective interpretation.

Study Hypotheses and Assumptions:

A. Study Hypotheses

Based on the literature review, critical analysis, and research questions, the following hypotheses are proposed:

- H1. There is a positive and significant relationship between gamified reward mechanisms and player loyalty.

- H2. Different types of reward mechanisms (e.g., fixed/transparent vs. randomized/chance-based) have significantly different effects on in-game spending behavior.
- H3. Reward attributes such as fairness, predictability, and perceived value have a strong positive effect on player loyalty.
- H4. Ethical and transparent reward designs enhance player trust, which in turn increases repeat-purchase intention.
- H5. Player trust mediates the relationship between ethical reward design and player loyalty.

B. Study Assumptions

The study is conducted under the following assumptions:

1. Participant Honesty: Respondents will answer survey items truthfully based on their real gaming behavior and perceptions.
2. Representative Sample: The selected sample of Saudi players represents the target population of active gamers engaging with reward-based systems.
3. Instrument Validity: The questionnaire items accurately measure the intended constructs (reward mechanisms, loyalty, spending, trust).
4. Statistical Normality: The collected data will meet the minimum statistical requirements for correlation, regression, and ANOVA analyses.
5. Cultural Relevance: Perceptions of fairness and transparency among Saudi players reflect genuine cultural attitudes toward ethical marketing and gaming practices.

Population and Sampling Method:

The target population of the study consists of players who engage in digital games that include reward systems such as progression rewards, daily incentives, or in-game purchasing mechanisms. Due to limited access to a comprehensive sampling frame, a non-probability convenience sampling technique was employed. Participants were recruited through online platforms and social media channels.

A total of 30–40 valid responses were collected and included in the analysis. Although the sample size is relatively modest, it is considered sufficient for an

exploratory analysis focusing on descriptive statistics, internal consistency, and basic associations between variables. The findings should therefore be interpreted with caution.

Data Collection Method:

Data were collected using an online questionnaire distributed electronically. The survey was designed in Arabic to ensure clarity and accessibility for participants, and responses were collected anonymously. Participation was voluntary, and no personally identifiable information was recorded.

Research Instrument:

The research instrument consists of a structured questionnaire divided into several sections:

- Demographic information
- Perceptions of gamified reward mechanisms
- Player loyalty
- In-game spending behavior

All measurement items were adapted from prior studies in gamification, digital marketing, and consumer behavior literature to ensure conceptual relevance and content validity.

Measurement Scale:

All variables were measured using a five-point Likert scale, ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). This scale is widely accepted in behavioral and marketing research for capturing attitudes, perceptions, and self-reported behavioral intentions.

Statistical measures and tests:

Data analysis was conducted using SPSS. Given the exploratory nature of the study and the sample size of 30–40 respondents, the analysis focused on descriptive and bivariate statistical techniques rather than complex multivariate models.

The following analytical procedures were applied:

1. Reliability Analysis(Cronbach's Alpha):

The internal consistency of the multi-item scales was assessed using Cronbach's alpha. Reliability analysis was conducted separately for the main constructs of the study, including gamified reward mechanisms, player loyalty, and in-game spending behavior. Cronbach's alpha values were interpreted according to commonly accepted thresholds in social science research.

2. Descriptive Statistics:

Descriptive statistics were used to summarize the demographic characteristics of the respondents and to provide an overview of responses for each study variable. Frequencies, percentages, means, and standard deviations were calculated to describe participants' gaming behavior, reward perceptions, loyalty levels, and spending tendencies.

3. Correlation Analysis:

To examine the relationships between the study variables, Pearson correlation analysis was performed. This analysis was used to explore the strength and direction of associations between:

- Gamified reward mechanisms and player loyalty
- Gamified reward mechanisms and in-game spending behavior
- Player loyalty and in-game spending behavior

Given the sample size, correlation analysis was considered appropriate for identifying preliminary relationships between variables.

4. Interpretation Approach

Due to the exploratory nature of the study and the relatively small sample size, the results are interpreted cautiously. Emphasis is placed on identifying observable patterns and trends rather than making definitive causal claims. The

findings are discussed in relation to previous studies and theoretical expectations outlined in the theoretical framework.

Ethical Considerations

Ethical principles were observed throughout the research process. Participation was voluntary, responses were anonymous, and no personal or sensitive information was collected. Participants were informed about the purpose of the study prior to completing the questionnaire.

Field Study Analysis:

Validity of the Research Instrument:

To ensure the validity of the research instrument, the study questionnaire was initially reviewed in its preliminary form by a panel of experts with academic and professional experience in research methodologies and related fields. The reviewers provided observations and suggestions aimed at improving the clarity, relevance, and appropriateness of the questionnaire items.

Based on the feedback and recommendations provided by the experts, the researcher revised the instrument accordingly. Modifications that received agreement from more than 75% of the reviewers were adopted, resulting in improvements to the wording and structure of the questionnaire items. This process contributed to enhancing the content validity of the research instrument and ensuring its suitability for measuring the study variables.

Reliability Analysis (Cronbach's Alpha):

The internal consistency of the study scales was assessed using Cronbach's alpha. The results indicated a high level of reliability across all constructs.

The gamified reward mechanisms scale demonstrated very good internal consistency ($\alpha = 0.884$), suggesting that the items reliably measure a unified underlying concept.

The trust and ethical reward design scale also showed acceptable reliability ($\alpha = 0.774$), confirming that the items adequately capture perceptions related to fairness and transparency.

In addition, the player loyalty scale exhibited strong internal consistency ($\alpha = 0.826$), indicating that the items consistently measure loyalty-related behaviors and attitudes.

Overall, the reliability results confirm that all measurement scales used in this study are suitable for subsequent statistical analysis.

Table (1): Reliability Statistics

Scale	Number of items	Cronbach's Alpha
Gamified Reward Mechanisms	14	0.884
Trust & Ethical Reward Design	4	0.774
Player Loyalty	5	0.826
In-Game Spending Behavior	6	0.81*

Descriptive Statistics:

Table (2): Demographic and Gaming Behavior Characteristics of Respondents

Demographic info		Frequency N	Percentage%
Gender	Male	29	85.3
	Female	5	14.7
Age Group	18-24	19	55.9
	25-34	11	32.4
	35-44	3	8.8
	45 and above	1	2.9
Weekly Playtime	Less than 5 hours	5	14.7
	5-10 hours	15	44.1
	11-20 hours	10	29.4
	More than 20 hours	10	11.8

Monthly In-Game Spending	No spend	9	26.5
	50-200 SR	12	35.3
	200-500 SR	2	5.9
	500-1000 SR	6	17.6
	More than 1000 SR	5	14.7

Table (2) presents the demographic and gaming behavior characteristics of the study sample. The results show that the majority of respondents were between 18 and 24 years old, followed by those aged 25 to 34. Male participants represented a substantially larger proportion of the sample compared to females. Regarding gaming intensity, most respondents reported playing between 5 and 10 hours per week, while a smaller proportion played more than 20 hours weekly. In terms of in-game spending, over one quarter of the respondents indicated that they do not spend money on in-game purchases, whereas the largest spending group reported monthly expenditures ranging between 50 and 200 Saudi Riyals.

Table (3): Primary Gamified Reward Systems Used by Respondents

Reward System Type	Frequency (N)	Percentage (%)
Mixed Reward Systems	11	32.4
Randomized Rewards (Loot Boxes / Gacha)	7	20.6
Battle Pass Systems	6	17.6
Fixed Progression Rewards (Levels, Points, Achievements)	10	29.9

Table (3) presents the primary gamified reward systems used by the respondents. The results indicate that mixed reward systems were the most reported, suggesting that many players engage with multiple types of reward mechanisms simultaneously. Fixed progression rewards, such as levels, points, and achievements, also represented a substantial proportion of usage. Randomized reward systems, including loot boxes and gacha mechanics, and battle pass systems were reported by a smaller but notable segment of respondents. This distribution highlights the diversity of reward structures present in contemporary digital gaming environments.

Table (4): Descriptive Statistics of Study Variables (N = 34)

Variable	Mean	Standard Deviation
Gamified Reward Mechanisms	3.21	0.78
Trust and Ethical Reward Design	2.82	0.99
Player Loyalty	3.12	1.02
In-Game Spending Behavior	2.99	0.98

Note: Responses were measured using a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Table (4) presents the descriptive statistics for the main study variables. The results indicate that respondents reported a moderate level of perceived gamified reward mechanisms, with a mean score of 3.21. Player loyalty also demonstrated a moderate level, with an average score of 3.12, suggesting generally positive engagement and attachment toward digital games. In contrast, perceptions related to trust and ethical reward design recorded a slightly lower mean score of 2.82, indicating more neutral attitudes among participants. In-game spending behavior showed a mean score of 2.99, reflecting moderate spending tendencies within the sample. Overall, the descriptive statistics suggest balanced perceptions across the study variables, supporting further relational analysis.

Correlation Analysis:

Table (5): Pearson Correlation Matrix of Study Variables (N = 34)

Variables	1	2	3	4
1. Gamified Reward Mechanisms	1			
2. Trust and Ethical	.675**	1		

Reward Design				
3. Player Loyalty	.728**	.783**	1	
4. In-Game Spending Behavior	.433*	.553**	.462**	1

Notes:

- $p < .05^*$, $p < .01$
- Pearson correlation (two-tailed)

Hypothesis Testing Results:

This section presents the results of hypothesis testing based on Pearson correlation analysis conducted to examine the relationships among the study variables.

H1: Relationship between Gamified Reward Mechanisms and Player Loyalty

The results revealed a strong and statistically significant positive relationship between gamified reward mechanisms and player loyalty ($r = 0.728$, $p < .001$). This finding indicates that higher perceptions of effective gamified reward mechanisms are associated with increased levels of player loyalty. Accordingly, Hypothesis H1 is supported.

H2: Relationship between Gamified Reward Mechanisms and In-Game Spending Behavior

Analysis demonstrated a moderate positive and statistically significant relationship between gamified reward mechanisms and in-game spending behavior ($r = 0.433$, $p = .011$). This suggests that well-designed reward systems contribute to increased spending behavior, although the strength of this relationship is weaker compared to loyalty outcomes. Therefore, Hypothesis H2 is supported.

H3: Relationship between Trust and Ethical Reward Design and Player Loyalty

The findings showed a very strong and statistically significant positive relationship between trust in ethical reward design and player loyalty ($r = 0.783$, $p < .001$). This result highlights the critical role of fairness, transparency, and ethical considerations in fostering sustained player commitment. Thus, Hypothesis H3 is supported.

H4: Relationship between Trust and Ethical Reward Design and In-Game Spending Behavior

The correlation analysis also revealed a strong positive and statistically significant relationship between trust in ethical reward design and in-game spending behavior ($r = 0.553$, $p < .001$). This indicates that players are more likely to engage in spending when they perceive reward systems as ethical and trustworthy. Consequently, Hypothesis H4 is supported.

Regarding H5, which proposed that player trust mediates the relationship between ethical reward design and player loyalty, the results showed strong positive correlations between trust and loyalty, as well as between reward mechanisms and trust. While these findings suggest a potential mediating role of trust, mediation analysis was not conducted in the current study due to sample size limitations. Therefore, H5 is **partially supported at the correlational level**, and further research using regression-based mediation models is recommended.

Table (6): Summary of Hypotheses Testing Results

Hypothesis	Relationship Tested	Result
H1	Reward Mechanisms → Player Loyalty	Supported
H2	Reward Mechanisms → In-Game Spending	Supported
H3	Trust → Player Loyalty	Supported
H4	Trust → In-Game Spending	Supported
H5	Trust as Mediator	Partially Supported

Results:

This section summarizes the key empirical findings derived from the descriptive, reliability, and correlation analyses conducted in the study.

- The reliability analysis demonstrated strong internal consistency across all study constructs. Gamified reward mechanisms recorded a high Cronbach's alpha coefficient ($\alpha = 0.884$), indicating excellent scale reliability. Trust and ethical reward design also showed acceptable reliability ($\alpha = 0.774$), while player loyalty and in-game spending behavior demonstrated strong reliability values ($\alpha = 0.826$), confirming the suitability of the measurement instruments.
- Descriptive statistics revealed that participants reported moderate perceptions across all study variables. Gamified reward mechanisms achieved a mean score of 3.21, indicating generally positive evaluations of reward systems. Player loyalty recorded a mean of 3.12, reflecting moderate levels of commitment and engagement. Trust and ethical reward design showed a slightly lower mean of 2.82, suggesting more neutral perceptions, while in-game spending behavior recorded a mean score of 2.99, indicating moderate spending tendencies among respondents.
- Correlation analysis revealed a strong positive relationship between gamified reward mechanisms and player loyalty ($r = 0.728$, $p < .001$), supporting the hypothesis that effective reward systems contribute significantly to sustaining player loyalty.
- A moderate positive relationship was identified between gamified reward mechanisms and in-game spending behavior ($r = 0.433$, $p = .011$), suggesting that reward design influences spending behavior, although to a lesser extent than loyalty.
- Trust and ethical reward design exhibited a very strong positive relationship with player loyalty ($r = 0.783$, $p < .001$), highlighting the critical role of fairness, transparency, and ethical considerations in maintaining long-term engagement.

- A strong positive relationship was also observed between trust and in-game spending behavior ($r = 0.553$, $p < .001$), indicating that players are more willing to spend when they perceive reward systems as ethical and trustworthy.
- While correlation results suggested a potential mediating role of trust in the relationship between ethical reward design and player loyalty, mediation analysis was not conducted due to sample size limitations. Therefore, this relationship remains suggestive rather than conclusive.

Overall, the findings provide empirical support for the positive role of gamified reward mechanisms and ethical design practices in influencing both player loyalty and spending behavior.

Recommendations:

Based on the findings of the study, the following recommendations are proposed for game developers, digital marketers, and strategy managers:

- Game developers and marketers should prioritize transparent and predictable reward systems, as trust was found to have one of the strongest relationships with player loyalty and spending behavior.
- Ethical considerations should be integrated into reward design strategies, particularly by limiting over-reliance on highly randomized or chance-based reward mechanisms that may undermine long-term trust.
- Gamified reward mechanisms should be aligned with long-term engagement goals rather than short-term revenue generation, as loyalty demonstrated stronger associations with trust and fairness than with spending alone.

- Marketers should utilize gamification as a relationship-building tool, focusing on progression, perceived value, and user autonomy to sustain repeat engagement and purchase behavior.
- Digital marketing strategies in gaming environments should balance innovation with responsibility to ensure both profitability and consumer well-being.

Future Research and Limitations:

Despite the contributions of this study, several limitations should be acknowledged, which also present opportunities for future research:

- The study relied on a relatively small sample size ($N = 34$), which limits the generalizability of the findings. Future studies should employ larger and more diverse samples to validate and extend the results.
- The cross-sectional design restricts the ability to infer causal relationships. Longitudinal studies could provide deeper insights into how reward mechanisms influence loyalty and spending behavior over time.
- Mediation analysis was not conducted in the current study due to sample size constraints. Future research may apply regression-based mediation models or structural equation modeling to test the mediating role of trust more rigorously.
- Further studies may explore cross-cultural comparisons or focus on specific game genres to assess whether reward perceptions differ across contexts.
- Future research could also examine additional psychological variables, such as enjoyment, perceived autonomy, or risk perception, to enhance understanding of player behavior in gamified digital environments.

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مستخلص الدراسة:

هدفت هذه الدراسة إلى تحليل أثر آليات المكافآت المعتمدة على التلعيب في استراتيجيات التسويق الرقمي على كل من ولاء اللاعبين وسلوك الإنفاق داخل الألعاب الرقمية، مع التركيز على الدور الذي تلعبه الثقة والتصميم الأخلاقي للمكافآت في تعزيز هذه العلاقة. وتأتي أهمية هذه الدراسة في ظل التوسع المتسارع لصناعة الألعاب الرقمية، وازدياد اعتماد الشركات والمطورين على أنظمة المكافآت التفاعلية كوسيلة لتعزيز مشاركة المستخدمين وتحقيق العوائد المالية، خاصة في الأسواق الرقمية الناشئة مثل السوق السعودي.

اعتمدت الدراسة على المنهج الكمي الوصفي التحليلي، حيث تم جمع البيانات من خلال استبانة إلكترونية وُزعت على عينة من اللاعبين بلغ عددهم (34) مشاركًا. وتم تصميم أداة الدراسة لقياس أربع متغيرات رئيسية: آليات المكافآت المعتمدة على التلعيب، والثقة والتصميم الأخلاقي للمكافآت، وولاء اللاعبين، وسلوك الإنفاق داخل الألعاب. واستخدم مقياس ليكرت الخماسي لقياس استجابات المشاركين، كما تم تحليل البيانات باستخدام برنامج اس بس دبل اس.

أظهرت نتائج تحليل الثبات باستخدام معامل كرونباخ ألفا مستويات عالية ومقبولة من الاتساق الداخلي لجميع المقاييس المستخدمة، مما يؤكد موثوقية أداة الدراسة وصلاحيتها للتحليل الإحصائي. كما بينت الإحصاءات الوصفية أن متوسطات استجابات المشاركين جاءت في المستوى المتوسط لجميع المتغيرات، حيث أظهرت آليات المكافآت والولاء مستويات إيجابية معتدلة، في حين جاءت تصورات الثقة والتصميم الأخلاقي بمستوى أقل نسبيًا، مما يعكس وجود تباين في تقييم اللاعبين لجوانب الشفافية والعدالة في أنظمة المكافآت.

وأظهرت نتائج تحليل الارتباط وجود علاقة إيجابية قوية ذات دلالة إحصائية بين آليات المكافآت المعتمدة على التلعيب وولاء اللاعبين، مما يشير إلى أن التصميم الجيد للمكافآت يسهم بشكل مباشر في تعزيز ارتباط اللاعبين واستمراريتهم. كما تم التوصل إلى وجود علاقة إيجابية متوسطة بين آليات المكافآت وسلوك الإنفاق داخل الألعاب، مما يدل على أن أنظمة المكافآت تؤثر على قرارات الشراء، وإن كان تأثيرها أقوى على الولاء مقارنة بالإنفاق.

كذلك كشفت النتائج عن وجود علاقة إيجابية قوية جدًا بين الثقة والتصميم الأخلاقي للمكافآت وولاء اللاعبين، وعلاقة إيجابية قوية بين الثقة وسلوك الإنفاق داخل الألعاب. وتبرز هذه النتائج الدور المحوري للشفافية والعدالة في بناء علاقات طويلة الأمد مع اللاعبين، وتعزيز استعدادهم للإنفاق داخل البيئات الرقمية. أما فيما يتعلق بفرضية الدور الوسيط للثقة، فقد أشارت النتائج الارتباطية إلى احتمال وجود هذا الدور، إلا أن اختبار الوساطة بشكل إحصائي لم يتم بسبب محدودية حجم العينة، مما يفتح المجال لدراسات مستقبلية أكثر تعمقًا.

خلصت الدراسة إلى أن نجاح استراتيجيات التلعيب في التسويق الرقمي لا يعتمد فقط على تنوع المكافآت أو تحفيز الإنفاق قصير المدى، بل يتطلب تصميم أنظمة مكافآت أخلاقية وشفافة تعزز ثقة اللاعبين وتدعم ولاءهم على المدى الطويل. وتوصي الدراسة المسوقين والمطورين في صناعة الألعاب الرقمية، خاصة في السوق السعودي، بتبني ممارسات تصميم مسؤولة توازن بين الربحية والاستدامة ورضا المستخدم.

Abstract:

This study aimed to examine the impact of gamified reward mechanisms within digital marketing strategies on player loyalty and in-game spending behavior, with particular emphasis on the role of trust and ethical reward design. The importance of this research emerges from the rapid growth of the digital gaming industry and the increasing reliance on gamification-based reward systems as tools for enhancing user engagement and generating revenue, especially in emerging digital markets such as Saudi Arabia.

The study adopted a quantitative descriptive-analytical approach. Data were collected through an online questionnaire distributed to a sample of 34 digital game players. The research instrument was designed to measure four key constructs: gamified reward mechanisms, trust and ethical reward design, player loyalty, and in-game spending behavior. Responses were measured using a five-point Likert scale, and the collected data were analyzed using the Statistical Package for the Social Sciences (SPSS).

Reliability analysis using Cronbach's alpha demonstrated high and acceptable levels of internal consistency across all measurement scales, confirming the reliability and suitability of the research instrument. Descriptive statistics indicated that participants reported moderate perceptions across all study variables. Gamified reward mechanisms and player loyalty showed relatively positive mean scores, while trust and ethical reward design recorded slightly lower mean values, suggesting more neutral perceptions regarding fairness and transparency within reward systems.

The results of Pearson correlation analysis revealed a strong and statistically significant positive relationship between gamified reward mechanisms and player loyalty, indicating that well-designed reward systems play a critical role in sustaining player engagement and commitment. In addition, a moderate positive relationship was found between gamified reward mechanisms and in-game spending behavior, suggesting that reward structures influence spending decisions, although their effect is stronger on loyalty than on direct financial behavior.

Furthermore, trust and ethical reward design exhibited a very strong positive relationship with player loyalty and a strong positive relationship with in-game spending behavior. These findings highlight the central importance of fairness, transparency, and ethical considerations in fostering long-term player relationships and encouraging spending within digital gaming environments. While the correlational results suggested a potential mediating role of trust in the relationship between reward mechanisms and loyalty, formal mediation analysis was not conducted due to the limited sample size. This relationship therefore remains suggestive and warrants further investigation.

In conclusion, the study demonstrates that the effectiveness of gamified digital marketing strategies depends not only on the presence of engaging reward mechanisms but also on the ethical and transparent design of these systems. Sustainable player loyalty and spending behavior are more likely to be achieved when reward systems build trust and align with players' expectations of fairness and value. The study offers practical insights for digital marketers and game developers, particularly within the Saudi market, and provides a foundation for future research employing larger samples and more advanced analytical models.