



# AI and Gamification in Advertising: Impact on Consumer Engagement and Decision-Making

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## Abstract :

This study investigates how gamification and artificial intelligence (AI) affect consumer engagement and decision-making in digital advertising environments. The study examines how game elements—such as points, rewards, challenges, and interactive missions—combined with AI-based adaptive systems affect cognitive, emotional, and behavioral consumer responses, drawing on theoretical underpinnings of game mechanics, motivational psychology, and AI-driven personalization. A structured questionnaire was used to gather data from 100 respondents. Results show that users are highly aware of both gamification and AI technologies, with over 66% of users being familiar with AI and 77.1% having interacted with gamified advertisements. Rewards and spin-wheel mechanics are the most appealing aspects of gamification, which dramatically increases engagement, enjoyment, and attention. AI posits to enhance advertisement creativity, relevance, and efficiency, nevertheless, the level of trust given to AI recommendations is still moderate. Personalized and adaptive advertisement have allured consumers but at the same time their privacy concerns are quite prominent. For instance, a large number of people are anxious about data usage and real-time tracking. On balance, the research indicates that AI-powered gamified advertising leads to significant user engagement and decision-making influence, and at the same time it calls for transparency and secure data practices to keep the trust of consumers in the long run.

**Keywords:** AI, Gamification, Decision-making, Consumer engagement. Advertising.

## 1. Introduction

Many technological advancements like AI and gamification came out to be the most important means to increase engagement and, to some extent and also manipulate consumers' decisions. Gamification is a term that refers to the application of game mechanics in non-game settings, used in advertising and various other fields to stimulate enjoyment, motivation, and participation (Deterding et al., 2011).

Modern consumers desire to have interactive experiences that challenge their cognitive development, emotional involvement, and behavioural excitement and elements like rewards, achievements, storytelling, competition, and challenges. With AI the gamification experience is further enriched as it provides the user personalization, prediction, sentiment analysis, emotional tracking, and dynamic content adjustment (Liu & Wang, 2020). AI in effect enables marketers to create gamified ads that are highly personalized according to the individual's preferences and behaviours thus ensuring great relevance and also increasing the chances of favourable consumer response.

Aim of the research is to analyse the impact of gamified advertising on the consumer interaction and to uncover the mediators (e.g. enjoyment, perceived control) as well as the moderators (e.g. brand familiarity, player type). The study also looks at how AI-driven gamified advertising affects the consumers from various

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other perspectives. It identifies the factors that motivate participation, the elements that facilitate decision-making, and the overall contribution of AI to the interactive advertising design. The study is conducted with the data collected from 100 respondents who are exposed to the gamified ads and then identified the patterns concerning the game elements and consumer actions which ultimately provided insights for both theorists and practitioners. The objective of this study is to:

1. To examine the integration of AI and gamification in advertising.
2. To comprehend the driving factors that lead to consumer participation in gamified advertising.
3. To study the role of gamification elements (points, rewards, challenges, and personalization) as a factor that elevates consumer engagement in digital advertising environments.
4. To analyse the compounded effect of AI-driven gamified advertising on cognitive, emotional, and behavioural consumer engagement dimensions and the role of these dimensions in consumer decision-making process.

In this paper Section 1 depicts the Introduction. Section 2 covers the conceptual description of gamification and AI. Section 3 focus on the research done so far on gamification, AI and advertising are depicted. Section 4 shows the methodology of the study followed by results and conclusion in section 5 and 6 at last section 7 with the future scope of the study.

## **2 Theoretical Background**

### **2.1 The Role of Gamification in Advertising**

Gamification in advertising is a new means of utilizing game mechanics, integrating them, and creating interactive experiences simultaneously. Instead of being passive observers, the users will have the opportunity to participate, complete tasks, win rewards, enter challenges and interact with the brand. AI plays a key role in this scenario by monitoring user behaviours, tailoring content, and fine-tuning engagement strategies.

### **2.2 Gamification Strategies in Advertising**

The strategies mentioned above are all focused on the same goal, which is to increase the customer's interaction with the brand and thus make a stronger bond with the brand.

## **3. Literature Review**

Gamification has been studied extensively as a method of improving the user's motivation and involvement. Deterding et al. (2011) refer to gamification as “the use of game elements in non-game contexts” and point out that one of the main advantages of gamification is that it makes tasks more rewarding and pleasant. The incorporation of gamification into marketing has shown to be fruitful in the sense of consumer participation and attachment to the brand (Hamari, Koivisto & Sarsa, 2014).

Werbach and Hunter (2012) assert that gamification increases cognitive, emotional, and behavioural involvement by using intrinsic motivators such as success, rivalry, and control. Similarly, Sailer et al. (2017) stress that the use of game elements factors into higher engagement through the perception of enjoyment and competence being improved. New research is mentioning AI as a game changer in the realm of advertising.

AI allows the delivery of personalized content, carries out predictive analytics and creates content automating which all together significantly improve gamified experiences (Liu & Wang, 2020). Besides, Emotional AI makes users more engaged as it first recognizes their emotional moods and then modifies the content accordingly (McStay, 2018). As a result, AI-driven gamification is more engaging and effective.

Through the influence of gamified advertising on consumer decision-making, the latter come to be influenced through changing their attitudes, raising their satisfaction and eventually seeing more value in the product (Leclercq et al., 2020). The findings suggest that the implementation of gamified ads leads to higher conversion rates, longer time spent interacting with them, and stronger intentions to act, compared to the case with traditional ads (Chung et al., 2021).

Case Study 1: Gamification in Domino's India- A systematic reward mechanism has been set in place by Domino's wherein every customer is allotted points for the orders made through the mobile application of Domino's. The points can be redeemed for free pizzas and other complimentary items. A Christmas campaign can be based on a lucky draw, where the users who complete a minimum order stand a chance to win exclusive giveaways. App users experienced a considerable rise in their order frequency. Domino's application was

embraced more than aggregator platforms. The gamified aspects not only attracted users during the discount period but also made the brand an interactive experience rather than a mere food delivery service.

Case Study 2: Gamification on Nike Digital Platforms (Nike Run Club & Nike Training Club)- Monthly and seasonal challenges, for example, “Run 20 km in 15 days,” to earn digital rewards or badges, promoting consistent app engagement are organized regularly by Nike. Badges like “5K Finisher,” “10 Workouts Completed,” or “50K Runner” reinforce progress through gamified achievements. Leaderboards provide the opportunity for users to compare scores and performance with friends or global participants. The participation in the challenges resulted in a very high rise in the number of daily active users in India.

#### 4. Methodology

The study uses a quantitative descriptive research design to examine the impact of AI-driven gamification in advertising. Primary data were collected through a structured questionnaire administered online.

The population of the study comprised digital media users who regularly exposed to online advertisements. A sample size of 100 respondents was selected using a convenience sampling technique, based on accessibility and willingness to participate.

The questionnaire consisted of multiple sections. The first section collected demographic details. The subsequent sections measured respondents’ awareness, prior exposure, and perceptions of gamified and AI-based advertisements using Likert-scale. To identify previous experience with gamified advertising, respondents were asked direct questions regarding their interaction with common gamification formats with examples to provide clarity.

The collected data were analysed using descriptive statistical techniques, including frequencies and percentages, to understand patterns related to consumer engagement, decision-making behaviour, and perceptions of AI and gamification in advertising.

#### 5. Data and Findings

**Table 1- Section A Respondents profile.**

Variable	Category	n (%)
Age	18–25	84 (85.7)
	Others	14 (14.3)
Gender	Male	44 (44.9)
	Female	54 (55.1)
Occupation	Student	74 (75.5)
	Others	24 (24.5)
Daily Internet Usage	3–5 hours	40 (40.8)
	> 5 hours	31 (31.6)
	≤ 3 hours	27 (27.6)

Table 1 shows the majority of respondents were 18–25 years old, predominantly students, and split almost evenly across gender. Most respondents spent 3–5 hours daily on the internet, indicating high digital activity and relevance to online ad exposure.

#### SECTION B:

**Table 2- AI and Gamification familiarity.**

Question	Response Options	Frequency (N)	Percent (%)
1. Interaction with gamified advertisements (N = 96)	Yes	74	77.1
	No	15	15.6
	Skipped / End Survey	7	7.3
2. Familiarity with gamified advertising (N = 85)	Very familiar	15	17.6
	Somewhat familiar	33	38.8
	Neutral	19	22.4
	Slightly familiar	13	15.3
	Not familiar	5	5.9

<b>3. Gamified ads are more engaging than normal ads (N = 84)</b>	Strongly Agree	11	13.1
	Agree	43	51.2
	Neutral	27	32.1
	Disagree	2	2.4
	Strongly Disagree	1	1.2
<b>4. Gamification elements that attract users (Multiple Response, N = 82)</b>	Rewards / Points	58	70.7
	Badges / Levels	17	20.7
	Leaderboards / Competition	19	23.2
	Lucky Draws / Spin Wheel	39	47.6
	Challenges / Missions	27	32.9
	Unlockable Content	14	17.1
	AI-Personalized Offers	9	11.0
<b>5. Familiarity with the term Artificial Intelligence (AI) (N = 86)</b>	Very Familiar	57	66.3
	Somewhat Familiar	25	29.1
	Heard but Not Sure	4	4.6
	Not familiar at all	0	0.0
<b>6. Have you come across AI-based ads? (N = 85)</b>	Yes	63	74.1
	No	11	12.9
	Not Sure	11	12.9
<b>7. Where have you mostly seen AI-driven ads? (Multiple Response, N = 85)</b>	Social media	75	88.2
	E-Commerce Apps	34	40.0
	Streaming Services	24	28.2
	Search Engines	29	34.1
	Gaming Apps	29	34.1
	Banking / Financial Services	1	1.2

Table 2 shows A high proportion of respondents (77.1 percent) have interacted with gamified advertisements such as spin-to-win, scratch cards, or reward-based ads. This indicates that gamification is widely experienced and recognized by consumers.

## SECTION C:

**Table 3- Perception Toward Use of AI in the Advertising Industry**

Question	Response Options	Frequency (N)	Percent (%)
<b>1. AI-based ads are easily recognizable (N = 84)</b>	Strongly Disagree	6	7.1
	Disagree	10	11.9
	Neutral	35	41.7
	Agree	30	35.7
	Strongly Agree	3	3.6
<b>2. AI helps make advertisements more creative (N = 86)</b>	Strongly Disagree	10	11.6
	Disagree	6	7.0
	Neutral	19	22.1
	Agree	45	52.3

	Strongly Agree	6	7.0
<b>3. AI makes ads more relevant to my needs (N = 86)</b>	Strongly Disagree	5	5.8
	Disagree	12	14.0
	Neutral	31	36.0
	Agree	35	40.7
	Strongly Agree	3	3.5
<b>4. I trust the accuracy of AI-driven product recommendations (N = 87)</b>	Strongly Disagree	9	10.3
	Disagree	19	21.8
	Neutral	42	48.3
	Agree	17	19.5
	Strongly Agree	0	0.0
<b>5. AI makes advertising smarter, efficient &amp; resource-saving (N = 85)</b>	Strongly Disagree	7	8.2
	Disagree	8	9.4
	Neutral	28	32.9
	Agree	41	48.2
	Strongly Agree	1	1.2
<b>6. Chatbots &amp; virtual assistants are useful when interacting with brands (N = 83)</b>	Strongly Disagree	6	7.2
	Disagree	6	7.2
	Neutral	39	47.0
	Agree	30	36.1
	Strongly Agree	2	2.4
<b>7. AI-generated ads reduce effort in finding suitable products (N = 82)</b>	Strongly Disagree	5	6.1
	Disagree	7	8.5
	Neutral	28	34.1
	Agree	39	47.6
	Strongly Agree	3	3.7

Table 3 shows that Most respondents were somewhat familiar or neutral about gamified advertising, showing moderate awareness. Over 64 percent agreed that gamified ads are more engaging than regular ads.

Preferred gamification elements included: Rewards/Points (70.7 percent), Lucky draws/Spin wheels (47.6 percent), Challenges/Missions (32.9 percent)

AI awareness was also high: 66.3 percent were familiar with AI, 74.1 percent had encountered AI-driven ads, AI-driven ads were seen mainly on social media, e-commerce apps, and search engines.

Respondents showed positive attitudes toward AI-enhanced ads. Over 50 percent agreed that AI makes ads more creative while 40.7 percent felt AI makes ads more relevant to their needs. Almost half (48.3 percent) remained neutral about trusting AI-driven recommendations, showing some hesitation. More than 48 percent believed AI makes advertising more efficient. Chatbots and virtual assistants were considered useful by many respondents.

## SECTION D:

**Table 4- Perception Toward Gamification in Advertising**

Question	Response Options	Frequency (N)	Percent (%)
<b>1. Game elements in ads encourage me to engage more (N = 84)</b>	Strongly Disagree	6	7.1

	Disagree	5	6.0
	Neutral	24	28.6
	Agree	45	53.6
	Strongly Agree	4	4.8
<b>2. I often come across ads using game-like elements (N = 80)</b>	Strongly Disagree	6	7.5
	Disagree	9	11.3
	Neutral	32	40.0
	Agree	32	40.0
	Strongly Agree	1	1.3
<b>3. Consumers are motivated to complete challenges for fun (N = 82)</b>	Strongly Disagree	6	7.3
	Disagree	2	2.4
	Neutral	21	25.6
	Agree	44	53.7
	Strongly Agree	9	11.0
<b>4. Consumers complete challenges in ads to win rewards for buying the product (N = 81)</b>	Strongly Disagree	7	8.6
	Disagree	5	6.2
	Neutral	21	25.9
	Agree	40	49.4
	Strongly Agree	8	9.9
<b>5. Gamification reduces boredom and keeps me interested (N = 82)</b>	Strongly Disagree	6	7.3
	Disagree	6	7.3
	Neutral	24	29.3
	Agree	39	47.6
	Strongly Agree	7	8.5
<b>6. Gamified ads are more enjoyable and interactive (N = 82)</b>	Strongly Disagree	4	4.9
	Disagree	2	2.4
	Neutral	22	26.8
	Agree	48	58.5
	Strongly Agree	6	7.3
<b>7. Gamification increases trust in a brand (N = 81)</b>	Strongly Disagree	5	6.2
	Disagree	12	14.8
	Neutral	41	50.6
	Agree	23	28.4
	Strongly Agree	0	0.0

Table 4 shows that Gamification has strong positive influence on engagement. 53.6 percent agreed that game elements increase engagement. Respondents frequently come across ads with game-like elements. More than 50 percent agreed that consumers complete challenges for rewards (fun or product-related). Gamified ads were described as more enjoyable, interactive, and reducing boredom. However, gamification's influence on brand trust was moderate, with 50.6 percent remaining neutral.

**SECTION E:**

**Table 5- Consumer Engagement Dimensions & Decision-Making**

<b>Question</b>	<b>Response Option</b>	<b>Frequency (N)</b>	<b>Percent (%)</b>
<b>1. Gamified AI ads make me think more about the brand (N = 82)</b>	Strongly Disagree	4	4.9
	Disagree	6	7.3
	Neutral	38	46.3
	Agree	31	37.8
	Strongly Agree	3	3.7
<b>2. I pay more attention to personalized advertisements (N = 81)</b>	Strongly Disagree	5	6.2
	Disagree	4	4.9
	Neutral	28	34.6
	Agree	38	46.9
	Strongly Agree	6	7.4
<b>3. I feel excited when engaging with gamified advertisements (N = 82)</b>	Strongly Disagree	5	6.1
	Disagree	6	7.3
	Neutral	35	42.7
	Agree	34	41.5
	Strongly Agree	2	2.4
<b>4. I enjoy ads that adapt based on my actions (N = 81)</b>	Strongly Disagree	4	4.9
	Disagree	4	4.9
	Neutral	24	29.6
	Agree	41	50.6
	Strongly Agree	8	9.9
<b>5. I revisit or follow brands offering AI-based interactive ads (N = 81)</b>	Strongly Disagree	6	7.4
	Disagree	12	14.8
	Neutral	42	51.9
	Agree	18	22.2
	Strongly Agree	3	3.7
<b>6. Personalized ads make consumers feel valuable (N = 82)</b>	Strongly Disagree	4	4.9
	Disagree	5	6.1
	Neutral	20	24.4
	Agree	42	51.2
	Strongly Agree	11	13.4
<b>7. Consumers are more involved when they have control/choices in ads (N = 82)</b>	Strongly Disagree	5	6.1
	Disagree	5	6.1
	Neutral	23	28.0
	Agree	43	52.4
	Strongly Agree	6	7.3
<b>8. Visual design &amp; graphics in interactive ads attract</b>	Strongly	4	4.9

<b>attention</b> (N = 82)	Disagree		
	Disagree	3	3.7
	Neutral	15	18.3
	Agree	48	58.5
	Strongly Agree	12	14.6
<b>9. Personalized AI ads influence my purchase decisions</b> (N = 82)	Strongly Disagree	3	3.7
	Disagree	9	11.0
	Neutral	40	48.8
	Agree	27	32.9
	Strongly Agree	3	3.7
<b>10. Have you purchased something after a gamified ad?</b> (N = 50 open responses)	No / Not Sure	Majority	—
	Yes (Examples)	T-shirt, Nivea product, facial product, other items	—

Table 5 shows that Consumers reported strong engagement with personalized and interactive AI/gamified ads. 46.9 percent pay more attention to personalized ads. Many respondents feel excited when interacting with gamified ads. Ads adapting to user actions were appreciated by over 50 percent. Visual design and graphics strongly attract attention (58.5 percent). 51.2 percent agreed that personalized ads make consumers feel valuable. Purchase influence was moderate — many remained neutral, but some confirmed actual purchases after gamified interaction.

## SECTION F:

**Table 6- Privacy & Trust**

Question	Response Option	Frequency (N)	Percent (%)
<b>1. I feel concerned about data used for AI personalization</b> (N = 81)	Strongly Disagree	6	7.4
	Disagree	3	3.7
	Neutral	22	27.2
	Agree	31	38.3
	Strongly Agree	19	23.5
<b>2. I trust brands that offer transparency in data usage</b> (N = 84)	Strongly Disagree	5	6.0
	Disagree	6	7.1
	Neutral	19	22.6
	Agree	41	48.8
	Strongly Agree	13	15.5
<b>3. Data privacy concerns sometimes stop me from engaging in ads</b> (N = 84)	Strongly Disagree	4	4.8
	Disagree	4	4.8
	Neutral	23	27.4
	Agree	36	42.9
	Strongly Agree	17	20.2
<b>4. I am aware that my clicks &amp; preferences are tracked in real time</b> (N = 81)	Strongly Disagree	4	4.9

	Disagree	2	2.5
	Neutral	21	25.9
	Agree	39	48.1
	Strongly Agree	15	18.5
<b>5. I prefer interacting only with brands that ensure secure data handling</b> (N = 84)	Strongly Disagree	4	4.8
	Disagree	2	2.4
	Neutral	20	23.8
	Agree	38	45.2
	Strongly Agree	20	23.8

Table 6 shows the major factor, among the respondents to the survey, was the privacy issue when they acknowledged the AI personalization. A considerable part of them was worried about the use of their data. 48.8 percent of the people indicated that they would trust companies that are open about their data usage.

## 6. Conclusion

The study uses a quantitative descriptive research design and asserts that AI-driven gamification positively impacts consumer engagement in all three dimensions—cognitive, emotional, and behavioural—significantly. Participants experience gamified ads to a large extent, and among game features like rewards, competitions, and spin-to-win mechanics, the latter strongly encourages participation. Consumers consider these features as fun, interactive, and capable of boredom alleviation, thus making them more willing to respond to digital ads.

Privacy concerns emerge as a crucial factor moderating consumer behaviour. Overall, the study concludes that AI-enhanced gamification is an effective advertising strategy that meaningfully boosts engagement and contributes to consumer decision-making. However, long-term success depends on balancing personalization with ethical data practices and maintaining user trust. Future research could explore the influence of specific game elements, psychological motivators, and cross-category differences to deepen understanding of AI-gamified advertising systems.

## 7. Future Scope of the Study

While the present study provides meaningful insights into the impact of AI-driven gamification on consumer engagement and decision-making, several directions remain open for future research.

Future research may employ multivariate statistical techniques such as correlation analysis, regression analysis, factor analysis, or structural equation modelling (SEM) to examine causal relationships between AI-driven gamification elements and consumer engagement dimensions. Such analyses would allow researchers to statistically test hypotheses, identify variables, and determine the strength and significance of relationships among constructs.

Further, future studies may integrate experimental or quasi-experimental designs, allowing statistical comparison between control and treatment groups exposed to gamified versus non-gamified or AI-driven versus non-AI advertisements. This would help isolate the true effect of gamification and AI elements on consumer behaviour.

In conclusion, while the present study establishes a foundational understanding of AI and gamification in advertising, future research supported by advanced statistical analysis and hypothesis testing will be critical for validating results, strengthening theoretical contributions, and offering more precise managerial implications.

## References (APA 7th Edition)

- Chung, S., Ko, E., & Kim, S. J. (2021). The effectiveness of gamification in digital advertising: A meta-analysis. *Journal of Interactive Marketing*, 53, 30–45.
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness: Defining gamification. *Proceedings of the 15th International Academic MindTrek Conference*, 9–15.
- Hamari, J., Koivisto, J., & Sarsa, H. (2014). Does gamification work? — A literature review of empirical studies. *Proceedings of the 47th Hawaii International Conference on System Sciences*, 3025–3034.
- Kaptein, M., Markopoulos, P., de Ruyter, B., & Aarts, E. (2015). Personalized persuasive messages. *User Modeling and User-Adapted Interaction*, 25(1), 1–28.
- Koivisto, J., & Hamari, J. (2019). The rise of motivational information systems: A review of gamification research. *International Journal of Information Management*, 45, 191–210.
- Leclercq, T., Poncin, I., & Hammedi, W. (2020). Opening the black box of AI-powered gamified advertising. *Journal of Business Research*, 118, 257–270.
- Liu, Y., & Wang, H. (2020). Artificial intelligence in consumer engagement: A review and research agenda. *Marketing Science Review*, 32(4), 56–72.
- McStay, A. (2018). *Emotional AI: The rise of empathic media*. Sage Publications.
- Sailer, M., Hense, J., Mayr, S., & Mandl, H. (2017). How gamification motivates: An experimental study. *Computers in Human Behavior*, 69, 371–380.
- Werbach, K., & Hunter, D. (2012). *For the Win: How Game Thinking Can Revolutionize Your Business*. Wharton Press.
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). *From game design elements to gamefulness: defining “gamification”*. In Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments. ACM. [ACM Digital Library](#)
- Hamari, J., Koivisto, J., & Sarsa, H. (2014). *Does gamification work? — A literature review of empirical studies on gamification*. Available: Hamari et al. PDF. [creativegames.org.uk](#)
- Seaborn, K., & Fels, D. I. (2015). *Gamification in theory and action: A survey*. International Journal of Human-Computer Studies. [ScienceDirect](#)
- Werbach, K., & Hunter, D. (2015/2020). *For the Win: The Power of Gamification and Game Thinking in Business, Education, Government, and Social Impact* (Revised ed.). Wharton School Press. [JSTOR](#)
- Mishra, S., & others. (2020). *The gamification of in-game advertising*. Frontiers in Psychology. (Empirical study on gameful experience and in-game ad attitudes). [PMC](#)
- Sailer, M., Hense, J., Mandl, H., & Klevers, M. (2020). *The gamification of learning: a meta-analysis*. Educational Psychology Review. [SpringerLink](#)
- Krath, J., et al. (2021). *Revealing the theoretical basis of gamification: A systematic meta-review*. Computers in Human Behavior. [ScienceDirect](#)