Can gamification affect the advertising effectiveness in social media?

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Abstract
Purpose – The purpose of this paper is to investigate how gamification in advertising affects the effectiveness of advertising on social media.
Design/methodology/approach – Drawing from the gamification literature, immersion, achievement and social interaction features were identified as features, and advertising effectiveness factors were brand attention, brand liking and recall. A questionnaire was used for collecting data, and a structural equation modeling approach was applied to examine the model.
Findings – The results indicated that immersion, achievement and social interaction features affect advertising effectiveness. Furthermore, advertising effectiveness factors had a significant effect on purchase intentions.
Originality/value – The study contributes to the combination of gamification in advertising by offering characteristics for gamification that can enhance advertising effectiveness through brand attention, liking and recall. Finally, it provides managerial guidance on how they can use gamification in their advertising process.
Keywords Gamification, Social media, Advertising effectiveness, Attention, Recall, Purchase intention
Paper type Research paper

1. Introduction
With the development of the Internet and social media, brands and companies have expanded their use of digital advertising (Rodgers and Thorson, 2018). According to pay per click (PPC) Protect report in 2022, consumers, especially young people, are exposed to an average of 6,000 to 10,000 advertising messages per day. This creates a significant barrier to reach (PPCProtect, 2022). By utilizing advanced advertising techniques, marketers can effectively appeal to potential consumers (Cicchirillo, 2019; Dwivedi et al., 2021). Marketers utilize in-game advertising and advergames to skillfully convey messages to consumers, thereby boosting persuasive power (Egger et al., 2022; Mishra and Malhotra, 2021). As a result, E-games and gamification have emerged as the most innovative approaches (Terlutter and Capella, 2013) for promoting brands (Winkler and Buckner, 2006; Roettl et al., 2016). In recent years, studies on games and in-game advertising have overlooked a considerable number of existing findings. Ghosh et al. (2021) studied how brands use games in their advertising and discovered that by offering bonuses and rewards, brands significantly increase customers’ depth of information processing, familiarity with the brand and advertising effectiveness (Ghosh et al., 2021). Studies have examined the impact of in-game advertising on various factors, including player motivation (Abbasi et al., 2021), recall of brands (Chaney et al., 2018), awareness of brand placement (Jin and Phua, 2015) and familiarity with brands (Mau et al., 2008). According to Bittner and Shipper (2014), companies can incorporate game elements in designing advertisements and gamified ads have a positive impact on customer attitude and purchase intention. Mishra and Malhotra (2021) investigated the gamification of in-game
advertising and its effects on perceived advertising effectiveness. Additionally, Vashisht and Royne (2019) conducted a review of previous research on antecedents and consequences of advergames. They believed that designing a game and its environment is costly and requires a professional game maker. Gamified advertising has numerous advantages over traditional advertising methods. First, incentivizing purchases leads to a decreased level of pessimism among consumers (Panic et al., 2013). Additionally, this strategy strengthens the role of rewards, ultimately influencing both cognitive and emotional reactions (Vanwesenbeeck et al., 2017) such as customer awareness, attitude towards the brand and brand recall (Sreejesh and Anusree, 2017), creating a distinctive interplay between the brand and its customers. Sreejesh et al. (2021) presented contextual cues on the gamified advertising effectiveness; but they believed researchers are interested in investigating the role of gamification in effectiveness and convincing outcomes (Sreejesh et al., 2021). Altmeyer et al. (2019) show gamified ads can enhance effectiveness of online ads. Their study limited to games. Websites and social media platforms have interactive features and they can utilize various features of gamifications in their ads without spending more money (Buzeta et al., 2020; Whiting and Williams, 2013). Companies can utilize gamification features in their communication with customers. However, the discussion on the impact of gamification features on the effectiveness of social media advertising is still limited. Immersion, achievements and social interaction are specific gamification features that have not been mentioned in the studies and their effects have not been investigated separately (Huo and Jiang, 2022).

By addressing these gaps, this study makes the following contributions. First, despite the growing understanding of gaming in advertising, little is known about the impact of gamification features on advertising effectiveness in social media. Not only the content of the gamification of advertising for a specific brand but also the contextual signals present in the gamification may play a key role in the ads. Second, although existing studies have addressed the effects of in-games on advertising (Abbasi et al., 2021; Ghosh et al., 2021; Chaney et al., 2018), there is a lack of insight into gamification features (immersion, achievements and social interaction) in advertising effectiveness. Therefore, we considered Immersion, achievements and social interaction the attention, interest, desire action (AIDA) model as a method for evaluating advertising, which includes different stages of ad placement that ultimately lead to purchase. According to the AIDA model, an ad is effective if it can lead customers from the first stage to the last stage (Sharifi et al., 2019), which adds empirically derived insights in this area. Subsequently, this study develops a model to measure the effect of gamification on advertising effectiveness. In this paper, we consider the AIDA model of advertising effectiveness. Also, we would investigate how to improve advertising effectiveness. We tried to build a bridge between features of gamification and advertising effectiveness; this study considered how gamification features could influence the effectiveness of advertising and investigated this impact on advertising effectiveness factors.

2. Theoretical framework
2.1 Gamification in advertisements
Gamification is the application of game elements, features, structure and mechanics in a non-game environment (Kapp, 2012; Hamari et al., 2014). Folmar (2015) describes gamification as utilizing thought and game elements to attain non-game objectives. Gamification provided beneficial and enjoyable values for consumer by creating pleasure (Hsu and Chen, 2018). Gamified advertisements could present advertising messages attractively to draw customers’ attention to a brand or product (Hernandez et al., 2004; Winkler and Buckner, 2006). Xi and Hamari (2019) identified three features such as immersion, achievements and social
interaction. Mishra and Malhotra (2021) have demonstrated interactive features and the enjoyment of gamification in advertising process by creating senses of self-efficacy, responsibility and belonging and by attracting the individuals’ attention leads to an increase in the influence of advertisements in society. However, they did not determine the mechanisms of effectiveness.

The potential features of gamification that are involved in the advertising effectiveness include immersion, social attraction and achievement. Immersion consists of mechanics and design elements to immerse or attract users in operational and experiential activities, for example, avatar/profile and personalization/customization (Qian et al., 2022). Immersion deals with customer discovery, role-playing, personalization, oblivious of external reality, ability to exchange information between users and verifiability (Egger et al., 2022). There is the ability to immerse in customers. Customers can immerse themselves in the story and thus understand the claims being made about the brand. Immersion helps users to access a comprehensive array of advertising statistics and information and to contribute to brand decisions, leading to enhanced functional and cognitive value of events (Bitrián et al., 2021).

Achievement in gamification has been designed to improve users’ perception of success, with elements such as virtual money, progress reports, experience points, levels, rankings and tasks or assignments (Qian et al., 2022). The feature of achievement means using points, progress and levels that reflects the progress and status of users in the gaming environment. In advertising, experience of success displayed in advertising campaigns through status and levels or prophecies allow users to predict the results of using a brand and get rewards and prizes (Qian et al., 2022).

Social interaction ability refers to enjoyment, entertainment, team building, socialization and communication (Egger et al., 2022). Also, users can participate in discussions such as links, posts, images, videos and communicate at live events (Qian et al., 2022). Social interactions and debates can occur on chat platforms or social media, leading to the exchange of information and enabling users to learn new strategies, tactics and roles of the game sufficiently, thus enhancing the cognitive value of the event (Li and Guo, 2021). While being involved in team competitions, users can develop a robust sense of social value because this opportunity arises through participation in competition or cooperation with others (Xi and Hamari, 2020).

2.2 Advertising effectiveness

The advertising effectiveness is associated with factors such as brand image evaluation and positive emotional reactions (Sharifi et al., 2019). Effective advertisements contain distinct, vivid and entertaining information and knowledge about a particular product or service (Kim and Johnson, 2016). As, the effectiveness of advertisements is dissimilar for each customer, it is essential to know how audience attention or their mental efforts to buy a specific brand cold be done (Zenetti and Klapper, 2016). Following AIDA model, this paper considers brand attention, brand liking and brand recall as three dimensions of advertising effectiveness. The first mission of advertising is drawing attention that advertising messages must effectively being seen and positively perceived (Chemmanur and Yan, 2019). The next level, interest or liking, in advertising influences customers’ emotions. Subsequently, the advertising message should be led to the positive experiences and attitudes of the target customers (Pfiffelman and Pfeuffer, 2022). Additionally, advertisements should have an acceptable layout, appropriate language and accurate content (Ad et al., 2012). Advertisers, at the “desire” level, must know how and what customers think in order to communicate with target customers efficiently (Crisp, 1987). Then, advertisements should persuade customers that the products and services provided can meet their needs (Mehta et al., 2008). Finally, the action level of advertising is to follow or buy products and services. Although purchase is not ultimate goal of advertising, it has a positive influence on purchasing. Moreover, an advertising can convey its message to the audience successfully when
consumers first know that brand well, then they are able to recall it (Ndlela and Chuchu, 2016). When a customer recalls a brand and its advertisements well, their attention and interest are achieved; thus, they become motivated to choose a brand that they know and remember better than other brands. Brand liking reflects positive and emotional relationships with the brand (Ahuvia, 2005; Batra et al., 2012). Brand liking strongly influences brand loyalty and word-of-mouth about the brand (Hsu and Chen, 2018).

2.3 Immersion, brand attention, brand liking and recall

Immersion is the pleasant feeling has been arisen through the surrounding world and involving in the game environment in the user or customer. Immersion-related features attempt to engage the player in a curious self-centered environment, including mechanics such as avatars, storytelling, narrative structures and so on (Xi and Hamari, 2020). The factors affecting immersion in a game include the design of the environment and space, viewing angle, game style, sounds, ease of access, game speed, characters, balance between challenges and player abilities and finally increasing benefits (Mishra and Malhotra, 2021). Conventional advertising models such as AIDA (Aaker et al., 1992) and Krugman’s AIETA model (Awareness, interest, evaluation, trial, adoption) (1977) emphasize that when people are presented with some information, they consider it through a cognitive information processing mode. Presenting information in game and enjoyments could improve the process. In this case, attention is an initial step that culminates as a stimulus for further processing in a hierarchical order in action (Aaker et al., 1992). Also, playing in gamified advertising caused immersive experience and brand liking (Tsai et al., 2020).

The customers’ ability to recall a brand occurs when they encounter some brand-related signals and a correct understanding of the brand is built in their memory and mind (Baumann et al., 2015). Zhou et al. (2022) stated the elements of gamification, including immersion and interaction, affect customer behaviors. Games and game elements have more immersive power in brand awareness (Jin and Phua, 2015). Hofacker et al. (2016) utilized gamification elements like storytelling in marketing plans and enhancing the mobile marketing effectiveness. Their results considered immersion-related features can create an outstanding psychological investment in customer thinking; it is expected to lead to attention and liking in a gamified process. Therefore, immersion creates a kind of awareness so that the customer remembers the advertising claims and understands the differences between the brand and similar brands. Customer immersion can tip the balance in favor of choosing a brand. Subsequently, the following hypotheses are proposed:

H1. Immersion positively influences brand attention.

H2. Immersion positively influences brand liking.

H3. Immersion positively influences brand recall.

2.4 Achievement, brand attention, brand liking and brand recall

Achievements help to satisfy the self-actualization brand followers’ probability to reach achievements significantly establish deeper and longer-lasting emotion in customers (Ringsberg and Forquer Gupta, 2003). The achievement-related features induce a sense of success in the players or users and elevate this sense in them. That include of mechanics includes rewards, medals or degrees, challenges, missions, goals, progress criteria, scoreboards, or ranking tables (Högberg et al., 2019; Xi and Hamari, 2020). When customers gain benefit from brand, they try to encounter more challenges and obtain higher points and ratings. They would interest in a brand and their emotional bond with the brand causes focus on the brand and remain loyal to it (Hwang and Kandampully, 2012; Yu
Furthermore, when the ads give the consumers a feeling of accomplishment and success by loot box it would persuade them and promote selling (Kelling and Tham, 2021). Also, they tend to have more interaction with the brand and remember the ads related to it and become interested in purchasing a brand they have more familiarity with (Ndlela and Chuchu, 2016). Subsequently, the following hypotheses are proposed:

\[ H4. \] Achievement positively influences brand attention.

\[ H5. \] Achievement positively influences brand liking.

\[ H6. \] Achievement positively influences brand recall.

2.5 Social interaction, brand attention, brand liking and brand recall

The social interaction-related characteristic is utilized to establish social communication with users (Jang et al., 2018). Although the social interaction feature is embedded in social media platforms, gamification features include mechanics and dynamic elements such as team, group and competition, could lead to users fulfilling their dependence on others through social communication (Hamari and Tuunanen, 2014; Koivisto and Hamari, 2019). Abou-Shouk and Soliman (2021) demonstrated gamification, or creation of interactive mechanisms and storytelling arouses the attention and motivation of customers and ultimately leads to the desire to purchase. Brand attention occurs when consumers have successfully recognized the brand activities. When involved in a brand’s advertising campaigns, consumers would recommend it to others and tell them its positive points if they are interested in the brand (Lawer and Knox, 2006; Rosenkrans, 2009). In addition, people not only improve their emotional bonds by involving with a brand and recommend it to others, but also diminish its disadvantages and try to attract others to it by commenting the advantages of that brand (Veloutsou and Arvaniti, 2016). Also, brand recall occurs when consumers can reproduce the brand’s success in their memory and advertising communication can improve it (Mikhailitchenko et al., 2009). When customers have more interaction with a brand, they feel more content with it, pay attention to it and remain loyal to it (Weiger et al., 2017). The properties of games would enhance ability of consumers to brand retrieval when there is little information about that brand or product, so the following hypotheses are proposed:

\[ H7. \] Social interaction positively influences brand attention.

\[ H8. \] Social interaction positively influences brand liking.

\[ H9. \] Social interaction positively influences brand recall.

2.6 Brand attention, brand liking, brand recall and purchase intention

When a brand creates interested feeling in customers and makes them emotionally involved, it fosters a preference for that brand over others and an intention to purchase due to emotional bonds and prioritization (Duffett et al., 2019). Attention plays a crucial role in purchasing a brand or product in practice (Pechmann and Stewart, 1990; Cortinas et al., 2019) and attention in advertising lead to customer behavior such as recommendation (Maslowska et al., 2021). Brand-related advertisements should facilitate customers in recognizing the brand’s characteristics, getting relevant information about it and ultimately developing a motivation to make a purchase (Kuisma et al., 2010). When customers are highly invested in a brand in terms of awareness and attention, they typically search for information about it. Additionally, they engage with other users to discuss the brand and increase their familiarity with it, ultimately influencing their intention to make a purchase (Hutter et al., 2013). An effective advertisement can capture people’s attention and subsequently enable them to recall the brand name more easily when making purchases (Vaughan et al., 2016; Bellman et al., 2018).
Despite this, many users do not associate games with advertising and therefore unknowingly accept branding. We hypothesize that gamification prompts users to contemplate the brand in greater depth, thereby impacting their purchasing decisions. Thus, we propose the following hypotheses:

- **H 10.** Brand attention positively influences purchase intention.
- **H 11.** Brand liking positively influences purchase intention.
- **H 12.** Brand recall positively influences purchase intention.

Followed by literature and the significant role of gamification in the advertising effectiveness, this research proposed a conceptual model. The conceptual model is presented in **Figure 1.**

### 3. Methods and data
The design of this study was a quantitative study through an online survey.

#### 3.1 Sample and data collection
We attempted to find brands used gamification in advertisement in Instagram and Facebook pages which employ a large set of mechanics related to three gamification features. Mechanics related to immersion features were avatar, personalization features like massage to follower and story. Mechanics related to achievements features were giving badges, medals, points, progress bar and tasks. Social features of gamification help to enhance the inherent social interaction aspects of the platform. These social features were collaboration in group challenges and group competitions. Final, we found Salian fashion and clothing brand. This brand used badges, medals, points, group competitions in advertising campaign in social media between May 2022 and August 2022. For example, buyers can collect points by each time they sharing advertisement posts across various social media platforms. They could choose one of six boxes and get their awards. In competitions, groups consisting of two to three individuals are established to compete for prizes based on their point accumulation achieved by participation in quizzes. The statistical population of this study was 1000 Iranian Instagram and Facebook users who followed a home appliance brand. They participated in the advertising campaign and had a

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**Figure 1.**
The conceptual model

Source(s): Created by authors
chance to win a prize, enter a lottery or earn points. For example, they directed the posts or recommend other the posts. The sample represents Iranian Instagram and Facebook users. Proposed by Krejcie and Morgan (1970), sample size was calculated as 278. Simple random sampling was adopted. The online questionnaire with five-point Likert-scale from 1 (strongly disagree) to 5 (strongly agree) used in the survey for collecting data. We directed questionnaire link to 330 followers and asked them to their participation. 284 responses have been received. 65 questionnaires were incomplete and not suitable. Subsequently, 219 complete questionnaires were compiled for analyzing.

3.2 Measurement
The survey measurement items were adapted from previous studies. Gamification features and advertising effectiveness were second-order factors. The questions related to the gamification features variables (immersion, achievements and social interaction) were taken from the sources of Xi and Hamari (2020). The questions related to the brand attention were adopted from the Abou-Shouk and Soliman (2021) and Xi and Hamari (2020). The items for purchase intention were inspired from the Lin et al. (2021). The questions related to the variable of brand recall and brand interest were taken from Lin et al. (2021) and Xi and Hamari (2020). A 5-point Likert scale was adopted in the questionnaire varying from 1 (strongly disagree) to 5 (strongly agree). All question items were translated in Persian and confirmed by five experts in gamification and social media. Descriptive analysis has been done by Statistical Package for the Social Sciences (SPSS) 24.0. For testing model, the structural equation modeling has been adopted by partial least squares (PLS) software. Measurement model, structural model and overall model adopted to estimate the relationships between variables.

4. Results
4.1 Descriptive analysis
The data were analyzed in terms of the demographics of respondents (gender, level of education and age). The survey was conducted on 219 participants, of which 98 (44.75%) were women and 121 (55.25%) were men. 28 (12.78%) respondents were between 20 and 25 years old, 59 (26.94%) were between 26 and 30 years old, 72 (32.87%) were between 31 and 35 years old and 60 (31.41%) were over 35 years old. The results can be seen in Table 1.

<table>
<thead>
<tr>
<th>Descriptions</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>98</td>
<td>44.75</td>
</tr>
<tr>
<td>Male</td>
<td>121</td>
<td>55.25</td>
</tr>
<tr>
<td>Level of educations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diploma and less</td>
<td>39</td>
<td>17.80</td>
</tr>
<tr>
<td>Associate degree</td>
<td>21</td>
<td>9.58</td>
</tr>
<tr>
<td>Bachelor</td>
<td>103</td>
<td>47.03</td>
</tr>
<tr>
<td>Master’s degree and higher</td>
<td>56</td>
<td>25.57</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between 20 and 25 years</td>
<td>28</td>
<td>12.78</td>
</tr>
<tr>
<td>Between 26 and 30 years</td>
<td>59</td>
<td>26.94</td>
</tr>
<tr>
<td>Between 31 and 35 years</td>
<td>72</td>
<td>32.87</td>
</tr>
<tr>
<td>Over 36–55</td>
<td>60</td>
<td>31.41</td>
</tr>
</tbody>
</table>

Table 1. Demographic profile
(1951) considered above the threshold of 0.7 for $\alpha$ and CR scores were considered greater than 0.7 (Bagozzi and Yi, 1988). Convergent validity was measured by average variance extracted (AVE) (Hair et al., 2016). AVE was considered greater than 0.5 indicating good convergent validity of scales (Fornell and Larcker, 1981). As demonstrated in Table 2, all the studied elements in the measurement model had Cronbach’s $\alpha$, AVE and CR higher than adequate rates. Discriminant validity in variance-based structural equation modeling assessed by Fornell and Larcker (1981), and heterotrait-monotrait ratio of correlations (HTMT) proposed by Henseler et al. (2015). The results reported in Table 3. The HTMT ratios must be equal to or lower than 0.90 (Henseler et al., 2016).

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Items</th>
<th>Factor loading</th>
<th>AVE (≥0.5)</th>
<th>CR (≥0.7)</th>
<th>Cronbach $\alpha$ (≥0.7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immersion</td>
<td>Personalization of advertising has made it more attractive</td>
<td>0.584</td>
<td>0.502</td>
<td>0.834</td>
<td>0.762</td>
</tr>
<tr>
<td></td>
<td>The appeals created in the campaign are of my interest</td>
<td>0.417</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Personalization of advertising has increased my identification</td>
<td>0.768</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>My interactions with the campaign have increased with narrative and story</td>
<td>0.779</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Achievement</td>
<td>My interactions are increased by offering rewards and points</td>
<td>0.886</td>
<td>0.590</td>
<td>0.854</td>
<td>0.798</td>
</tr>
<tr>
<td></td>
<td>I follow the progress of the customers’ performance compared to their previous performance</td>
<td>0.565</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I follow the challenges of the campaign</td>
<td>0.814</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Providing progress reports is attractive to me compared to others</td>
<td>0.852</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social interaction</td>
<td>My interaction with the brand has increased through social networks</td>
<td>0.793</td>
<td>0.657</td>
<td>0.804</td>
<td>0.732</td>
</tr>
<tr>
<td></td>
<td>My interactions have increased with teamwork or group work in brand networks</td>
<td>0.696</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Participating in the campaign has increased my interactions</td>
<td>0.841</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I tend to interact with people I know about the brand</td>
<td>0.505</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brand recall</td>
<td>I remember the name of the brand or product that I saw in my mind</td>
<td>0.442</td>
<td>0.692</td>
<td>0.741</td>
<td>0.840</td>
</tr>
<tr>
<td></td>
<td>I remember the brands I encountered during the game</td>
<td>0.777</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I remember the ads about the brand very well</td>
<td>0.828</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brand attention</td>
<td>I am more inclined to buy this brand</td>
<td>0.820</td>
<td>0.598</td>
<td>0.748</td>
<td>0.792</td>
</tr>
<tr>
<td></td>
<td>I intend to use this brand</td>
<td>0.784</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>I enjoy choosing this brand</td>
<td>0.638</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brand liking</td>
<td>This brand either makes me feel good</td>
<td>0.558</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>This brand is absolutely wonderful</td>
<td>0.855</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>I like this brand</td>
<td>0.683</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Purchase intention</td>
<td>I will buy this brand</td>
<td>0.831</td>
<td>0.659</td>
<td>0.853</td>
<td>0.742</td>
</tr>
<tr>
<td></td>
<td>When I needed this brand, I bought it</td>
<td>0.748</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>I will consider buying this brand</td>
<td>0.693</td>
<td></td>
<td></td>
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</table>

Table 2. Constructs, items, and factor loadings, validity and reliability

Source(s): Created by authors
<table>
<thead>
<tr>
<th>Source(s): Created by authors</th>
<th>Immersion</th>
<th>Achievement</th>
<th>Social interaction</th>
<th>Brand recall</th>
<th>Brand attention</th>
<th>Brand liking</th>
<th>Purchase intention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immersion</td>
<td>0.748</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Achievement</td>
<td>0.428 (0.452)</td>
<td>0.842</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social interaction</td>
<td>0.422 (0.524)</td>
<td>0.435 (0.599)</td>
<td>0.894</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brand recall</td>
<td>0.301 (0.408)</td>
<td>0.481 (0.532)</td>
<td>0.347 (0.427)</td>
<td>0.769</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brand attention</td>
<td>0.491 (0.405)</td>
<td>0.442 (0.508)</td>
<td>0.381 (0.476)</td>
<td>0.232 (0.395)</td>
<td>0.743</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brand liking</td>
<td>0.381 (0.449)</td>
<td>0.348 (0.496)</td>
<td>0.272 (0.391)</td>
<td>0.395 (0.418)</td>
<td>0.341 (0.482)</td>
<td>0.877</td>
<td></td>
</tr>
<tr>
<td>Purchase intention</td>
<td>0.302 (0.443)</td>
<td>0.392 (0.442)</td>
<td>0.330 (0.409)</td>
<td>0.396 (0.469)</td>
<td>0.329 (0.401)</td>
<td>0.386</td>
<td>0.810</td>
</tr>
</tbody>
</table>
4.3 The structural and overall model

Structural model assessed by coefficient of determinations ($R^2$), path coefficients, the effect size ($f^2$) and predictive relevance $Q^2$ (Hair et al., 2017). $R^2$ has been represented as the severity of the impact that is imposed by an exogenous variable over an endogenous one. Chin (2010) has considered three values such as 0.19, 0.33 and 0.67 to be criteria for the weak, medium and strong models. Result of $R^2$ indicated attention is mediocre while liking, recall and purchase intention are strong. The criterion $Q^2$ signifies the predictability of the model. This criterion calculated for all the dependent variables. It is valued as 0.02, 0.15 and 0.35 (weak, medium and strong) (Henseler et al., 2009). The Stone–Geisser’s $Q^2$ value for endogenous construct indicated predictive relevance. Values up to 0.02 0.15 and 0.35 are considered weak, medium and strong (Cohen, 2013). All the $f^2$ values are above 0.35 and strong. The result demonstrated in Table 4. In PLS, common method bias was evaluated by variance inflation factor (VIF) values. As VIFs for all inner models were lower than 3.3 (Kock, 2015). There is no concern about common method bias.

Goodness of fit (GoF) has been a reliable indicator for estimate overall model fit. The values 0.01, 0.25 and 0.36 are regarded as small, medium and strong values for this criterion (Wetzels et al., 2009). The obtained value was 0.806, the overall fit was strong. Also, square root mean residual (SRMR), normed fit index (NFI) and Chi-Square have been reported as GoF indices (SRMR = 0.053; NFI = 0.820; Chi-Square = 862.528) indicating that the fitness of the model was adequate. NFI must be greater than 0.90 and RMSEA less than 0.1. SRMR is measuring fit model and under 0.08 threshold is acceptable (Henseler et al., 2016).

Two indices of t-value and p-value have been assessed in analyzing the path coefficient. Based on a significance level of 0.05, the t-value considered more than 1.96 and the p-value less than $\leq$. If the t-value is below 1.96, the path in the model is not significant. Regarding examinations, t-values are above 1.96 for all the hypotheses were supported. Results of hypothesis testing were summarized in Table 5 and Figure 2.

<table>
<thead>
<tr>
<th>R square adjusted</th>
<th>Q2</th>
<th>$f^2$</th>
<th>VIF values &lt; 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brand attention</td>
<td>0.272</td>
<td>0.351</td>
<td>0.521</td>
</tr>
<tr>
<td>Brand liking</td>
<td>0.670</td>
<td>0.259</td>
<td>0.601</td>
</tr>
<tr>
<td>Brand recall</td>
<td>0.741</td>
<td>0.470</td>
<td>0.393</td>
</tr>
<tr>
<td>Purchase intention</td>
<td>0.703</td>
<td>0.336</td>
<td>0.369</td>
</tr>
</tbody>
</table>

**Source(s):** Created by authors

<table>
<thead>
<tr>
<th>Hypothesized path</th>
<th>t</th>
<th>$\beta$</th>
<th>p</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1 Immersion &gt; Brand attention</td>
<td>2.512</td>
<td>0.204</td>
<td>*** Supported</td>
<td></td>
</tr>
<tr>
<td>H2 Immersion &gt; Brand liking</td>
<td>9.829</td>
<td>0.636</td>
<td>*** Supported</td>
<td></td>
</tr>
<tr>
<td>H3 Immersion &gt; Brand recall</td>
<td>4.313</td>
<td>0.243</td>
<td>*** Supported</td>
<td></td>
</tr>
<tr>
<td>H4 Achievement &gt; Brand attention</td>
<td>2.201</td>
<td>0.194</td>
<td>*** Supported</td>
<td></td>
</tr>
<tr>
<td>H5 Achievement &gt; Brand liking</td>
<td>2.539</td>
<td>0.124</td>
<td>*** Supported</td>
<td></td>
</tr>
<tr>
<td>H6 Achievement &gt; Brand recall</td>
<td>8.171</td>
<td>0.450</td>
<td>*** Supported</td>
<td></td>
</tr>
<tr>
<td>H7 Social interaction &gt; Brand attention</td>
<td>2.918</td>
<td>0.229</td>
<td>*** Supported</td>
<td></td>
</tr>
<tr>
<td>H8 Social interaction &gt; Brand liking</td>
<td>2.158</td>
<td>0.163</td>
<td>*** Supported</td>
<td></td>
</tr>
<tr>
<td>H9 Social interaction &gt; Brand recall</td>
<td>5.281</td>
<td>0.337</td>
<td>*** Supported</td>
<td></td>
</tr>
<tr>
<td>H10 Brand attention &gt; Purchase intention</td>
<td>6.025</td>
<td>0.370</td>
<td>*** Supported</td>
<td></td>
</tr>
<tr>
<td>H11 Brand liking &gt; Purchase intention</td>
<td>4.586</td>
<td>0.353</td>
<td>*** Supported</td>
<td></td>
</tr>
<tr>
<td>H12 Brand recall &gt; Purchase intention</td>
<td>4.120</td>
<td>0.244</td>
<td>*** Supported</td>
<td></td>
</tr>
</tbody>
</table>

**Source(s):** Created by authors
All research hypotheses were confirmed according to the results has been reported in Table 4. The hypothesis 1, the effect of immersion on brand attention ($t$-value $= 2.512; \beta = 0.204; p$-value $\leq 0.05$), was confirmed at the confidence interval of 95%. The second hypothesis 2, the effect of immersion on brand recall ($t$-value $= 9.829; \beta = 0.636; p$-value $\leq 0.05$), was significant. The hypothesis 3, the impact of achievement on brand attention ($t$-value $= 4.313; \beta = 0.243; p$-value $\leq 0.05$) was confirmed. The hypothesis 4 indicated the role of achievement on brand attention ($t$-value $= 2.201; \beta = 0.194; p$-value $\leq 0.05$). No significance reasons were provided to reject the hypothesis 5, the impact of achievement on brand liking ($t$-value $= 2.539; \beta = 0.124; p$-value $\leq 0.05$) as same as hypothesis 6, the influence of achievement on brand recall ($t$-value $= 8.171; \beta = 0.450; p$-value $\leq 0.05$). The relationship between social interaction, brand attention ($t$-value $= 2.918; \beta = 0.229; p$-value $\leq 0.05$), brand recall ($t$-value $= 2.158; \beta = 0.163; p$-value $\leq 0.05$) and brand recall ($t$-value $= 5.281; \beta = 0.337; p$-value $\leq 0.05$), hypothesis 7, 8 and 9 were also significant. The findings support hypothesis 10, 11 and 12, the impact of brand attention on purchase intention ($t$-value $= 6.025; \beta = 0.370; p$-value $\leq 0.05$) brand liking on purchase intention ($t$-value $= 4.586; \beta = 0.353; p$-value $\leq 0.05$) and brand recall purchase intention ($t$-value $= 4.120; \beta = 0.244; p$-value $\leq 0.05$).

5. Discussion and conclusion
In the present research, in the first stage, the effect of gamification features, which included immersion, achievement and social interaction, on the advertising effectiveness dimensions, include attention, liking and recall, were investigated, and all hypotheses were confirmed. During this research, we concluded the advertising effectiveness dimensions, attention, liking and recall, improve purchase intention. Therefore, by using structural equations, this study illustrated which gamification features are more efficacious increased advertising
effectiveness. Consistent with our findings, Ghosh et al. (2021) emphasized the role of games and gamification in advertising, suggesting that advertising games are efficacious in promoting products and they increase customer attention and emotion. It has been concluded interaction and playing in advertising effectiveness had effects on customer behavior (Wei et al., 2021; Drossos et al., 2007; Tsai et al., 2020). Also, Sreejesh et al. (2021) and Mishra and Malhotra (2021) revealed that in addition to the content, gamification elements improved the advertisements. Xi and Hamari (2019) concluded gaming features (immersion, achievement and social interaction) have a significant impact on advertising effectiveness such as brand awareness. This is consistent with the findings of this research on the impact of immersion, achievement and social interaction on advertising effectiveness. Since advertising effectiveness is related to factors such as brand image ratings and positive emotional responses (Sharifi et al., 2019), gamification and its characteristic have effective in eliciting these responses. Previous studies mentioned interactivity (Wei et al., 2021), native (Wang and Huang, 2017), personalization (Pfiffelman and Pfeuffer, 2022) as features could be employed in advertising.

5.1 Theoretical contributions

This research paper provides useful and valuable results through considering the impact of gamification and its features (immersion, achievement and social interaction) in advertising campaigns in social media. This study provides insight into designing gamification requires a proper understanding of motivational psychology (immersion, achievement and social interaction), and the goals we seek to achieve (attention, liking and recall) can influence user behavior (purchase intention). In addition, the current study has discussed and explored the dimensions of AIDA model in advertising effectiveness. Users and customers are usually interested in ads that they find enjoyable and beneficial. Not only the content of a particular brand’s ads, but also the contextual gamification elements present in advertising play a necessary role in the effectiveness of the ads.

First, we identified and examined three features of gamification on advertising effectiveness. In the social media age, there is less physical contact between marketers, sellers and their customers. Researchers face the challenge of attention, liking and recall. By creating fun and enjoyment, facilitating content delivery to users and leading to attention and recall, gamification can increase the level of customer interaction with brands. However, not all of them affect advertising effectiveness variables in the same way. Social interaction has the greatest impact on brand awareness compared to other gamification elements. It means that the user or customer through communication with the brand through social media and advertising would notice the brand and get knowledge about its features. Companies could send their messages more easily and improve brand recall. Also, high frequency in building in group challenges helps companies achieve brand awareness through social interaction. Next, immersion has a greater impact on brand awareness and brand preference. Immersion is the transition from the physical world to the virtual world. Getting immersed in the ads would lead to more interest in the brand. Immersion improves stronger emotional bonds with the products through advertising liking. This is because the user feels excitement by engaging and participating in gamified advertising. Also, Storytelling in advertising and sharing information about brands leads to customer attention. According to the results, achievement has the greatest impact on brand recall. The emotion and good experience that a customer experiences by achieving more wins, awards, promotions and higher positions would lead to more brand awareness, liking and recall. Consumers may track associated advertising campaigns and keep them in memory. This study contributes to our understanding that consumers who interact with gamified ads are more likely to develop brand affinity.
Seconds, the results show that paying attention to the brand has a greater impact on the purchase intention because when the customer or user gets to know about the brand and its features, they more confidently intend to buy the brand and are loyal to the brand. After paying attention to the brand, the liking in the brand has a positive and great effect on the customer’s purchase intention, when the customers are interested in the brand, they have more intention to buy and use the desired brand. The customer becomes aware and interested, reactions such as purchase the desired brand is more possible. By interacting with a brand and being interested in it, they not only intend to purchase that brand, but also encourage other users to buy the same brand.

5.2 Practical implications
We help advertisers and social media marketers to make decisions about promoting well-known and unknown brands by using gamification. Gamification can be easily implemented on all social media platforms, which allows them to reach a larger audience. Advertisement designers can use the features for creating advertisement base on reward and benefit customers upon purchase. In designing advertising, they can emphasize, gamification features and elements and these features could stimulate customers’ motivation and desire to purchase more. The primary focus should be on providing entertainment and generating a sense of joy among users. They should avoid merely incorporating advertising components in gamified advertisements solely to promote a brand. The outcomes of this research will assist managers and marketers and advertiser in classifying gaming features that are more efficient in brand advertising campaigns. First, Participants experience with the ads will vary by gamification types of the ads and their dispositions and marketers must identify the right goals. In other words, not only should a game be designed that people want to play, but this game should also fit the advertising goals. For example, if the goal is attention, they need a lot of players and “quantity” will be very important. Second, knowing target audience and get information such as users’ gender, age group, their interests and the motivation that encourages them to do something is important for business. By getting help from gamification and its elements they decide which aspect of advertising they want to make more effective, for e.g. using immersion feature for recalling brand. Advertiser must notice several factors influence advertising effectiveness. In context of advertising, narratives allow users to share their comments through storytelling elements. Additionally, identifying a suitable media platform that can be used to gamified features related to a specific brand or product to influence the attitude and attention of consumers towards the brand. Managers must notice gamification requires time and a relatively high cost.

5.3 Limitations and future research
This research had several limitations. This study was conducted during a specific time period and was cross-sectional some research variables may change in other periods. This research limited to brand advertising campaigns on social media. As information is collected through questionnaires, customer biases may be occurred in filling questionnaires, which may affect the survey results. For future researches, we suggested researchers to investigate these relationships in other media like websites and use interviews or neuromarketing tools to collect data. Other gamification features may be influencing advertising campaigns’ effectiveness must be considered. Also, customer interaction type and duration is another key to influencing the effects of ads should be studied.
References


Gamification in advertising effectiveness


Kapp, K.M. (2012), The Gamification of Learning and Instruction: Game-Based Methods and Strategies for Training and Education, John Wiley & Sons, New Jersey.


Further reading


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