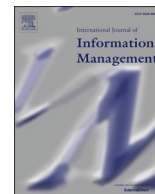Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

The gamification of in-game advertising: Examining the role of psychological ownership and advertisement intrusiveness

Sita Mishra [a,*], Gunjan Malhotra [b]

[a] Marketing Institute of Management Technology, Ghaziabad, UP, India
[b] Operations Institute of Management Technology, Ghaziabad, UP, India

ABSTRACT

Gamification on the mobile platform through the concept of online games has the potential to create unprecedented engagement with customers. With the growth in the gamification market due to the increase in internet penetration and the number of mobile devices, it has become one of the potential channels to reach and influence young consumers who spend more time on gaming. There is a shortage of empirical evidence on the impact of gamification on online consumer decisions. This study uses 'psychological ownership theory' and 'schema theory' to examine the effects of gameful experience (GFUL) on the attitudes of online gamers (N = 326). Data were analyzed using AMOS 25 and Process Macro for SPSS. The analytical results indicated that GFUL is mediated through both the intervening variables (perceived in-game advertisement effectiveness and psychological ownership), which positively influence gamers' attitudes towards the game and in-game advertising. Further, the study investigated the impact of in-game advertisement intrusiveness. Based on the research findings, this study proposed the theoretical and managerial implications.

1. Introduction

Gamification has emerged as a new trend in marketing to create unprecedented engagement with customers. According to Deterding, Dixon, Khaled, and Nacke (2011), gamification is the "use of game design elements in non-game contexts." However, Huotari and Hamari (2017) defined it as "a process of enhancing a service with affordances for gameful experiences to support users' overall value creation." Thus, the term gamification focuses on either the game design facet or the experiential aspect, i.e., the gameful experience. It stresses on engaging customers in different activities related to a product or a brand by transforming the regular customer experience into a gameful experience (Eppmann, Klein, & Bekk, 2018). There is a need to motivate customers towards in-game mechanics by turning a dull routine into a fun experience (Khomych, 2019). Marketers believe that gamification can potentially increase customers' engagement and involvement, awareness, and loyalty concerning the brand (Xi & Hamari, 2019). Gamification thus helps to connect with potential customers to drive businesses and to promote relevant marketing contexts (Müller-Stewens, Schlager, Häubl, & Herrmann, 2017). During COVID-19 lockdown, there has been a surge in gaming across the globe as people are using games to escape and socialize with other gamers/players (WARC report, 2020). Thus, growth in online gaming offers an opportunity for marketers to deliver highly visible messaging to an immersed audience.

India is one of the upcoming potential markets for the mobile gaming industry, which is expected to reach $934 million in 2022. The number of gamers is growing substantially and will be reaching more than 350 million by 2022 (Mobile Marketing Association report, 2018). With the growth in the gamification market, advertisers are focusing their efforts on the gaming industry to comprehend the effective usage of games. They also consider games as an effective platform to communicate and reach young consumers who spend more time on gaming. Therefore, marketers have started their focus on immersive communication through in-game advertisements (IGA) to reach young consumers' without disrupting their activities. Mobile gaming platforms are considered to be a cost-effective medium for advertising in comparison to traditional mediums. It is pertinent for marketers to understand to what extent gamers can accept the presence of IGA in and around their games, what is IGA's impact on the behavioral outcome, and how IGA will influence players' gameful experience and their attitude.

In past researchers have examined how the gameful experience of the consumers influence the product acceptability (Müller-Stewens et al.,

2017), how gamified advertisements influence the purchase intention of the consumers (Bittner & Shipper, 2014) and how gamified interfaces influence the brand and its consumers (Berger, Schlager, Sprott, & Herrmann, 2018). Nevertheless, several researchers (Hamari, Koivisto, & Sarsa, 2014; Seaborn & Fels, 2015) were unable to display the positive effect of gamification on psychological and behavioral outcomes, and many gamified business projects have faced disaster (Insights, 2018), which resulted into losing confidence in the role of gamification. As existing studies indicate mixed responses on the impact of gamification on consumer behavior (Koivisto & Hamari, 2019), there is a need to conduct more research to justify the trust of marketers on the effectiveness of gamification.

Although gamification research has grown over the years, there is little research done to understand the effects of gameful experience in the context of gamification, or variables explaining these effects, as well as moderating factors that influence these effects (Eppmann, Klein et al., 2018). Researchers (Moon, Hossain, Sanders, Garrity, & Jo, 2013; Watkins & Molesworth, 2012) indicated that consumers develop a feeling of psychological ownership towards diverse digital technologies and contents despite the intangible possessions nature of these digital contexts. This study thus investigates gamers' perspective on their gameful experience, psychological ownership with the game, perceived effectiveness of IGA, and their attitudes. The present study addresses the following primary and secondary research questions (RQs):

Primary RQ: What are the mediator and moderator variables that influence the relationship between gameful experience and attitudes of gamers (attitude towards advertisement and attitude towards game)?

RQ1: Do gamers develop psychological ownership with the game that may impact gameful experience and their attitudes?

RQ2: Does the perceived effectiveness of IGA impacts the relationship between gameful experience and attitudes of gamers?

RQ3: Does the presence of IGA impede gameful experience and gamers' attitudes?

To fill the gap in gamification literature regarding how psychological factors stimulate gamers attitudes, the current study seeks to fulfill following research objectives: i) to understand the role of psychological ownership and perceived in-game advertisement effectiveness in gamification ii) to empirically investigate the relationship among gameful experience, gamers' attitudes, psychological ownership and perceived in-game advertisement effectiveness iii) to examine the impact of advertisement intrusiveness on gamers' experience and their attitudes iv) to study the role of psychological ownership and schema theory in the context of gamification.

The remaining paper is organized into the following parts. The next section provides the theoretical background and literature review. After that, hypotheses formulation of the study is discussed. The next section presents the research methodology that explains the data collection and measurement methods. The following section describes the results of the study, followed by a discussion, implications and limitations, and future research directions. The last section presents the conclusion of the study.

2. Theoretical background and literature review

2.1. Gameful experience (GFUL)

Effective gamification builds on the gameful experience created by gamified services (Huotari & Hamari, 2017). Within gamification research studies, the gameful experience is not well-established. The gameful experience model and its corresponding measures have been developed by various researchers (Eppmann, Bekk, & Klein, 2018; Huang, Cheng, Huang, & Teng, 2018; Jennett et al., 2008). Eppmann, Bekk et al. (2018) described the gameful experience in a non-game context as "the positive emotional and involving qualities of using a gamified application." Gameful experience is a multi-dimensional construct and is considered as an essential characteristic of gamification when using a gamified application. Poels, De Cock, and Malliet

(2012) explored experiential dimensions of pleasure, arousal, and dominance for the gameful experience. Mullins and Sabherwal (2020) also highlighted the potential effects of gamification on the emotions, cognitions, and behaviors of users.

This study has chosen a gameful experience scale (GAMEX) developed by Eppmann, Bekk et al. (2018), encompassing six dimensions viz. absorption, enjoyment, activation, creative thinking, absence of negative affect, and dominance, to enhance users' experiences of involvement with gamified applications. First dimension 'enjoyment' is the core feature of a game, and it explains the highest amount of variance of gameful experience vis-à-vis the remaining five factors. This might be implicit as players might not play any game if they did not enjoy the experience. Enjoyment is designated as a dimension as well as a resultant of the game experience. However, experiences might become less enjoyable in repeated or prolonged exposure situations (Sevilla & Redden, 2014). The second dimension, 'absorption,' indicates a deep cognitive engagement of users through which they feel disconnected from their actual environment. The third dimension of 'creative thinking' assesses the imaginative and explorative aspects of a gameful experience. Fourth dimension 'activation' refers to the ability of gamification to stimulate emotions, cognitions, and behaviors. The fifth dimension, 'absence of negative affect,' indicates a lack of negative emotional aspects to enhance the gameful experience. Finally, 'dominance' is associated with the control users experience when playing.

Various scholars have discussed the effects of gamification in the context of online consumer decisions by using theories on i) Self-determination theory (SDT) (Jang, Kitchen, & Kim, 2018; Kim & Ahn, 2017; Xi & Hamari, 2019), ii) Technology Acceptance Model (TAM) (García-Jurado, Castro-González, Torres-Jiménez, & Leal-Rodríguez, 2019; Yang, Asaad, & Dwivedi, 2017), iii) Theory of Planned Behavior (TPB) (Bittner & Shipper, 2014), iv) Social Influence (SI) (Hamari, 2013), and v) Flow Theory (FT) (Berger et al., 2018). Researchers expounded the impact of gamification on online consumer decisions predominantly based on the reward mechanism. However, Koo, Yu, and Han (2020) considered rewards as an effective strategy in stimulating demand in the short-term and raised concerns about its effectiveness in the long-term.

2.2. Psychological ownership theory

Several researchers focused on psychological ownership into marketing (Jussila, Tarkiainen, Sarstedt, & Hair, 2015; Kamleitner & Feuchtl, 2015). There is limited research done to apprehend the effects of gameful experience in the context of gamification. The present study is based on the background that players develop a feeling of psychological association with online games that they enjoy. It is pertinent to understand how online gamers develop emotional attachments to the games and how psychological ownership impacts their attitude towards advertising and games.

Psychological ownership is a state where a person shows the cognitive and emotional connection with external targets and feels a sense of ownership towards them (Avey, Avolio, Crossley, & Luthans, 2009). To understand the relevance of psychological association and mechanism in the context of online gaming, psychological ownership theory characterizes some vital dimensions of the ownership target to be possessed by consumers through which ownership feelings develop in consumers (Pierce, Kostova, & Dirks, 2003). Avey et al. (2009) gave four "routes" that give rise to a sense of ownership viz. self-efficacy, accountability, belongingness, and self-identity. Similarly, Pierce and Peck (2018) proposed three "routes" of ownership viz., the exercise of control, intimate knowing, and investment of the self. An individual can derive a sense of ownership as a result of any one of these routes, either independently or jointly. Researchers (Jussila et al., 2015; Pierce & Peck, 2018) suggested four motives that create a feeling of ownership viz. (i) efficacy and effectance, (ii) self-identity, (iii) place, and (iv) stimulation. Understanding the combination of these motives and routes simplify

how to comprehend the process of developing feelings of ownership. The first motive is 'efficacy and effectance,' which relates people's belief that possessions bring control and thereby act as a source of effectance and competence, which is a source of effectance and competence. The second motive is 'self-identity,' which relates to possessions that serve as symbolic expressions of the self. Individuals may feel motivated when they tend to experience the target as his or her own and as part of his or her extended self (Pierce et al., 2003). The third reason is the need for 'place,' i.e., a preferred space and a fixed point of reference around which to construct one's daily activities. Fourthly, individuals require stimulation and arousal, which is explained as the degree to which an individual feels stimulated or excited. In the case of online gaming, being able to control one's actions and to control objects by owning them results in feelings of efficacy and pleasure (Pierce et al., 2003). The need for stimulation can also play a prominent role in engaging the player in gaming. Stimulation is associated with positive emotions and gratification resulting from the experience of ownership (Wiggins, 2018). The present study assumes that motives such as expectation of enjoyment, activation, and dominance might play a pertinent role for players to achieve psychological ownership in an online gaming context. This psychological ownership could be developed through belongingness or self-identity route and might influence players' attitude towards the online game and attitude towards IGA.

2.3. Schema theory

The presence of branded content is found across media, including digital games. Earlier, IGA was used to enhance game realism; however, recent focus has shifted on using IGA as persuasion tactics. IGA can be either static (having a fixed place in the game that cannot be altered) or dynamic (which provides flexible advertising slots to be filled by various advertisers) in nature. The IGA can be assimilated into a game either blatantly or subtly; it can be shown during loading time or change of levels. Marketers are interested in studying the effectiveness of these IGA and how gamers process these advertisements. The use of IGA is done to achieve appropriate responses according to the nature of the communications and marketing objectives desired (Percy & Donovan, 1991). Marketers can enhance the interactive properties of games by encouraging gamers to make choices or get rewarded through involvement with the brand (Kureshi & Sood, 2009). Thus, increasing the perceived benefits of IGA enhances both redemptions of tangible benefits to the gamers and immersion with the game. IGA can also affect the player's attitude toward the brands (Nelson, Keum, & Yaros, 2004). Chang, Yan, Zhang, and Luo (2010) proposed three dimensions of IGA viz. congruity, integration, and prominence that can positively impact players' interest. Effectiveness of IGA or consideration of brands within games can be done through schema theory (Lewis & Porter, 2010). Schema theory describes that people use their accrued knowledge about a schema at the time of exposure to a new object or message. This schemata formation helps them to make a meaningful picture of the environment and then perform accordingly (Fiske & Linville, 1980). In the context of IGA, players may use schemata to decide which messages are essential to the process and which should be ignored depending on how consistent incoming message is with their prevailing objectives or how they can be benefitted by the interactivity of advertisement. In a gaming context, the focus of this paper is to understand to what extent it is appropriate to place an ad in a particular game to enhance the perceived effectiveness or to avoid any detrimental effect of such messages.

3. Hypotheses formulation

3.1. The mediating effect of perceived in-game advertisement effectiveness (PAE)

Gamification researchers identified the effectiveness of the game

through the perception that the player develops for IGA and the game experience through which the player's willingness to pursue a game is developed (Francisco-Aparicio, Gutiérrez-Vela, Isla-Montes, & Sanchez, 2013; Seaborn & Fels, 2015). Nakatsu, Rauterberg, and Vorderer (2005) illustrated that playing games as an integrated experience of physical and mental presence that lead to a higher degree of activation and arousal. Games thus make it possible to convey messages through simulation and direct interaction (Ritterfeld & Weber, 2006). Familiar advertisement plays a significant role in linking it with the attitude towards advertisements (Hoyer & Stokburger-Sauer, 2012). Lee, Park, and Wise (2014) described that players could create an association with brands through IGA while playing a game. The IGA may have a different impact on the consumer's attitude based on familiarity or unfamiliarity of the brand. Mandler (1982) suggested that consistent messages that match well with the individual's schemas result in creating more favorable responses. However, Mau, Silberer, and Constien (2008) found that unfamiliar brands gain a favorable attitude, though the attitude toward the familiar brand deteriorates due to their presence in games.

Many researchers have shown that PAE has a strong influence on the attitude towards the in-game advertisement (Posavac, Sanbonmatsu, Seo, & Iacobucci, 2014). Computer games with advertising have a more positive impact on the brands advertised than the brands not advertised in the game (Glass, 2007). A study by Gould, Gupta, and Grabner-Kräuter (2000) suggested that there is a positive impact of attitude towards advertisements and the attitude towards product placements. Similarly, Herrewijn and Poels (2015) explained that players develop a more positive feeling toward interactive IGA, which results in an improvement in their attitude towards IGA. Mau et al. (2008) exhibited that flow had a significant positive impact on attitudes toward the game; however, it does not result in developing positive attitudes toward the IGA brand. Poels, Janssens, and Herrewijn (2013) found that the hedonic nature of IGA is an essential and positive predictor of attitudes toward in-game advertising. Thus, PAE may influence the relationship between gameful experience and the attitude towards the in-game advertisement. Based on the literature review, the following hypotheses are formulated:

H1. Perceived in-game advertisement effectiveness (PAE) mediates the relationship between a gameful experience (GFUL) and attitude towards in-game advertising (ATA).

Prior studies have shown that gameful experiences have a positive impact on the player's outcome when the articulation for gameful experience is implemented in game elements per se (Huotari & Hamari, 2017). According to Elson, Breuer, and Quandt (2014) "game can be experienced in three phases – (i) the pregame phase (comprises everything that happens before using a game); (ii) the game phase (the actual time the game is used); and (iii) the postgame phase (the time after a single gaming session and the time that stretches beyond the single event that is, the effect of repeated games)." Therefore, it is worth studying the game stage and brand integration (Chang et al., 2010). Most studies on gamification have shown positive emotions, such as pleasure, fun, and enjoyment, that establish a gameful experience (Francisco-Aparicio et al., 2013). Studies have reported that players of the game enjoy games only when the settings of the game are easy (Alonso-Fernández et al., 2019; Dardis, Schmierbach, Sherrick, & Luckman, 2019). According to Klimmt et al. (2019), if the game controls are unreliable, then it impacts negatively on the player's enjoyment. Also, perceived performance in the game may be linked to enjoyment (Alexander, Sear, & Oikonomou, 2013).

Gamification literature indicates that gameful experience improves the attitude towards the game (Choi, Kim, & Kim, 2007), and dimensions of gameful experience provide relevant and interrelated influences on attitude towards videogame (Brockmyer et al., 2009). The interaction between the game and the gamer is co-created within the game experience (Högberg, Hamari, & Wästlund, 2019; Huotari &

Hamari, 2017). MacKenzie, Lutz, and Belch (1986) pointed out that the player's attitude towards IGA may transfer the feelings from advertisement effectiveness to attitude towards the game. Prior studies have shown that in-game advertisement effectiveness is associated with gamers' positive experience with the game as well as with the IGA brand (Martí-Parreño, Aldas-Manzano, Currás-Pérez, & Sanchez-Garcia, 2013; Vermeir, Kazakova, Tessitore, Cauberghe, & Slabbinck, 2014). Thus, PAE may influence the relationship between gameful experience and the attitude towards the game. Based on the literature review, the following hypotheses is formulated:

H2. Perceived in-game advertisement effectiveness (PAE) mediates the relationship between a gameful experience (GFUL) and attitude towards the game (ATG).

3.2. The mediating effect of psychological ownership towards the game (PO)

Past studies on gamification explained a few psychological functions that might influence gamers' behavior (Laconi, Pirès, & Chabrol, 2017; Okazaki, 2008; Ryan, Rigby, & Przybylski, 2006). It is interesting to understand how the psychological ownership towards the game impacts the gameful experience and attitude towards IGA. The psychological ownership is the possessive feeling that consumer develops with the object as "mine" or "ours" which helps to predict the attitude and behavior (Van Dyne & Pierce, 2004) related to playing games online. Psychological ownership reflects possessive tendencies (Morewedge, Shu, Gilbert, & Wilson, 2009), which may be directed towards any particular object. Human motivations, if satisfied by an object, develop a feeling of ownership for that specific object (Fritze, Marchand, Eisingerich, & Benkenstein, 2020), and thus people develop a sense of psychological ownership.

Xu, Turel, and Yuan (2012) proposed that individuals accomplish their sense of belonging needs and efficacy through playing online games that might be the reason to develop psychological ownership with the game. Gao, Sultan, and Rohm (2010) explained that when gamers are voluntarily connected to the IGA, it will lead to more responses and more affective attitude toward the brand. However, Lee and Faber (2007) found that increase in engagement level with the game might negatively impact anything outside of the actual game objectives. Hernandez, Chapa, Minor, Maldonado, and Barranzuela (2004) postulated a lack of congruence of IGA as a vital factor influencing negative attitudes toward advergames. Though incongruity might lead to more considerable attention to the brand, thereby resulting in better brand recall (Lee & Faber, 2007). Thus, it is relevant to analyze how the presence of psychological ownership influences the relationship between gameful experience and attitude towards IGA. Players' attitudes and feelings towards an advertisement are transferred to the way they feel and develop an attitude towards the advertised brand (Posavac et al., 2014). Players satisfy their basic psychological needs for autonomy (a sense of control), competence (a sense that one is performing well), and relatedness (friends and relationships) while playing the game (Hilgard, Engelhardt, & Bartholow, 2013). Therefore, the theory of psychological ownership shows a positive relationship between psychological ownership and organization in general conditions (Beggan, 1992). Thus, the feeling of possession is positively related to the attitude of the players. Therefore, the suggested hypothesis for the study is:

H3. Psychological ownership towards the game (PO) mediates the relationship between a gameful experience (GFUL) and attitude towards in-game advertising (ATA).

Previous studies have shown that there is a positive impact of a sense of possession (psychological ownership) on the underlying human motives such as self-identity, self-efficacy, accountability, and belongingness towards the game (Avey et al., 2009; Pierce et al., 2003). Self-efficacy can stimulate the player's intention to view posts and to be

effectant in virtual environments (Woisetschläger, Hartleb, & Blut, 2008). Accountability feeling motivates the consumers to respond to the brand or product-related queries and thus shares posts, posting comments, etc. (Kumar, 2019). Consumers show a high level of belongingness to social media platforms and participate in discussions (Chu, Lien, & Cao, 2019). Self-identity drives consumers' participation in the community (Aksoy et al., 2013), which enhances their identity and willingly invest their efforts to participate in the community, reflecting their psychological ownership. Moon et al. (2013) described that players get an attachment with the characters in the online games due to the time and emotional effort that they devote to the characters, and also consider these characters to reflect their identity. All this process leads to the development of ownership towards the game.

The involvement of the player focuses on immersion and engagement during digital play (Calleja, Herrewijn, & Poels, 2016). Video games are considered a game that has an audiovisual apparatus and is based on a story (Esposito, 2005). Consumer's preference for the game may vary due to different cognitive enhancements about game genres such as simulation, strategy, action, and role-playing games (Bediou et al., 2018). The time spent in playing (Rehbein, Staudt, Hanslmaier, & Kliem, 2016) may vary due to psychological symptoms (Laconi et al., 2017). Younger gamers prefer action games, whereas older players prefer skill games (Scharkow, Festl, Vogelgesang, & Quandt, 2015). Male players prefer action and strategy games, whereas females prefer games of skill (Rehbein et al., 2016; Scharkow et al., 2015). However, the extent to which consumer's preference for specific genres of games may vary related to psychological functioning (Von Der Heiden, Braun, Müller, & Egloff, 2019). Thus, drawing back on psychological ownership theory, it is argued that a positive gameful experience might create a sense of belongingness towards the game, which might lead towards developing a positive attitude towards the game. Therefore, the next suggested hypothesis for the study is:

H4. Psychological ownership towards the game (PO) mediates the relationship between a gameful experience (GFUL) and attitude towards the game (ATG).

3.3. The moderating role of advertisement intrusiveness (AI)

The gameful experience of the consumers plays an important role in determining their attitude towards the advertisements. Players' attitude towards advertisement may be determined by the way players perceive a particular advertisement (Mehta, 2000). Perceived in-game advertisement effectiveness can be related to a player's attitude towards in-game advertisement and the game itself (Tina & Buckner, 2006). Players with a favorable attitude towards in-game advertising tend to value pleasurable and entertaining (hedonic) aspects of advertisements (Eze & Lee, 2012). According to Ha and McCann (2008), advertisement intrusiveness has gathered importance due to advances in advertisement technology, which has provided forced exposure to advertising. Studies have shown that advertisement intrusiveness may interrupt a person's goals; especially when pop-up advertisements appear that interrupt consumers' online gaming task, this pop-up advertisement can be perceived as advertisement intrusiveness (De Pelsmacker, Dens, & Verberckmoes, 2019; Edwards, Li, & Lee, 2002; Varnali, Yilmaz, & Toker, 2012). Generally, online advertisements' objective is to capture consumers' attention, but most often, these advertisements distract people from their planned activities (Tang, Zhang, & Wu, 2015). Advertisement intrusiveness is the degree to which ads interrupt the flow of an editorial media content unit (Neben & Schneider, 2015; Tudoran, 2019). People might react negatively due to perceived lack of control especially when marketers compellingly hinder consumers' view of their desired content or allow them to close a certain ad only after a certain amount of time (Ha & McCann, 2008). Seyedghorban, Tahernejad, and Matanda (2016), found that perceived goal impediment is the most important influencer on the cognitive, emotional, and behavioral ad-evasion behavior. The

intervention between the advertisement and the individual's goal obstructs gaining and processing the information and thereby results in negative attitude towards the advertisement.

Prior studies (Hernandez et al., 2004; Liao, Huang, & Teng, 2016) show that negative responses to game features like frustration, etc. may lead to negative attitudes and intention to play. Likewise, advertisement intrusiveness may result in a negative attitude because of interruption in gameplay and potential flow experience (Edwards et al., 2002; Ying, Korneliussen, & Grønhaug, 2009). However, in the context of a fantasy game, Lewis and Porter (2010) indicated that players found incongruent IGA more interfering as compared to congruent advertisements. Also, players with a more positive attitude toward advertising will find advertisement intrusiveness less bothersome (which will exert a less negative effect on their attitude towards in-game advertisement). Herrewijn (2015) explained that players perceive positive attitude towards in-game advertisements and perceive IGA as less intrusive, leading towards an improved attitude to IGA. Similarly, positive experiences with an advertisement, due to low invasiveness might encourage positive responses and behaviours towards advertising (Logan, 2013).

Thus, individuals might be influenced by advertisements intrusiveness due to inability to process the information, prior negative experiences, or limitations on goal achievement during online navigation eff ; orts (Cho & Cheon, 2004).Furthermore, negative attitudes toward using the website are developed (Edwards et al., 2002; Neben & Schneider, 2015). Therefore, integrating IGA may annoy players that may result in consumer backlash and negatively impact their attitudes. As a result, the study postulates that as advertisement intrusiveness increases, it will decrease consumers' attitudes, and based on this, the following hypotheses are formulated:

H5a. The mediating effect of gameful experience (GFUL) on attitude towards in-game advertising (ATA) through perceived in-game advertisement effectiveness (PAE) is moderated by advertisement intrusiveness (AI) such that the relationship is weaker with high advertisement intrusiveness (AI).

H5b. The mediating effect of gameful experience (GFUL) on attitude towards in-game advertising (ATA) through psychological ownership towards the game (PO) is moderated by advertisement intrusiveness (AI) such that the relationship is weaker with high advertisement intrusiveness (AI).

H5c. The mediating effect of gameful experience (GFUL) on attitude towards game (ATG) through perceived in-game advertisement effectiveness (PAE) is moderated by advertisement intrusiveness (AI) such that the relationship is weaker with high advertisement intrusiveness (AI).

H5d. The mediating effect of gameful experience (GFUL) on attitude towards game (ATG) through psychological ownership towards the game (PO) is moderated by advertisement intrusiveness (AI) such as that the relationship is weaker with high advertisement intrusiveness (AI).

The proposed conceptual framework (Fig. 1) depicts the relationship between gameful experience and attitudes, mediation effects of psychological ownership of the game, and perceived in-game advertisement effectiveness, and moderation impact of advertisement intrusiveness.

4. Research methodology

4.1. Research context and data collection

The study collected data via a structured questionnaire survey. Participants were enlisted by placing an invitation to participate in a survey on one of the largest game communities, Gamerconnect, in India. Data was collected between the third week of November 2019 to the fourth week of December 2019. The study population was defined as users aged between 18 years to 35 years who have played online games
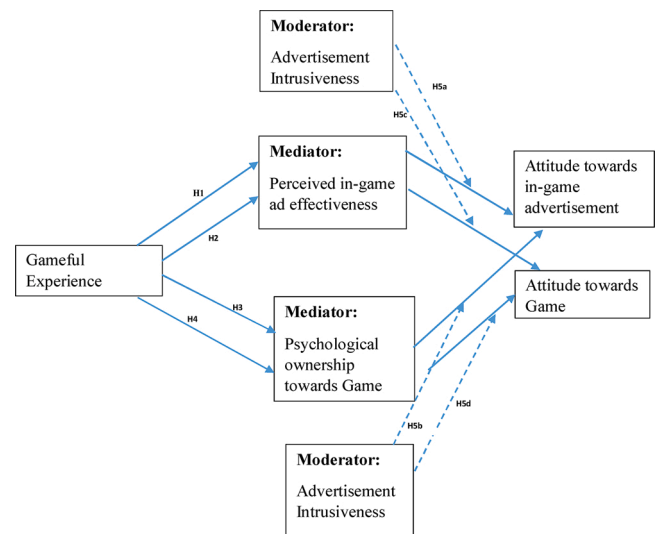

Fig. 1. Research Model for investigating the relationship between Gameful Experience (independent variable) and Attitude towards IGA and Attitude towards Game (dependent variables) with mediation of Psychological ownership of game and Perceived in-game ad effectiveness and moderation of Advertisement Intrusiveness (designed by authors).

on their mobile. All respondents were assured of complete anonymity and confidentiality and were informed that there were no right or wrong answers. The scales used in the questionnaire were adapted from previous studies done in a digital context. After developing a preliminary questionnaire, pre-testing was done with a pilot sample of 20 respondents to evaluate the clarity and comprehensibility of questionnaire items. After making slight revisions in the questionnaire, data were collected. Out of 558 people who indicated their interest in participating in the survey, 383 filled questionnaires. Finally, 326 responses were usable for this study after editing and data cleaning for missing values, straight-lining, etc. The response rate was 58.4 percent. Out of total responses, 85 percent of respondents were male, and 15 percent were female. In terms of age group, 39 % of respondents were in the age group of 18–25 while 53 % and 8 % were from 25 to 30 years and 31–35 years of age, respectively.

4.2. Measurement

The questionnaire used in the survey comprised of two broad sections. The first section dealt with general questions on playing mobile games, and items on gameful experience, psychological ownership, perceived in-game advertisement effectiveness, advertisement intrusiveness, attitude towards in-game advertising, and attitude towards the game. The second section was used to collect the demographic profile of the respondents. The study used established validated scales from past literature to develop the instrument. All items except attitude towards game were measured using a seven-point Likert-scale from 1 (strongly disagree) to 7 (strongly agree). The semantic differential scale was employed to measure attitude towards the game.

All the other constructs were measured as first-order factors except for gameful experience, which was operationalized as a second-order factor. This was done as the focus of this study was to test the nomological network model comprised of gameful experience, psychological ownership, perceived in-game advertisement effectiveness, advertisement intrusiveness, attitude towards in-game advertising, and attitude towards the game. All the six constructs were adapted from the existing literature (Appendix A provides details of construct items along with the sources of these constructs).

5. Results

5.1. Preliminary analysis and measurement model

Firstly, confirmatory factor analysis (CFA) using AMOS 25 was used to conduct analysis. The Cronbach's alpha and composite reliability of all the constructs were above the threshold of 0.70 that confirmed internal consistency reliability (presented in Table 1). CFA results indicated that the resulting model having all constructs had acceptable fit indices: $\chi^2 = 2317$ and degrees of freedom (df) = 634, CMIN/df = 3.65 (less than 5), TLI = .914, CFI = .937, NFI = .929, RFI = .903. The value of the Root Mean Square Error of Approximation (RMSEA), which is an absolute measure of the parameter of fit, was equal to 0.049 (less than the cut-off level of 0.08). Thus, the value of the RMSEA, CMIN/df, and all other estimated values were within the threshold values, as recommended by Hair, Black, Babin, and Anderson (2010). Further, the average variance extracted (AVE) values for each construct were greater than the threshold of 0.50 (Fornell & Larcker, 1981). Table 1 presents the values of AVE for all constructs, which vary from 0.615 to 0.817. Finally, discriminant validity was established as the square root of the AVE of each construct was higher than its highest correlation with any other construct. The highest correlation between any pair of constructs was 0.75, while the smallest square root of the AVE was 0.784. Table 1 also reports the mean, standard deviation, Cronbach's alpha (α), CR, correlation, square root of AVE, and AVE. Thus, the hypothesized model showed adequate reliability, convergent, and discriminant validity.

5.2. Statistical analysis

To test the mediation effects and to analyze the moderation effect of advertisement intrusiveness, the PROCESS SPSS macro (Hayes, 2012) was used. In the current study, both mediated models and moderated mediation models used the non-parametric bootstrapping regression technique (with 5000 bootstrap samples), and multiple sample iterations were specified. The bootstrap test is statistically significant (at .05) if both confidence limits have the same sign (e.g., both positive or both negative). The significance of the indirect effect is established if zero is not between the lower and upper bound of the confidence interval (CI).

5.2.1. Mediating effect estimation

Table 2 provides the result of the mediation analysis and displays the relationship between dependent variables (ATA and ATG) and independent variable (GFUL) via mediating effects of PAE and PO (mediating variables). The strength of the direct and the indirect effect determines the result of the mediation analysis, as recommended by MacKinnon, Fairchild, and Fritz (2007). As can be observed from Table 2 that direct effects of GFUL on ATA was significant (effect = 0.221; t = 5.71; p < 0.1) and indirect effect of GFUL on ATA (via PAE) was also significant (effect = 0.171; 95 % CI [0.106, 0.238]). Therefore, it can be concluded that perceived in-game advertisement effectiveness (PAE) partially mediates between a gameful experience (GFUL) and attitude towards in-game advertising (ATA). Thus, the hypothesis H1 was supported. Similarly, for hypothesis 2, mediation effects (both direct and indirect effect were significant) were also found to be partially mediated, and H2 was accepted. For hypothesis 3, the mediation effect was found to be full mediation as a direct effect of GFUL on ATA (via PO) was non-significant while the indirect effect was significant (effect = 0.221; 95 % CI [0.102, 0.351]). Full mediation describes that the mediating variable PO (psychological ownership of game) account fully for the relationship between the independent variable (GFUL) and the dependent variable (ATA). Further, the effect of GFUL and ATG (via PO) was also found to be partially mediated. Thus, H3 and H4 were also accepted.

5.2.2. Moderation effects estimation

The moderating effect of advertisement intrusiveness (AI) on the relationship between GFUL and ATA via PAE was examined by the approach recommended by Preacher, Rucker, and Hayes (2007). In this study, moderated mediation analysis examines whether, and at what levels, AI regulates the strength of the indirect relationships between the independent variable (GFUL) and dependent variables (ATA and ATG) (via PAE; via PO). The results of the moderation analysis are presented in Table 3. Results in Table 3 exhibit the conditional indirect effect of GFUL on ATA (via PAE) at different levels of AI (H5a). Model 14 (Hayes, 2012) was used to estimate the impact of moderating variable. During the moderation analysis, the interaction term was examined to determine whether AI has a moderating effect on the indirect relationship between GFUL and ATA with PAE as a mediating variable. The interaction term, PAE x AI was significant (b=−0.082, t= −2.34, p = 0.020) that indicates AI moderated the relationship between GFUL and ATA. Thus, the results validate the hypothesis H5a for the moderating role of advertisement intrusiveness between GFUL and ATA via PAE. When advertisement intrusiveness was low (−1 SD), the conditional indirect effect of GFUL on ATA was positive and significant, and when AI was high (+1 SD), the conditional indirect effect was significant and lower (value of b decreased from 0.196 to 0.131) (Table 3 and Fig. 2). This

Table 1

Descriptive statistics (Mean, SD), Cronbach's alpha (α), CR, AVE, correlations, and the square root of AVE for study constructs.

Construct	1	2	3	4	5	6	7	8	9	10	11
1.GFUL: Enj	**0.831**										
2. GFUL: Ab	0.44*	**0.786**									
3.GFUL:CT	0.61*	0.68*	**0.841**								
4.GFUL:Act	0.49*	0.59*	.64*	**0.810**							
5.GFUL: ANA	0.51*	−0.05	0.13	−0.06	**0.820**						
6.GFUL:Dom	0.28*	0.42*	0.51*	0.47*	0.23*	**0.904**					
7.PAE	0.58*	0.49*	0.37*	0.41*	0.40*	0.52*	**0.797**				
8.PO	0.62*	0.38*	0.64*	0.54*	0.59*	0.41*	0.27*	**0.830**			
9.AI	0.46*	0.44*	0.38*	0.45*	0.33*	0.47*	−0.06	0.25*	**0.784**		
10.ATA	0.40*	0.42*	0.39*	0.33*	0.43*	0.41*	0.72*	0.48*	0.02	**0.837**	
11.ATG	0.62*	0.58*	0.51*	0.64*	0.54*	0.61*	0.17*	0.75*	0.52*	0.35*	**0.901**
Mean	*4.57*	*3.67*	*3.64*	*2.80*	*5.18*	*3.27*	*2.79*	*4.03*	*5.24*	*2.94*	*5.17*
SD	*1.41*	*1.84*	*1.43*	*1.73*	*1.54*	*1.28*	*1.19*	*1.47*	*1.48*	*1.16*	*1.51*
α	*0.873*	*0.815*	*0.798*	*0.853*	*0.874*	*0.822*	*0.854*	*0.891*	*0.853*	*0.878*	*0.956*
CR	*0.884*	*0.844*	*0.858*	*0.829*	*0.774*	*0.792*	*0.855*	*0.898*	*0.859*	*0.768*	*0.928*
AVE	*0.691*	*0.618*	*0.708*	*0.656*	*0.673*	*0.817*	*0.635*	*0.689*	*0.615*	*0.701*	*0.811*

Note: GFUL:Enj = Gameful experience:enjoyment, GFUL:Ab = Gameful experience:absorption, GFUL:CT = Gameful experience:creative thinking, GFUL:Act= Gameful experience:activation, GFUL:ANA = Gameful experience:absence of negative affect, GFUL:Dom = Gameful experience:dominance, PAE= Perceived in-game advertisement effectiveness, PO=Psychological ownership towards the game, AI=Advertisement intrusiveness, ATA= Attitude towards in-game adverting, ATG-=Attitude towards the game.

* P<.01.

Table 2
Results with mediated effects.

Hypothesis	Direct effects B	SE	t	p	Indirect effects Value	BootSE	LL 95 % CI	UL 95 % CI	Mediation effect	Support/No Support
Gameful experience and dependent variables (ATA and ATG) (via PAE)										
H1: GFUL-PAE-ATA	0.221	0.038	5.716	<.01	0.171	0.033	0.106	0.238	Partial	Supported
H2: GFUL-PAE-ATG	0.973	0.033	31.08	<.01	0.055	0.013	−0.069	−0.017	Partial	Supported
Gameful experience and dependent variables (ATA and ATG) (via PO)										
H3: GFUL-PO-ATA	0.169	0.086	1.958	>0.05	0.221	0.061	0.102	0.351	Full	Supported
H4: GFUL-PO-ATG	0.949	0.056	16.74	<.01	0.042	0.046	−0.089	−0.023	Partial	Supported

Table 3
Results of Moderation analysis.

	Effect	SE	LLCI	ULCI
Analysis 1				
Conditional indirect effect of GFUL on ATA(via PAE) at different levels				
−1 SD (AI)	0.196	0.034	0.127	0.263*
Mean (AI)	0.156	0.033	0.091	0.224*
+1 SD (AI)	0.131	0.037	0.06	0.208*
Analysis 2				
Conditional indirect effect of GFUL on ATG (via PAE) at different levels				
−1 SD (AI)	−0.007	0.011	−0.028	0.013
Mean (AI)	−0.036	0.014	−0.066	−0.011*
+1 SD (AI)	−0.054	0.023	−0.103	−0.013*
Analysis 3				
Conditional indirect effect of GFUL on ATG (via PO) at different levels				
−1 SD (AI)	0.195	0.048	0.102	0.292*
Mean (AI)	0.106	0.041	0.024	0.184*
+1 SD (AI)	0.047	0.043	−0.039	0.126

Note: All variables were mean-centered prior to analysis.
LLCI = lower level confidence interval;
ULCI = upper level confidence interval.
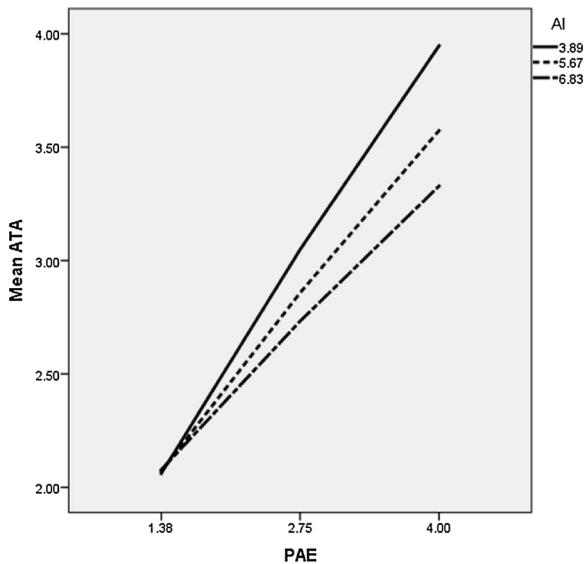*Indirect effect significant as 0 not included in the 95 % confidence interval.

Fig. 2. Interactive effects of perceived in-game ad effectiveness and attitude towards in-game advertising (advertisement intrusiveness as moderator).

indicated that AI moderated the relationship between GFUL and ATA (via PAE). As can be seen from Fig. 2, the increase in PAE will increase the value of ATA. However, an increase in the advertisement intrusiveness will weaken the relationship between GFUL and ATA. Thus, as AI increases, the impact of PAE on ATA decrease. Therefore, H5a is accepted.

Examination of next hypothesis H5b (conditional indirect effect of GFUL on ATA via PO) at different levels of AI was found to be non-

significant as interaction term PO x AI was non- significant (t=−.976, p = .330). The moderator AI does not impact the relationship between GFUL and ATA (via PO); therefore, H5b is rejected.

Table 3 also provides moderation results of H5c, i.e., the conditional indirect effect of GFUL on ATG (via PAE) at different levels of AI. On analyzing interaction term (t=−1.979; p = 0.049), it can be explained that AI moderates the relationship between GFUL and ATG (via PAE). Further, AI negatively influences the relationship; however, the impact is not significant at low (−1 SD) as values of LLCI and ULCI are crossing '0' while at mean and high (+1 SD) AI the impact is significant. Thus, the moderation analysis result indicates that H5c is accepted. Fig. 3 depicts that an increase in PAE will decrease ATG, and with an increase in the value of the AI, the impact of PAE on ATG will be higher. However, this relationship is significant at medium and high AI. Further on examining H5d, it was found that AI moderates GFUL and ATG (via PO). Table 3 indicates the conditional indirect effect of GFUL on ATG (via PO) at different levels of AI. It can be seen that the impact of AI on the relationship between GFUL and ATG (via PO) is positive and significant. As can be seen from Fig. 4, that increase in PO will increase ATG. However, this relationship is significant and positive for the low and medium value of AI, and for the high value of AI (+1 SD), the impact is non-significant. Higher AI will weaken this relationship (the value of b decreases from 0.195 to 0.047). Figs. 2–4 present all significant interactive effects via PAE and PO at different levels of AI.
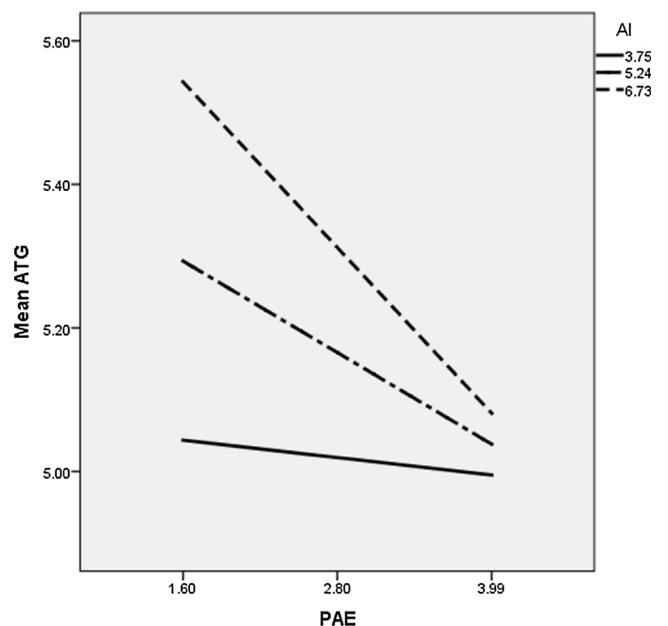

Fig. 3. Interactive effects of perceived in-game ad effectiveness and attitude towards game (advertisement intrusiveness as moderator).
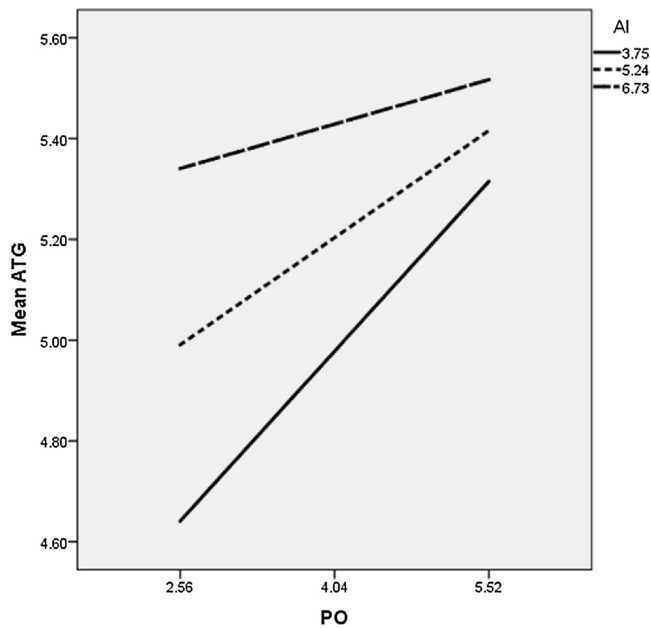
Fig. 4. Interactive effects of psychological ownership towards game and attitude towards game (advertisement intrusiveness as moderator).

6. Discussions and implications

6.1. Discussions on the results

The present study examined the role of PAE, PO, and AI on the linkage between GFUL and ATA and the link between GFUL and ATG. For the first dependent variable (ATA), the findings showed that GFUL via PAE has a significant influence on both the dependent variables (ATA and ATG). The prior studies support this finding (Beggan, 1992; Nelson et al., 2004; Tang, 2015), which show that PAE has a positive impact on the ATG and ATA. Further, the linkage between GFUL →PAE→ ATA is moderated by AI. This relationship shows that there is a positive and significant impact of PAE on ATA. This indicates with an increase in PAE, the gameful experience impact on ATA will be stronger. The study also found a moderated mediation relationship through the intervention of the moderator AI. With the increase in AI, the relationship between GFUL on ATA via PAE decreases. The study confirms the findings of De Pelsmacker et al. (2019), which shows that advertisement intrusiveness has a negative impact on players' attitudes towards advertisements. Similar results were found by researchers (Cho & Cheon, 2004; De Pelsmacker et al., 2019; Liao et al., 2016) who indicated AI leads to a negative attitude and intention to play. For the relationship between GFUL→PAE→ATG, the study indicated that there is a negative and significant impact of moderator AI. This shows that with the increase in PAE, the ATG decreases. Here the findings show that lower levels of AI are not significant, i.e., gamers are not much influenced by the low level of AI. However, as AI increases, there is a sharp decline in ATG.

Similarly, the study also investigated the linkage between the independent variable GFUL and the dependent variables ATA and ATG via PO as the mediating variable. The findings show that PO fully mediates the relationship between GFUL and ATA. This finding is supported by Pierce et al. (2003) who mentioned that the gamers develop a sense of ownership feelings with the game and exercise control, imitates knowing, and investment of the self in the game (Jussila et al., 2015; Pierce & Peck, 2018). This significance of the GFUL→PO→ATA route implied that with a sense of ownership feeling towards the game, the players might accept some meddling in and around the game and thus have a positive impact on the ATA irrespective of presence or absence of GFUL. This finding is similar to the prior studies (Hamari et al., 2014;

Seaborn & Fels, 2015), which indicated the impact of gamification is inept on psychological and behavioral outcomes. The GFUL→PO→ATG route shown a partial mediation effect of PO on the relationship between GFUL and ATG. This finding is supported by previous researchers (Pierce et al., 2003; Wiggins, 2018), who indicated a positive effect of PO on the ATG. Gamers feel connected to the games and voluntarily connect with the advertisements that pop-up in between the playing of the game (Fiske & Linville, 1980; Gao et al., 2010).

The study also addressed the role of AI as a moderator for the two linkages via PO as mediator a) GFUL→PO→ATA, and b) GFUL→PO→ATG. Advertisement intrusiveness assumes that gamers will find advertisements intruding into their game time. In the GFUL→PO→ATA case, AI was found to be insignificant in its effect as a moderator. In the case of the GFUL→PO→ATG route, AI had an impact on the relationship between GFUL and ATG. But this impact is reduced to a non-significant value at higher levels of AI. This is supported by prior studies (De Pelsmacker et al., 2019; Edwards et al., 2002; Varnali et al., 2012), which indicated that AI interrupts with a gamers' goals and online gaming tasks. This leads to a negative attitude and intention to play an online game (Liao et al., 2016). This can be construed as good news for advertisers because their increased spends are not creating a negative backlash most of the time when measured against two dependent variables, ATA and ATG. Notably, the PO seems to negate more effectively the possible negatives of advertisement intrusiveness.

Moreover, gamification researchers emphasize that players use gamified applications only if they experience positive emotions (Francisco-Aparicio et al., 2013). The study provides an exciting insight by offering psychological ownership and perceived in-game advertisement effectiveness as mediating variables between gameful experience and attitude towards advertisements and attitude towards the game. The player's attitude towards advertising reinforces the positive effects of gameful experience by reducing the adverse impact of advertisement intrusiveness. There is no paper, as per the authors knowledge, which considers a player's attitude towards advertisement and attitude towards game together with advertisement intrusiveness as a moderator. The results show that game developers need to customize the game preference of the players for more effective and acceptable advertising styles. In sum, the unique gameful experiences that the gamer possess have an impact on their ATA and ATG, which is strengthened with the presence of PAE and PO, as is reflected in the model of the study. GFUL is a better way to explain the attitude of gamers and was not discussed much in the marketing literature on gamification.

6.2. Theoretical implications

The present study contributes to the gamification literature in numerous ways. Firstly, the study reinforces the findings of prior research studies on how PAE can improve attitude towards advertisement and attitude towards the game by empirically testing in the Indian context and also showing the mechanisms through which favorable attitudes are linked with gameful experience. Secondly, the research contributes to the existing literature on gamification by validating instruments with measuring the players' gameful experience and their attitude towards in-game advertisement and attitude towards the game. Thirdly, in the gamification context, the paper uses an amalgamation of two critical theories - psychological ownership and schema theory. The study takes these theories further to understand the influence of gameful experience. Based on psychological ownership theory and schema theory, PO and PAE are established as critical intervening variables influencing gameful experience and players' attitudes towards IGA and game. Fourthly, the two mediating variables (perceived advertisement effectiveness and psychological ownership) are introduced with a moderating variable (advertisement intrusiveness) to study their influence on the attitude towards in-game advertisement and attitude towards the game. This may provide insights to understand players' distraction behavior due to forced IGA while playing games for

enjoyment.

Last but not least, the work of this study contributes to players' gameful experience and their attitude towards in-game advertisement and attitude towards the game. By employing this relationship, the research results provide specific insights to both advertisers and gaming communities. This strengthens gamers' attitude towards the game and IGA and thus offers new directions in the research on gamification.

6.3. Managerial implications

Gamification is a smart tool to drive businesses. The players are motivated due to the benefits they experience while playing the game. Most online players in India are influenced by other players who voluntarily or by third-party gaming websites participate in online games. The characteristics of the internet, an increase in internet penetration, and mobile devices have facilitated the development of players' attitude towards the game. While the gaming communities offer excellent marketing opportunities, few gaming firms have adopted the benefits by introducing IGA while the players are playing online games. These gamers perceive the game as their "own," and so can help to create a competitive advantage to their preferred game. This study thus makes the following suggestions for building and managing online players' gameful experiences and attitudes.

This study suggests that online gamers adopt different games to satisfy their gameful experience. The engagement with IGA may reduce the playtime of the gamers and thus intervenes in their flow, engagement with the game. Gamers look for uninterrupted time and gaming experience, which would allow them to focus entirely on playing. Advertisement intrusiveness may influence the players' needs based on the difficulty level of the game. Advertisements are necessary for marketers to increase visibility and to reach their target audience. Games are becoming a pertinent medium to reach consumers who are increasingly spending large amounts of time on the internet, mostly with mobile phones. This provides a huge opportunity to tap younger audiences for a marketer. With a higher inclination to play mobile games, the engagement rate is likely to be high, and the receptiveness towards the marketing message can be remarkable. Thus, if they can create effective and moderately congruent IGA in online games, it will help gamers to use their schemata to make sense of their environment. Due to schemata influence, players may process messages; however, depending upon the level of intrusiveness of IGA, it can lead to a positive attitude towards IGA. This can counter possible adverse effects of advertisement intrusiveness because this study shows, the impact of intrusiveness reduces in the presence of high PAE. This also suggests that effective advertising can be designed to counter any possible negatives association with advertisement intrusiveness. Thus, IGA is becoming a fascinating medium for marketers to maximize their ROI through higher engagement and reach.

This study found that players are engaged with online games for the gameful experience. This gameful experience impacts gamers ATA and ATG, which needs to be addressed by online gaming businesses. Gamers tend to enjoy the games where the difficulty level of the game settings is low. This study suggests that companies should promote new games or services with fun to increase gamers' chance of winning the game. Thus, enjoyment is an essential factor in using online game applications. The role of pleasure or enjoyment has a positive impact on the player's intention to involve the game and thus increases the player's engagement. The game developer companies need to focus on the enjoyment aspects and the psychological benefits the gamer perceives while committed to play games. To achieve business success, the game developer companies need to consider the psychological ownership aspects of the gamers meticulously. This will engage customers with a belief of getting something out of it. Gamers' psychological ownership towards the game increases their association with the game, and the presence of IGA does not intervene in their response towards the game. Also, these games may motivate the players to interact with the in-game

advertisement and the game. This can enhance the online gamers' involvement with the game. Online game provides psychological and behavioral benefits such as gaming skill development, stress relief, staying engaged within the online gaming community, promotes communication and teamwork, and games experience entertainment needs with convenience. This can enhance the perceived effectiveness of in-game advertisement and psychological ownership towards the games. Further, the results of the research show that the effective integration of advertisements in online games does not only reduce the intrusiveness of that particular advertisement but also contributes to the gameful experience and attitude towards the advertisement.

In general, advertisement intrusiveness is a moderator between gameful experience and both the dependent variables through both the mediation routes. In the first route, GFUL→PAE→ATA, since the effect of AI reduces at high levels, the conclusion is that it is not harmful to increase the intensity of advertising. In the route GFUL→PO→ATG, there is an impact of advertisement intrusiveness, but its impact reduces as the level of AI becomes high. So, the implications, on the whole, are that AI is not as bad as it is made out to be in some previous studies, and it can be countered through both increasing PAE as well as creating a psychological ownership in the consumer's mind. To conclude, brands that use gamification or place advertisements within games can take comfort from the fact that with better-designed advertisements, or with games that create a feeling of ownership among the consumers who play these games online, there is little cause to worry because of potentially high levels of advertising. If anything, the adverse effects seem to reduce at higher levels of advertisement intrusiveness. If brands can capitalize on these findings, they could redouble efforts to do better in-game advertising and design better games to create ownership and reap the benefits.

6.4. Limitations and future research

Despite conducting study meticulously, the study has some limitations that should be considered while inferring the results; however, it also provides opportunities for future research. First, the survey members voluntarily participated in the survey process. Therefore, the respondents may be influenced by their communities. The members who did not participate in the survey may or may not have a similar behavioral and psychological attitude towards the in-game advertisement and towards the game. Future research may include various other behavioral and psychological measures to understand the in-game advertising behavior of the consumers on their attitude towards the game. Second, while the results may be generalized to other countries, the economy, cultural and geographical make-up of India should not be overlooked when interpreting the results. India is an emerging economy where consumption behavior varies when compared to developed economies. Future research may be conducted to examine and compare the interrelationships between the developed and developing economies, which vary due to micro and macro consumption behavior. Third, the study results cannot be immediately applied to the business firms or industry as such. Hence, future research can replicate this model in different markets to understand the consumer's attitude towards in-game advertisement and attitude towards the game. Fourth, the study provides a snapshot of gameful experience impact on ATA and ATG via two mediating variables and one moderator. Longitudinal research design may be implemented to understand how the gamers' behavior changes with other demographic and psychographic variables.

7. Conclusion

Gamification has motivated and engaged many players to use online game services to play a variety of games. The gamers are satisfied with their intrinsic needs and experience a feeling of enjoyment and pleasure when using the game. Studies on gamification have failed to show a possibility of the effect of different game mechanisms on behavioral and psychological issues of the gamers (Huotari & Hamari, 2017; Koivisto &

Hamari, 2019). This study has introduced and used the psychological ownership and schema theory in the gamification context to understand the gamers' attitude towards the game as well as the attitude towards the in-game advertisement. Also, the two mediating variables – psychological ownership and perceived advertisement effectiveness are used along with advertisement intrusiveness as a moderating variable. To be precise, the results show that PAE mediates the relationship between GFUL and ATA. In contrast, PO fully mediates the relation between GFUL and ATA and partially mediates the relationship between GFUL and ATG. The moderated mediation analysis indicates that AI regulates the indirect link between GFUL and ATA. Also, at low advertisement intrusiveness, the more will be the influence on the relationship between GFUL and ATA and GFUL and ATG. The study mainly contributes to the gamification literature and shows how gamers' attitudes differ for in-game advertisement and the game itself. Besides the gaming companies and the gamification designers, marketers can help the business to increase the effectiveness of the game.

Appendix A

Construct	Items	Source/s
Gameful Experience (GFUL)	*Enjoyment:* Playing the game was fun. I liked playing the game. I enjoyed playing the game very much. My game experience was pleasurable. I think playing the game is very entertaining. I would play this game for its own sake, not only when being asked to. * *Absorption:* Playing the game made me forget where I am. I forgot about my immediate surroundings while I played the game. After playing the game, I felt like coming back to the "real world" after a journey. Playing the game "got me away from it all". While playing the game I was completely unaware to everything around me. While playing the game I lost track of time. *Creative thinking:* Playing the game sparked my imagination. While playing the game I felt creative. * While playing the game I felt that I could explore things. While playing the game I felt adventurous. *Activation:* While playing the game I felt activated. While playing the game I felt nervous. While playing the game I felt frenzied. * While playing the game I felt excited. *Absence of negative affect:* While playing the game I felt upset. (reversed) While playing the game I felt hostile. (reversed) * While playing the game I felt frustrated. (reversed) *Dominance:* While playing the game I had the feeling of being in charge. While playing the game I felt influential. While playing the game I felt autonomous. * While playing the game I felt confident.	Eppmann, Bekk et al. (2018)
Perceived in-game advertisement effectiveness (PAE)	The in-game advertising matches with the game. The in-game advertising integrates the game naturally. The image of the in-game advertising is in accordance with the game. The in-game advertising has been an important part of the game scene. The in-game advertising symbolizes the game. The game will be unattractive if the in-game advertising disappears. The in-game advertisemets offer exclusive deals/rewards to me. Signing up for the in-game advertisement results in tangible benefits (such as in-game currency, power-ups, additional lives etc).	Chang et al. (2010); Unni and Harmon (2007)
Psychological ownership towards game (PO):	Although I do not legally own this game, I feel like this is "my" game. I feel a very high degree of personal ownership of this game. I feel like this game belongs to me. I feel a strong sense of closeness with this game. This game incorporates a part of myself.	Kirk, Peck, and Swain (2018)
Advertisement intrusiveness (AI):	The presence of advertisement is intrusive. The in-game advertisement disturbs the game experience. The in-game advertisement does not interfere with the game experience. (reversed) The in-game advertisement invades the game experience. The in-game advertisement does not bother me. (reversed) The advertisement distracts from the game experience. The in-game advertisement is annoying. The advertisement during play is obtrusive.	Li, Edwards, and Lee (2002)
Attitude towards in-game adverting (ATA)	I enjoy watching online game advertising. I like online game advertising that appear on my smartphone. I consider the content of the online game advertising, such as celebrity endorsements, images and slogans, to be appropriate. Online game advertising stimulates my interest in playing a game.	Tang (2015)

(continued)

Construct	Items	Source/s
Attitude towards game (ATG)	Online game advertising increases my feeling of fun when I play an online game. I personally believe that most online games are good entertainment. 'My attitude toward the game is' 'bad–good', ' 'negative– positive', 'dislike–like', and 'unfavorable–favorable'	MacKenzie et al. (1986)

Note: * Items deleted due to low loading.

References

Aksoy, L., van Riel, A., Kandampully, J., Wirtz, J., den Ambtman, A., Bloemer, J., et al. (2013). Managing brands and customer engagement in online brand communities. *Journal of Service Management, 24*(3), 223–244.

Alexander, J. T., Sear, J., & Oikonomou, A. (2013). An investigation of the effects of game difficulty on player enjoyment. *Entertainment Computing, 4*(1), 53–62.

Alonso-Fernández, C., Cano, A. R., Calvo-Morata, A., Freire, M., Martínez-Ortiz, I., & Fernández-Manjón, B. (2019). Lessons learned applying learning analytics to assess serious games. *Computers in Human Behavior, 99*, 301–309.

Avey, J. B., Avolio, B. J., Crossley, C. D., & Luthans, F. (2009). Psychological ownership: Theoretical extensions, measurement and relation to work outcomes. *Journal of Organizational Behavior, 30*(2), 173–191.

Beggan, J. K. (1992). On the social nature of nonsocial perception: The mere ownership effect. *Journal of Personality and Social Psychology, 62*(2), 229.

Bediou, B., Adams, D. M., Mayer, R. E., Tipton, E., Green, C. S., & Bavelier, D. (2018). Meta-analysis of action video game impact on perceptual, attentional, and cognitive skills. *Psychological Bulletin, 144*(1), 77.

Berger, A., Schlager, T., Sprott, D. E., & Herrmann, A. (2018). Gamified interactions: Whether, when, and how games facilitate self–brand connections. *Journal of the Academy of Marketing Science, 46*(4), 652–673.

Bittner, J. V., & Shipper, J. (2014). Motivational effects and age differences of gamification in product advertising. *Journal of Consumer Marketing, 31*(5), 391–400.

Brockmyer, J. H., Fox, C. M., Curtiss, K. A., McBroom, E., Burkhart, K. M., & Pidruzny, J. N. (2009). The development of the Game Engagement Questionnaire: A measure of engagement in video game-playing. *Journal of Experimental Social Psychology, 45*(4), 624–634.

Calleja, G., Herrewijn, L., & Poels, K. (2016). Affective involvement in digital games. *Emotion in games* (pp. 39–56). Cham: Springer.

Chang, Y., Yan, J., Zhang, J., & Luo, J. (2010). Online in-game advertising effect: Examining the influence of a match between games and advertising. *Journal of Interactive Advertising, 11*(1), 63–73.

Cho, C., & Cheon, H. J. (2004). Why do people avoid advertising on the internet? *Journal of Advertising, 33*(4), 89–97.

Choi, D. H., Kim, J., & Kim, S. H. (2007). ERP training with a web-based electronic learning system: The flow theory perspective. *International Journal of Human-Computer Studies, 65*(3), 223–243.

Chu, S. C., Lien, C. H., & Cao, Y. (2019). Electronic word-of-mouth (eWOM) on WeChat: Examining the influence of sense of belonging, need for self-enhancement, and consumer engagement on Chinese travellers' eWOM. *International Journal of Advertising, 38*(1), 26–49.

Dardis, F., Schmierbach, M., Sherrick, B., & Luckman, B. (2019). How game difficulty and ad framing influence memory of in-game advertisements. *Journal of Consumer Marketing, 36*(1), 1–11.

De Pelsmacker, P., Dens, N., & Verberckmoes, S. (2019). How ad congruity and interactivity affect fantasy game players' attitude toward in-game advertising. *Journal of Electronic Commerce Research, 20*(1), 55–74.

Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness: Defining "gamification". September *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future media Environments*, 9–15.

Edwards, S. M., Li, H., & Lee, J. H. (2002). Forced exposure and psychological reactance: Antecedents and consequences of the perceived intrusiveness of pop-up ads. *Journal of Advertising, 31*(3), 83–95.

Elson, M., Breuer, J., & Quandt, T. (2014). Know thy player: An integrated model of player experience for digital games research. *Handbook of Digital Games*, 362–387.

Eppmann, R., Bekk, M., & Klein, K. (2018). Gameful experience in gamification: Construction and validation of a gameful experience scale [GAMEX]. *Journal of Interactive Marketing, 43*, 98–115.

Eppmann, R., Klein, K., & Bekk, M. (2018). WTG (Way to go)! How to take gamification research in marketing to the next level. *Marketing ZFP, 40*(4), 44–54.

Esposito, N. (2005). A short and simple definition of what a videogame is. In *Proceedings of the DiGRA (Digital Games Research Association) Conference: Changing Views-Worlds in Play*.

Eze, U. C., & Lee, C. H. (2012). Consumers' attitude towards advertising. *International Journal of Business and Management, 7*(13), 94.

Fiske, S. T., & Linville, P. W. (1980). What does the schema concept buy us? *Personality and Social Psychology Bulletin, 6*(4), 543–557.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39–50.

Francisco-Aparicio, A., Gutiérrez-Vela, F. L., Isla-Montes, J. L., & Sanchez, J. L. G. (2013). Gamification: Analysis and application. *New trends in interaction, virtual reality and modeling* (pp. 113–126). London: Springer.

Fritze, M. P., Marchand, A., Eisingerich, A. B., & Benkenstein, M. (2020). Access-based services as substitutes for material possessions: The role of psychological ownership. *Journal of Service Research*, 1094670520907691.

Gao, T. T., Sultan, F., & Rohm, A. J. (2010). Factors influencing Chinese youth consumers' acceptance of mobile marketing. *Journal of Consumer Marketing, 27*(7), 574–583.

García-Jurado, A., Castro-González, P., Torres-Jiménez, M., & Leal-Rodríguez, A. L. (2019). Evaluating the role of gamification and flow in e-consumers: millennials versus generation X. *Kybernetes, 48*, 1278–1300.

Glass, Z. (2007). The effectiveness of product placement in video games. *Journal of Interactive Advertising, 8*(1), 23–32.

Gould, S. J., Gupta, P. B., & Grabner-Kräuter, S. (2000). Product placements in movies: A cross-cultural analysis of Austrian, French and American consumers' attitudes toward this emerging, international promotional medium. *Journal of Advertising, 29*(4), 41–58.

Ha, L., & McCann, K. (2008). An integrated model of advertising clutter in offline and online media. *International Journal of Advertising, 27*(4), 569–592.

Hair, J. F., Black, C. W., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective*. New York: Pearson Prentice Hall.

Hamari, J. (2013). Transforming homo economicus into homo ludens: A field experiment on gamification in a utilitarian peer-to-peer trading service. *Electronic Commerce Research and Applications, 12*(4), 236–245.

Hamari, J., Koivisto, J., & Sarsa, H. (2014). Does gamification work?–A literature review of empirical studies on gamification. January. In *2014 47th Hawaii International Conference on System Sciences* (pp. 3025–3034).

Hayes, A. F. (2012). *PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling*. White Paper.

Hernandez, M. D., Chapa, S., Minor, M. S., Maldonado, C., & Barranzuela, F. (2004). Hispanic attitudes toward advergames: A proposed model of their antecedents. *Journal of Interactive Advertising, 5*(1), 74–83.

Herrewijn, L. (2015). *The effectiveness of in-game advertising: The role of ad format, game context and player involvement*. Doctoral dissertation. Universiteit Antwerpen (Belgium)).

Herrewijn, L., & Poels, K. (2015). The impact of social setting on the recall and recognition of in-game advertising. *Computers in Human Behavior, 53*, 544–555.

Hilgard, J., Engelhardt, C. R., & Bartholow, B. D. (2013). Individual differences in motives, preferences, and pathology in video games: The gaming attitudes, motives, and experiences scales (GAMES). *Frontiers in Psychology, 4*, 608.

Högberg, J., Hamari, J., & Wästlund, E. (2019). Gameful Experience Questionnaire (GAMEFULQUEST): An instrument for measuring the perceived gamefulness of system use. *User Modeling and User-Adapted Interaction, 29*(3), 619–660.

Hoyer, W. D., & Stokburger-Sauer, N. E. (2012). The role of aesthetic taste in consumer behavior. *Journal of the Academy of Marketing Science, 40*(1), 167–180.

Huang, H. C., Cheng, T. C. E., Huang, W. F., & Teng, C. I. (2018). Impact of online gamers' personality traits on interdependence, network convergence, and continuance intention: Perspective of social exchange theory. *International Journal of Information Management, 38*(1), 232–242.

Huotari, K., & Hamari, J. (2017). A definition for gamification: Anchoring gamification in the service marketing literature. *Electronic Markets, 27*(1), 21–31.

Insights, A. (2018). *Industry analyst: Failed gamification projects, costing US businesses more than $700 million, can be fixed*. URL: https://globenewswire. com/news-release/ 2018/03/19/1442013/0/en/Industry-Analyst-Failed-Gamification-Projects-Costing-US-Businesses-More-Than-700-Million-Can-Be-Fixed. html. (Accessed: February 10, 2020).

Jang, S., Kitchen, P. J., & Kim, J. (2018). The effects of gamified customer benefits and characteristics on behavioral engagement and purchase: Evidence from mobile exercise application uses. *Journal of Business Research, 92*, 250–259.

Jennett, C., Cox, A. L., Cairns, P., Dhoparee, S., Epps, A., Tijs, T., et al. (2008). Measuring and defining the experience of immersion in games. *International Journal of Human-Computer Studies, 66*(9), 641–661.

Jussila, I., Tarkiainen, A., Sarstedt, M., & Hair, J. F. (2015). Individual psychological ownership: Concepts, evidence, and implications for research in marketing. *The Journal of Marketing Theory and Practice, 23*(2), 121–139.

Kamleitner, B., & Feuchtl, S. (2015). "As if it were mine": Imagery works by inducing psychological ownership. *The Journal of Marketing Theory and Practice, 23*(2), 208–223.

Khomych, A. (2019). *Is gamification the only way for apps to survive?*, 17 October 2019. https://blog.getsocial.im/is-gamification-the-only-way-for-apps-to-survive/. (Accessed on 5 February 2020).

Kim, K., & Ahn, S. J. (2017). Rewards that undermine customer loyalty? A motivational approach to loyalty programs. *Psychology & Marketing, 34*(9), 842–852.

Kirk, C. P., Peck, J., & Swain, S. D. (2018). Property lines in the mind: Consumers' psychological ownership and their territorial responses. *The Journal of Consumer Research, 45*(1), 148–168.

Klimmt, C., Possler, D., May, N., Auge, H., Wanjek, L., & Wolf, A. L. (2019). Effects of soundtrack music on the video game experience. *Media Psychology, 22*(5), 689–713.

Koivisto, J., & Hamari, J. (2019). The rise of motivational information systems: A review of gamification research. *International Journal of Information Management, 45*, 191–210.

Koo, B., Yu, J., & Han, H. (2020). The role of loyalty programs in boosting hotel guest loyalty: Impact of switching barriers. *International Journal of Hospitality Management, 84*, Article 102328.

Kumar, J. (2019). How psychological ownership stimulates participation in online brand communities? The moderating role of member type. *Journal of Business Research, 105*, 243–257.

Kureshi, S., & Sood, V. (2009). Indian gamers' recall, recognition and perceptions of in-game placements. *Journal of Indian Business Research, 1*(4), 252–268.

Laconi, S., Pirès, S., & Chabrol, H. (2017). Internet gaming disorder, motives, game genres and psychopathology. *Computers in Human Behavior, 75*, 652–659.

Lee, M., & Faber, R. J. (2007). Effects of product placement in on-line games on brand memory: A perspective of the limited-capacity model of attention. *Journal of Advertising, 36*(4), 75–90.

Lee, J., Park, H., & Wise, K. (2014). Brand interactivity and its effects on the outcomes of advergame play. *New Media & Society, 16*(8), 1268–1286.

Lewis, B., & Porter, L. (2010). In-game advertising effects: Examining player perceptions of advertising schema congruity in a massively multiplayer online role-playing game. *Journal of Interactive Advertising, 10*(2), 46–60.

Li, H., Edwards, S. M., & Lee, J. H. (2002). Measuring the intrusiveness of advertisements: Scale development and validation. *Journal of Advertising, 31*(2), 37–47.

Liao, G. Y., Huang, H. C., & Teng, C. I. (2016). When does frustration not reduce continuance intention of online gamers? The expectancy disconfirmation perspective. *Journal of Electronic Commerce Research, 17*(1), 65–79.

Logan, K. (2013). And now a word from our sponsor: do consumers perceive advertising on traditional television and online streaming video differently? *Journal of Marketing Communications, 19*(4), 258–276.

MacKenzie, S. B., Lutz, R. J., & Belch, G. E. (1986). The role of attitude toward the ad as a mediator of advertising effectiveness: A test of competing explanations. *Journal of Marketing Research, 23*(2), 130–143.

MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation analysis. *Annual Review of Psychology, 58*, 593–614.

Mandler, G. (1982). The structure of value: Accounting for taste. In M. S. Clark, & S. T. Fiske (Eds.), *Affect and cognition: The seventeenth annual carnegie symposium on cognition* (pp. 203–230). New Jersey: Hillsdale, Lawrence Erlbaum Associates.

Martí-Parreño, J., Aldas-Manzano, J., Currás-Pérez, R., & Sanchez-Garcia, I. (2013). Factors contributing brand attitude in advergames: Entertainment and irritation. *Journal of Brand Management, 20*(5), 374–388.

Mau, G., Silberer, G., & Constien, C. (2008). Communicating brands playfully: Effects of in-game advertising for familiar and unfamiliar brands. *International Journal of Advertising, 27*(5), 827–851.

Mehta, A. (2000). Advertising attitudes and advertising effectiveness. *Journal of Advertising Research, 40*(3), 67–72.

Mobile Marketing Association report. (2018). *Understanding mobile gaming in India 2018*. available on https://www.mmaglobal.com/files/casestudies/kantar_imrb_x_mma_x_pokkt_india_market_study.pdf, (Accessed on February 10, 2020).

Moon, J., Hossain, M. D., Sanders, G. L., Garrity, E. J., & Jo, S. (2013). Player commitment to massively multiplayer online role-playing games (MMORPGs): An integrated model. *International Journal of Electronic Commerce, 17*(4), 7–38.

Morewedge, C. K., Shu, L. L., Gilbert, D. T., & Wilson, T. D. (2009). Bad riddance or good rubbish? Ownership and not loss aversion causes the endowment effect. *Journal of Experimental Social Psychology, 45*(4), 947–951.

Müller-Stewens, J., Schlager, T., Häubl, G., & Herrmann, A. (2017). Gamified information presentation and consumer adoption of product innovations. *Journal of Marketing, 81*(2), 8–24.

Mullins, J. K., & Sabherwal, R. (2020). Gamification: A cognitive-emotional view. *Journal of Business Research, 106*, 304–314.

Nakatsu, R., Rauterberg, M., & Vorderer, P. (2005). A new framework for entertainment computing: From passive to active experience. September. *International conference on entertainment computing* (pp. 1–12). Berlin, Heidelberg: Springer.

Neben, T., & Schneider, C. (2015). Ad intrusiveness, loss of control, and stress: A psychophysiological study. In *Proceedings of the Thirty Sixth International Conference on Information Systems (ICIS 2015)* (pp. 1–11).

Nelson, M. R., Keum, H., & Yaros, R. A. (2004). Advertainment or adcreep game players' attitudes toward advertising and product placements in computer games. *Journal of Interactive Advertising, 5*(1), 3–21.

Okazaki, S. (2008). Exploring experiential value in online mobile gaming adoption. *CyberPsychology & Behavior, 11*(5), 619–622.

Percy, L., & Donovan, R. J. (1991). A better advertising planning grid. *Journal of Advertising Research, 31*(5), 11–21.

Pierce, J. L., & Peck, J. (2018). The history of psychological ownership and its emergence in consumer psychology. *Psychological ownership and consumer behavior* (pp. 1–18). Cham: Springer.

Pierce, J. L., Kostova, T., & Dirks, K. T. (2003). The state of psychological ownership: Integrating and extending a century of research. *Review of General Psychology, 7*(1), 84–107.

Poels, K., De Cock, N., & Malliet, S. (2012). The female player does not exist: Gender identity relates to differences in player motivations and play styles. *Cyberpsychology, Behavior and Social Networking, 15*(11), 634–638.

Poels, K., Janssens, W., & Herrewijn, L. (2013). Play buddies or space invaders? Players' attitudes toward in-game advertising. *Journal of Advertising, 42*(2–3), 204–218.

Posavac, S. S., Sanbonmatsu, D. M., Seo, J. Y., & Iacobucci, D. (2014). How attitudes toward product categories drive individual brand attitudes and choice. *Psychology & Marketing, 31*(10), 843–852.

Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research, 42*(1), 185–227.

Rehbein, F., Staudt, A., Hanslmaier, M., & Kliem, S. (2016). Video game playing in the general adult population of Germany: Can higher gaming time of males be explained by gender specific genre preferences? *Computers in Human Behavior, 55*, 729–735.

Ritterfeld, U., & Weber, R. (2006). Video games for entertainment and education. In P. Vorderer, & J. Bryant (Eds.), *Playing video games: Motives, responses and consequences* (pp. 399–412). Mahwah: Lawrence Erlbaum.

Ryan, R. M., Rigby, C. S., & Przybylski, A. (2006). The motivational pull of video games: A self-determination theory approach. *Motivation and Emotion, 30*(4), 344–360.

Scharkow, M., Festl, R., Vogelgesang, J., & Quandt, T. (2015). Beyond the "core-gamer": Genre preferences and gratifications in computer games. *Computers in Human Behavior, 44*, 293–298.

Seaborn, K., & Fels, D. I. (2015). Gamification in theory and action: A survey. *International Journal of Human-Computer Studies, 74*, 14–31.

Sevilla, J., & Redden, J. P. (2014). Limited availability reduces the rate of satiation. *Journal of Marketing Research, 51*(2), 205–217.

Seyedghorban, Z., Tahernejad, H., & Matanda, M. J. (2016). Reinquiry into advertising avoidance on the internet: A conceptual replication and extension. *Journal of Advertising, 45*(1), 120–129.

Tang, Y. (2015). *Online game advertising and chinese college students: Attitudes, first-and third-person effects*. Graduate Theses and Dissertations. Available on: https://scholarcommons.usf.edu/etd/6037.

Tang, J., Zhang, P., & Wu, P. F. (2015). Categorizing consumer behavioral responses and artifact design features: The case of online advertising. *Information Systems Frontiers, 17*(3), 513–532.

Tina, W., & Buckner, K. (2006). Receptiveness of gamers to embedded brand messages in advergames: Attitudes towards product placement. *Journal of Interactive Advertising, 7*(1), 3–32.

Tudoran, A. A. (2019). Why do internet consumers block ads? New evidence from consumer opinion mining and sentiment analysis. *Internet Research, 29*(1), 144–166.

Unni, R., & Harmon, R. (2007). Perceived effectiveness of push vs. Pull mobile location based advertising. *Journal of Interactive Advertising, 7*(2), 28–40.

Van Dyne, L., & Pierce, J. L. (2004). Psychological ownership and feelings of possession: Three field studies predicting employee attitudes and organizational citizenship behavior. *Journal of Organizational Behavior, 25*(4), 439–459.

Varnali, K., Yilmaz, C., & Toker, A. (2012). Predictors of attitudinal and behavioral outcomes in mobile advertising: A field experiment. *Electronic Commerce Research and Applications, 11*(6), 570–581.

Vermeir, I., Kazakova, S., Tessitore, T., Cauberghe, V., & Slabbinck, H. (2014). Impact of flow on recognition of and attitudes towards in-game brand placements: Brand congruence and placement prominence as moderators. *International Journal of Advertising, 33*(4), 785–810.

Von Der Heiden, J. M., Braun, B., Müller, K. W., & Egloff, B. (2019). The association between video gaming and psychological functioning. *Frontiers in Psychology, 10*(1731), 1–11.

WARC report. (2020). *E-sports struggling to attract new fans during COVID-19*. Available on www.warc.com/content/paywall/article/warc-datapoints/e-sports-struggling-to-attract-new-fans-during-covid-19/132397.

Watkins, R., & Molesworth, M. (2012). Attachment to digital virtual possessions in videogames. In R. Belk, S. Askegaard, & L. Scott (Eds.), *Research in consumer behavior, 14* (pp. 153–171). Bingley UK: Emerald.

Wiggins, J. (2018). Can consumers perceive collective psychological ownership of an organization?. *Psychological ownership and consumer behavior* (pp. 177–194). Cham: Springer.

Woisetschläger, D. M., Hartleb, V., & Blut, M. (2008). How to make brand communities work: Antecedents and consequences of consumer participation. *Journal of Relationship Marketing, 7*(3), 237–256.

Xi, N., & Hamari, J. (2019). Does gamification satisfy needs? A study on the relationship between gamification features and intrinsic need satisfaction. *International Journal of Information Management, 46*, 210–221.

Xu, Z., Turel, O., & Yuan, Y. (2012). Online game addiction among adolescents: Motivation and prevention factors. *European Journal of Information Systems, 21*(3), 321–340.

Yang, Y., Asaad, Y., & Dwivedi, Y. (2017). Examining the impact of gamification on intention of engagement and brand attitude in the marketing context. *Computers in Human Behavior, 73*, 459–469.

Ying, L., Korneliussen, T., & Grønhaug, K. (2009). The effect of ad value, ad placement and ad execution on the perceived intrusiveness of web advertisements. *International Journal of Advertising, 28*(4), 623–638.

Sita Mishra has more than 21 years of experience in teaching, industry and research and currently working as an Associate Professor in IMT, Ghaziabad. In her previous stint, she worked in Marketing Division of Steel Company thereby helping herself in imparting

better learning experience to her students. She has conducted a number of Executive, Faculty Development Programmes and consultancy in the area of marketing for ONGC, OBC, Dominos and many more. Her area interests include consumer behaviour, social media, retail marketing and services management. She was invited as a guest faculty at Rouen Business School, France, Universidad del Pacífico, Peru and SGH School of Economics, Poland. She has published more than 55 papers in various international/national journals, contributed book chapters in various management book and edited a book on Case Studies in Business Management. She has presented papers in international/national conferences and is on review panel of various international/national journals and conferences. She has been honored with 'Outstanding Paper Award' in 2018 Emerald Literati Awards.

Gunjan Malhotra (Ph.D.), is working as Assistant Professor, Decision Sciences and Operations Area at Institute of Management Technology (IMT) Ghaziabad, India. She is an alumni of Executive Education from Kellogg School of Management, USA. She holds doctorate and post-graduation (MA and MPhil) degrees from Devi Ahilya University, India. She did her graduation from University of Delhi, New Delhi, India. She has contributed in international and national journals of repute. She has authored text book, research based books and contributed chapters and cases in various text books in the area of operations and decision sciences.