

# In-game advertising: the role of newness congruence and interactivity

## Publicidad en los juegos: el papel de la congruencia de la novedad y la interactividad

In-game  
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### Abstract

**Purpose** – This study aims to examine the effect of game newness and game interactivity on players' brand recall and brand attitude using contrast effect, mind-engagement and transfer effect theories.

**Design/methodology/approach** – A 2 (newness: congruent or incongruent) × 2 (game interactivity: high or low) between-subjects measures design was conducted. A total of 224 undergraduate management students participated in the study. A 2 × 2 between-subjects measures multivariate analysis of variance was used to test the hypotheses.

**Findings** – Findings show that incongruent-newness results in higher brand recall but less favorable brand attitude. Under incongruent-newness condition, high interactivity results in higher brand recall. However, under congruent-newness condition, both high- and low-interactivity conditions result in similar brand recall. Under congruent-newness condition, high interactivity results in more favorable brand attitude, whereas under incongruent-newness condition, both high- and low-interactivity conditions result in similar brand attitude.

**Practical implications** – Developing high brand recall rates and attitudes are the prime goals of advertisers for selecting a medium to promote their brands. This experimental study adds to the knowledge of online media advertising, especially in-game advertising (IGA) as a media-strategy to advertise brands taking newness and game-interactivity factors into consideration.



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**Originality/value** – From the perspectives of attention, cognitive elaboration, engagement and transportation of experience, this study adds to the literature of IGA by examining the impact of newness and game interactivity.

**Keywords** Interactivity, Brand attitude, In-game advertising, Newness, Brand recall, Contrast effect, Congruence, Engagement, Transfer effect

**Paper type** Research paper

## Resumen

**Propósito** – Se analiza el efecto de la congruencia de la novedad del juego y su interactividad en el recuerdo y la actitud hacia la marca de los jugadores utilizando las teorías de contrast effect, mind-engagement y transfer effect.

**Metodología** – Se desarrolló un diseño de 2 (novedad: congruente o incongruente) x 2 (interactividad de juego: alta o baja) de medidas entre sujetos. 224 estudiantes de administración participaron en el estudio. Para contrastar las hipótesis se utilizó un MANOVA de medidas entre sujetos de 2 x 2.

**Hallazgos** – Los hallazgos muestran que cuando la novedad es incongruente es mayor el recuerdo de la marca, pero la actitud es menos favorable. Bajo la condición de novedad incongruente, la alta interactividad motiva mayor recuerdo de la marca. Sin embargo, en la condición de novedad congruente, tanto las condiciones de alta como las de baja interactividad resultan en el mismo nivel de recuerdo de marca. Si la novedad es congruente, la alta interactividad conduce a una actitud de marca más favorable, mientras que, en condiciones de novedad incongruente, tanto la alta como baja interactividad conducen a una actitud hacia la marca similar.

**Implicaciones prácticas** – Lograr altos índices de recuerdo y actitudes positivas hacia la marca son los objetivos principales de los anunciantes al seleccionar un medio para anunciar sus marcas. Este estudio avanza en el conocimiento de la publicidad online, especialmente la publicidad en juegos como estrategia de medios para anunciar marcas teniendo en cuenta la novedad e interactividad de los juegos.

**Originalidad/valor** – Desde las perspectivas de la atención, la elaboración cognitiva, el compromiso y la experiencia, este estudio contribuye a la literatura de la publicidad en juegos al examinar el impacto de la novedad y la interactividad de los juegos.

**Palabras clave** Publicidad en los juegos, Novedad, Interactividad, Recuerdo de marca, Actitud hacia la marca, Congruencia, Efecto contraste, Compromiso, Efecto de transferencia

**Tipo de artículo** Artículo de investigación

## 1. Introduction

In today's world, from internet surfing to watching personal video recordings and digital versatile discs, people are drifting away from conventional television and accepting the potentials of the digital age (Nielsen, 2014). This change could not be more apparent than in the vehement development experienced by the digital game industry in the past decade (ESA, 2015). This shift from traditional media platforms to non-traditional digital media channels has instigated advertisers and marketers to discover and implement novel techniques of reaching and influencing their target customers (Orús *et al.*, 2019; Vashisht, 2017). A non-traditional advertising approach that has been efficaciously used in the digital game industry is brand placement: embedding the brand(s) in the games (termed as in-game advertising [IGA]). IGA is defined as “the integration of non-fictional products and brands within the playing environment of video and computer games through simulated real life marketing communications mechanisms” (Smith *et al.*, 2014, p. 99). IGA is different from the advergence, as advergence is defined as an interactive online platform used by the companies to endorse their brands or products (Cauberghe and De Pelsmacker, 2010). However, in IGA, the marketer can make the game itself as a brand message by embedding

brand-specific message into features central to the gameplay, such as in-game displays, game characters and or/tools used while playing the game (An and Stern, 2011; Kinard and Hartman, 2013). The main objectives of IGA are to deliver a strong message for the embedded brand and to achieve a higher traffic on brand website or brand-related aspects (Terlutter and Capella, 2013).

Given the rising importance of this entertainment medium and the swelling frequency of brand placements in the game content (Vashisht, 2016), this study aims to examine the effectiveness of such activity. Specifically, this paper makes an attempt to investigate the effect of game-factors (game-newness and interactivity) on gamers' brand responses in an emerging market context like India. In a highly competitive environment where advertisers are finding difficulty in differentiating their products and facing the problems of less advertising and brand-noticeability because of high advertising clutter (Rotfeld, 2006), there emerges a need of rethinking and developing some new ways of communication by which today's marketers and advertisers can effectively influence their target audience (Hammer *et al.*, 2009; Veloutsou and Delgado-Ballester, 2019; Wang *et al.*, 2017). IGA is one such new and effective ways of communication, hence, the present study provides the empirical knowledge about the key factors of IGA that may affect customers' brand memory and attitude in an emerging market context like India.

The extant literature shows that advertising newness can have a huge effect on brand responses (Ang *et al.*, 2007; Sheinin *et al.*, 2011; Vashisht and Mohan, 2018). Though, games are processed differently than traditional advertising tools because of high expectations of excitement and great level of involvement with the message. Thus, newness warrants further research in the context of IGA. Likewise, not much research is done to investigate the role of interactivity and its impact on brand outcomes in the context of IGA. Existing work recommends that ad interactivity can result in high recall and brand attitudes (Fortin and Dholakia, 2005). The role of interactivity is important as media have become more interactive, games too have incorporated interactivity. Hence, this paper makes an attempt to understand and find out the combined effects of newness and interactivity factors on customers' brand recall and brand attitude. Insights regarding the possible effects can be drawn from works on the contrast effect theory (CT) (Meyers-Levy and Tybout, 1989), the engagement theory (ET) (Kearsley and Shneiderman, 1998) and the transportation theory (TT) (Green *et al.*, 2004).

The remainder of this study is organized as follows. In the next section, the literature review is provided, followed by the hypotheses development. Then the research methodology is described followed by the results of hypothesis testing. Later, a discussion on results is presented, followed by the implications of the study findings. Finally, the study is concluded with limitations and directions for future research.

## 2. Literature review and hypotheses development

In this article, we use the CT (Mandler, 1982; Srull and Wyer, 1989), the ET (Kearsley and Shneiderman, 1998) and the TT (Green and Brock, 2000; Green *et al.*, 2004) as our central theoretic foundation. There are a few reasons for using these theories in the present study. First, CT is used in the present study as it explains that when incongruity befalls between the ad and its immediate background, the ad is often considered unique and noticeable, thereby drawing attention (Mandler, 1982; Srull and Wyer, 1989). In addition, the novelty of the incongruent stimulus may lead to more cognitive elaboration to resolve the incongruity. Second, known that other two theories (the ET and the TT) share a focus on engagement, it is predicted that the two theories (ET and the TT) when pooled together, delivers an integrative view that provides more clear understanding of the fundamental mechanisms

that can enhance the IGA effectiveness. As the ET describes how people get engaged in an online game embedded with brand information, and the TT enlightens that when a person gets engaged in a story plot, like the one portrayed in an online game, the personal pleasure and fun resulting from the game can influence his/her attitudes and beliefs (Green *et al.*, 2004), i.e. it describes how the responses engendered in a digital game are conveyed to the real world and the in-game advertised brand, thus, we think that using these two theories in the present study would provide a better perspective of IGA effect on brand responses. The idea of using CT, ET and TT together in this study is that in the context of IGA, because of the contrast effect created by the level of incongruity shown in the game, individuals get attracted to it. As a result, individuals' engagement levels increase. ET best explains this engagement effect. When individuals are persuasively involved, immersed with and mesmerized by a particular activity (here the game playing activity), their high-engagement level permit them to focus on a task such that their minds are largely enthralled or blocked by it for a substantial time-period because of which, they wish to prolong the task. This engagement in the form of narrative experience transfers to individual's real-life experience that impacts individual's emotional state. Therefore, we think that the use of CT, ET and TT together can best explain the effect of interactivity and newness on brand recall and attitude.

### *2.1 Role of newness in in-game advertising*

In the traditional media literature, influence of ad-newness on brand outcomes has been received much attention (Ang *et al.*, 2007; Sheinin *et al.*, 2011); nonetheless, in the context of IGA the role of newness needs to be explored more. Ad-newness is characteristically labeled as being dogged by uniqueness and relevance (Smith *et al.*, 2014). The relevance of the ad refers to the degree to which it is meaningful and valuable to the viewers. For instance, past literature has revealed that incongruent-newness ads result in high recall rates (Vashisht, 2015). However, it is found that in addition to the uniqueness factor, congruent-ads result in more positive attitudes (Ang *et al.*, 2007; Ang and Low, 2000; Kover *et al.*, 1995). Review of all the above shown studies indicates that congruity/incongruity factor does produce a huge contrast effect. This provides an answer to our first research gap i.e. effect of newness on brand recall. Based on these findings, in the context of IGA, it can be said that players need to devote most of their limited cognitive resources to processing the primary stimuli to play the game, such as the moving targets in a shooting game or the changing track in a racing game. Thus, a brand placement with congruent-newness is more expected to be unnoticed as it is predictable and related to the game-theme. However, a brand placement with incongruent-newness element can be easily observed, activating further thinking process to resolve the incongruity issue. Using an integrative approach (i.e. using three theories mentioned above), it is predicted that incongruent-newness produces a large contrast effect, which results in high mind-engagement of the players resulting into superior brand recall unlike congruent-newness case. Hence, it is expected that the gamers are more likely to use their cognitive resources more in processing incongruent-newness than the congruent-newness. Therefore, the following hypothesis is framed:

*H1. Incongruent-newness results in higher brand recall than congruent-newness.*

Regarding the effect of congruent-newness on users' attitudes, Mandler (1982) suggested that as people like objects that conform to their expectations, congruent data form more favorable responses as it matches well with people's category schemata. Contrariwise, new but contrasting information generally leads to confusion and frustration as the unrelated stimulus cannot be simply settled with the present mental structure. This provides an answer to our second research gap i.e. effect of newness on brand attitude. Drawing from the

congruity literature formerly discussed and encompassing it to the context of digital games, it is argued that the congruence between the advertised brand and the game theme is highly connected with the gamers' brand attitudes. The brand placements look more regular in case of congruent-newness situation, in which the advertised brand matches well with the game theme; thus, less energy is expended on thinking why they are there. Therefore, the congruent-newness situation will be perceived as more satisfactory and is highly expected to yield favorable emotional effects (d'Astous and Chartier, 2000). However, under the incongruent-newness situation, the mismatch between the advertised brand and the game-theme is professed as unsuitable which may incite the gamers to ponder about the reason for the brand's presence within the game. Such elaboration may lead to corrective mechanisms, such as disbelief or counter-argumentation (Friestad and Wright, 1994). Using an integrative approach (i.e. using three theories mentioned above), it is predicted that incongruent-newness produces a large contrast effect, which results in high mind-engagement of the players resulting into superior brand recall but less favorable brand attitude unlike congruent-newness case wherein players report high favorable brand attitude as players have positive transfer effect in congruent situation. Based on these rationales, following hypothesis is framed:

- H2. Congruent-newness results in more favorable brand attitude than incongruent-newness.

### 2.2 Moderating role of interactivity

In the context of digital or computer games, interactivity factor has a very big role to play (Vashisht, 2015). In the human-computer interaction (HCI) literature, interactivity has been highly recognized and conceptualized in various ways (Blattberg and Deighton, 1991; Deighton, 1996; Hoffman and Novak, 1996; Jiang *et al.*, 2010; Palmer, 2002; Rafaeli, 1988; Rafaeli and Sudweeks, 1997; Steuer, 1992; Steuer *et al.*, 1995). Definitions provided by various scholars can be broadly categorized into three types: user-machine interaction, user-user interaction and user-message interaction (Cho and Leckenby, 1997). Liu and Shrum (2002) defined interactivity as:

[...] the degree to which two or more communication parties can act on each other, on the communication medium, and on the messages and the degree to which such influences are synchronized.

They recommended three aspects of interactivity: active control, which refers to an individual's ability to readily participate in and instrumentally influence or control a communication; two-way communication, that defines the mutual flow of information; and synchronicity, which relates to the interaction-pace. The present research is grounded on this concept. In the context of IGA, for active control component, players can customize their actions, such as deciding whether to interact with the in-game brand components. For two-way communication, players get consequent feedback according to their actions with the game components. For synchronicity, the time elapsed between "players" input and the "game response" is taken into consideration. In this paper, high interactivity condition wherein the players have extensive interactions with the brand components, getting enough feedback of advertising messages and gamers' input and the game responses befall in the same time. Low interactivity refers to the condition wherein the players cannot interact much with the brand components, receive insufficient feedback of advertising messages and gamers' input and the game responses do not occur concurrently. The prior literature has shown that less-congruent ads were more memorable than the high-congruent ads

(Furnham *et al.*, 2009; Heckler and Childers, 1992; Lee and Faber, 2007; Moore *et al.*, 2005). In a less-congruent context, the ad is treated as exclusive and perceptible, thereby attracting viewers more (Mandler, 1982; Srull and Wyer, 1989). Furthermore, the innovation of the incongruent stimulus may bring about more intellectual elaboration so as to take a decision on incongruity. Taking insights from ET and TT, in incongruent-newness high interactivity condition, gamers get more engaged with the game resulting into high brand recall unlike congruent-newness condition. In congruent-newness condition, the congruent stimulus is treated less elaborately than incongruent stimulus because the stimulus matches well with its surrounding context (Mandler, 1982). As a result, incongruent advertisements are better remembered than congruent advertisements as they draw more attention and provoke superior reasoning elaboration (Heckler and Childers, 1992). Review of all the above-mentioned studies indicates that congruity/incongruity factor and interactivity factor do produce a big effect on recall. Using an integrative approach (i.e. using three theories mentioned above), it is predicted that incongruent-newness with high-interactivity produces high mind-engagement resulting into superior brand recall unlike low-interactivity condition. This provides an answer to our third research gap i.e. effect of newness and interactivity on brand recall. Based on these rationales, the following hypothesis is developed:

- H3. For incongruent-newness, high-interactivity condition results in higher brand recall than that in the low-interactivity condition.

Considering the impact of newness and interactivity on brand attitude, in a high-interactivity condition, gamers have control in playing with the brand components, and they obtain feedback of ad-messages. As the interaction with the brand components in a high-interactivity condition can aid users to get advantages in the game, the users have the inherent interest and drive in involving with these brand components. Therefore, an extremely interactive gameplay creates a favorable playing environment for consumers to build affirmative emotional responses and gaudy perceptual descriptions of the brand advertised, and consequently to be conveyed into the game's story (Nicovich, 2005). HCI literature discloses that consumers' gratification, as an inherent drive for accepting technologies (Davis *et al.*, 1992), is a dominant factor that affects consumer attitudes (Jarvenpaa and Todd, 1996; Van der Heijden, 2003). Based on these rationales, it can be reasoned that the enjoyment from playing a highly interactive game can be linked with a favorable brand-attitude (Jiang *et al.*, 2010; Sweetser and Wyeth, 2005). Given a congruent-newness scenario, the optimistic transportation experience activated by high-interactivity can further improve the player's attitude. In the congruent-newness and high-interactivity scenario, the congruent ad-exposure does not interrupt the transportation experience, thus, players become totally involved in a high-engaging context. Especially, transported individuals have a superior attraction for the main characters of the game story and thus are more likely to be swayed by the affective responses linked with these characters (Green and Brock, 2000). The existence of more realistic details in a congruent-newness and high-interactivity situation may lead to the development of more vibrant and resounding perceptual imageries of brands (Green *et al.*, 2004). Nonetheless, when it is the case of incongruent-newness, the incongruous ad-elements may disturb the players' gaming experience irrespective of the degree of interactivity, such that players cannot entirely involve in the games. Therefore, because of deficiency of favorable affective responses for the game, the positive transportation experience is hindered. Consequently, the incongruence obstructs the formation of a favorable attitude (Jiang *et al.*, 2010) toward the game. Review of all the above-mentioned studies indicates that congruity/incongruity factor

and interactivity factor do produce a huge effect on brand attitude. Using an integrative approach (i.e. using three theories mentioned above), it is predicted that congruent-newness with high-interactivity produces high mind-engagement and positive feelings about the game and brand resulting into favorable brand attitude unlike low-interactivity condition. This provides an answer to fourth research gap i.e. effect of newness and interactivity on brand attitude. Based on these rationales, the following hypothesis is proposed:

- H4.* For congruent-newness, high-interactivity condition results in more favorable brand attitude than that in the low-interactivity condition.

### 3. Research methodology

#### 3.1 Development of stimulus material

Two pretests were conducted to select the stimuli for congruent-newness vs incongruent-newness games and high- vs low-interactive games. Pretest 1 was conducted to select the stimuli for the independent variables which were manipulated during the study. It was piloted in two stages. In Stage 1, a focus group interview with ten student gamers was performed to select a game theme from a range of various themes. The focus group decided racing theme to be used in the study. Then they were requested to advise some product categories which can be used in the study. Ten different product categories were suggested by the focus group out of which they selected “chocolate” and “tire” products for incongruent-newness and congruent-newness product categories for the study. Afterwards, they were requested to advise some fictitious brand names to be integrated in the game context to advertise the selected products: chocolates and tires. Brands used in the study were fictitious to avoid confounding effects of previous brand knowledge. Then, they were asked to combine these fictitious brand names and product category names to reduce the confusion among the game players. This process resulted in eight fictitious brands, four for incongruent-newness category (Amaco-Chocolate, Meccat-Chocolate, Shrofca-Chocolate and Yfrezi-Chocolate) and four for congruent-newness category (Dynamo-Tires, Leego-Tires, Kdoni-Tires and Wtuff-Tires).

In Stage 2, a game developer agency was approached to construct the experimental stimuli for the study. The game developer was instructed to develop four games: incongruent-newness with high interactivity, incongruent-newness with low interactivity, congruent-newness with high interactivity and congruent-newness with low interactivity. Incongruent-newness games were developed by embedding the incongruent fictitious brands, whereas, congruent-newness games were created by placing the congruent fictitious brands in the games. In the high-interactivity condition, the four very big sized advertised brands were scattered around the race track along with four billboards. In addition to receiving the ad messages from the billboards, gamers could also control the car to interact with the advertised brands and get a speed boost. The acceleration because of the speed boost was intentionally made bigger, so as the gamers could easily differentiate the acceleration. Also, the brand logos were flown at the top of the game characters in the games. The speed boost and the brand flash continued for a total of 8 s. As acceleration was used as an extra or additional feedback of ad messages, when the gamers interact with brand components and the speed boost enabled the players to drive faster, they had the internal motivation to blow the advertised products to win the game. Thus, gamers were expected to embroil themselves more with the brand components in the high-interactive games. However, in the low-interactivity condition, players could only drive the car around the race track to view the billboards and be exposed to the ad-messages.

After Pretest 1, Pretest 2 was executed in which 40 student players were randomly picked and were called to a computer laboratory to play the randomly allotted games. Then, they rated newness and interactivity for the assigned games. An example was shown to the

student players to make sure that they understood the task. [Tuten and Ashley's \(2013\)](#) scale was used to measure the game-newness in terms of congruence and incongruence. The items used were:

- the game was original;
- the game was unique;
- this is first time when I have seen such type of game;
- the product used in the game was relevant to the game-theme;
- the game message was appropriate for me; and
- the game message was very meaningful to me.

The scale's reliability was tested and found to be satisfactory ( $\alpha = 0.81$ ). Likewise, [Goh and Ping's \(2014\)](#) scale was used to measure interactivity. The measures used were:

- I interacted with the brand information in this game;
- I had interactive exposure to the brand information in this game; and
- I had interactive experience with the brand information in this game.

All measures were assessed along seven-point scales (1 = "strongly disagree" to 7 = "strongly agree"). The scale's reliability was tested and found to be satisfactory ( $\alpha = 0.85$ ). The *t*-test results indicated that the development of experimental conditions were successful: mean *Newness* (congruent) = 3.72, mean *Newness* (incongruent) = 2.2,  $t = 2.39$  and  $p = 0.00$ ; and mean *Interactivity* (high) = 6.5, mean *Interactivity* (low) = 2.3,  $t = -9.56$  and  $p = 0.00$ .

### 3.2 Participants and design

For the main study, the participants were selected from a large Indian university and these participants were between the ages of 21 and 24 years. Past research reported that people of age group 18-35 years is the biggest segment of digital gamers that constitutes to 95 per cent of the gamers population worldwide ([Mediaedge:cia, 2005](#); [Reisinger, 2011](#)), which sustains the suitability and use of the student sample for this study. Initially, a random selection of 300 students was conducted from a list of all the university students. Then, we contacted them to seek their permission to participate in an experimental study. Those who showed interest to participate in the study were given a food coupon of Rs 100 each. A total of 224 students between the age group of 21 and 24 years participated in the study. They were all management graduate students. A total of 52 per cent of the respondents were males and 48 per cent were females ([Table 1](#)).

These respondents were called to a computer lab and randomly assigned to the different experimental conditions (56 student gamers in each condition). They were said that they would be playing the assigned games for about 7-8 min. The respondents were not told about the purpose of the study. They were then exposed to the respective advergames on individual personal computers. Each game was embedded with four

**Table 1.**  
Demographics of  
the sample

Mean age	22
Sample size (n)	224
Males	116 (52% of the sample taken)
Females	108 (48% of the sample taken)
Sample profile	Graduate management students
Nationality	Indian

fictitious brands with specific condition. To avoid the confounding effects of familiarity with the real brand names, fictitious brands were used in the study. After the game play, the participants were asked to fill up the questionnaire, with items of manipulation checks, eliciting their responses to brand recall and brand attitude, their familiarity with the games and likeability for the games. At the end of the questionnaire, the participants were thanked for their cooperation. A total of 52 respondents were found to have either familiarity with the game theme or previous likeability with the game theme. These 52 responses were removed from 224 responses. It further reduced the study sample into 172 usable responses.

### 3.3 Independent and dependent measures

Two independent variables, i.e. game-newness (congruent/incongruent) and interactivity (high/low), were used in this study. All the three independent variables were manipulated variables and measured by using the same scales used in Pretest 2.

Brand recall and brand attitude were the dependent variables in the study. The dependent variable, brand recall, was measured by asking participants to list the brand names that appeared in the advergames. Two coders who were blind to the experiment counted the number of brand names recalled. If a subject listed an advertised brand correctly, it was coded as a correct response. An answer was coded as an incorrect response if the participant did not list the advertised brand or listed a non-advertised brand name. The numbers of correct responses ranged from 0 to 4 as there were three different brands embedded in the advergames. Inter-coder reliability was checked and it was found to be satisfactory ( $\alpha = 0.77$ ).

The second dependent variable, brand attitude, was measured by using a semantic differential scale with the bipolar adjective items (good/bad, like/dislike, favorable/unfavorable and positive/negative), adapted from [Wise et al. \(2008\)](#).

## 4. Data analysis and results

### 4.1 Manipulation checks

The manipulation check for game-newness through a one-way analysis of variance (ANOVA) showed a significant mean difference [ $F(1, 52) = 3.33, p < 0.05$ ] between congruent-newness ( $M = 4.51$ ) and incongruent-newness ( $M = 1.72$ ). Likewise, manipulation check for interactivity showed a significant mean difference [ $F(1, 52) = 2.98, p < 0.05$ ] between high interactivity ( $M = 2.95$ ) and low interactivity ( $M = 1.83$ ).

Also, full-model ANOVAs ( $2 \text{ game-newness} \times 2 \text{ interactivity}$ ) were done to test whether there were confounding effects of game-newness or interactivity manipulations on game-newness [ $F(1, 52) = 3.09, p = 0.00$ ] and interactivity [ $F(1, 52) = 2.92, p = 0.00$ ] values. Manipulation check results showed that there were no confounding effects of game-newness or interactivity manipulations on game-newness and interactivity. Hence, overall, checks of the manipulations revealed that all the manipulations were successful.

### 4.2 Hypotheses testing

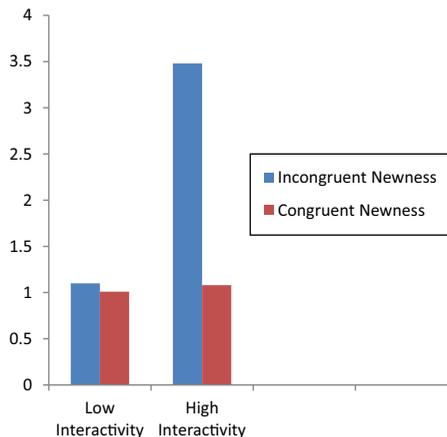
ANOVA results revealed that the game-newness significantly influenced brand recall [ $F(1, 170) = 11.34, p = 0.00, M_{\text{incongruent-newness}} = 3.55, SD = 0.18, M_{\text{congruent-newness}} = 1.5, SD = 0.21$ ] and brand attitude [ $F(1, 170) = 17.53, p = 0.00, M_{\text{congruent-newness}} = 2.8, SD = 0.23, M_{\text{incongruent-newness}} = 1.02, SD = 0.22$ ]. It supported *H1* and *H2*. Though not hypothesized, but ANOVA results also indicated that the variation in interactivity significantly influenced brand recall [ $F(1, 170) = 13.42, p = 0.00, M_{\text{high-interactivity}} = 3.35, SD = 0.19, M_{\text{low-interactivity}} = 1.02, SD = 0.22$ ] and brand attitude [ $F(1, 170) = 18.38, p = 0.00, M_{\text{high-interactivity}} = 2.88, SD = 0.07, M_{\text{low-interactivity}} = 1.21, SD = 0.16$ ].

A 2 (game-newness: congruent or incongruent)  $\times$  2 (interactivity: high or low) between-subjects multivariate analysis of variance (MANOVA) was used to test the hypotheses with brand recall and brand attitude as the dependent measures. The results showed a significant two-way interaction for game-newness  $\times$  interactivity on brand recall and brand attitude [*Wilks's*  $\Lambda = 0.61$ ,  $F(2, 168) = 46.71$ ,  $p = 0.00$ ]. A comprehensive analysis through preplanned contrast revealed that high interactivity (vs low interactivity) for incongruent-newness was found significant and resulted in higher level of brand recall [*Wilks's*  $\Lambda = 0.59$ ,  $F(2, 168) = 49.22$ ,  $p = 0.00$ ,  $M_{\text{Brand recall/incongruent-newness/high-interactivity}} = 3.42$ ,  $M_{\text{Brand recall/incongruent-newness/low-interactivity}} = 1.1$ ]. However, for congruent-newness, high interactivity (vs low interactivity) did not have any significant influence on brand recall [*Wilks's*  $\Lambda = 0.51$ ,  $F(2, 168) = 37.45$ ,  $p = 0.56$ ,  $M_{\text{Brand recall/congruent-newness/high-interactivity}} = 1.08$ ,  $M_{\text{Brand recall/congruent-newness/low-interactivity}} = 1.01$ ]. Thus, *H3* is supported (Figure 1).

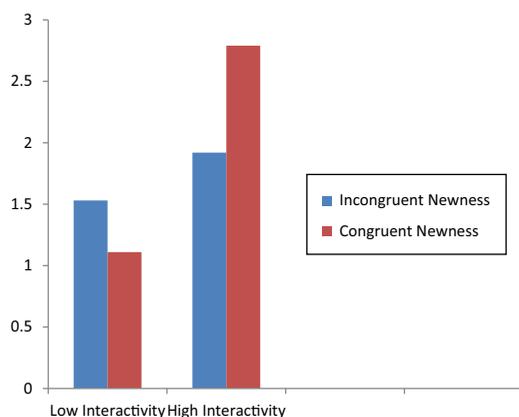
Furthermore, high interactivity (vs low interactivity) for congruent-newness showed a significant difference in brand attitude [*Wilks's*  $\Lambda = 0.52$ ,  $F(2, 168) = 29.43$ ,  $p = 0.00$ ,  $M_{\text{Brand attitude/congruent-newness/high-interactivity}} = 2.79$ ,  $M_{\text{Brand attitude/congruent-newness/low-interactivity}} = 1.11$ ]. However, for incongruent-newness, high interactivity (vs low interactivity) did not have any significant influence on brand attitude [*Wilks's*  $\Lambda = 0.42$ ,  $F(2, 168) = 22.08$ ,  $p = 0.65$ ,  $M_{\text{Brand attitude/incongruent-newness/high-interactivity}} = 1.92$ ,  $M_{\text{Brand attitude/incongruent-newness/low-interactivity}} = 1.53$ ]. Thus, *H4* is supported (Figure 2 and Table 2).

### 5. Discussion

So far, research on IGA has largely inspected the in-game brand placement effects on players' brand responses either from only attention perspective (Lee and Faber, 2007) or by using attitude models, such as associative-propositional evaluation model (Gawronski and Bodenhausen, 2006). Most IGA-studies were conducted in developed countries (Folkvord, 2012; Folkvord *et al.*, 2015; Harris *et al.*, 2012; Mallinckrodt and Mizerski, 2007; Peters and Leshner, 2013) and most empirical work has used children sample to study the IGA effects (Culp *et al.*, 2010; Folkvord *et al.*, 2015; Harris *et al.*, 2012; Mallinckrodt and Mizerski, 2007). However, this article fills all these research gaps. First, this article investigates the IGA effects on the brand recall and the brand attitude from three perspectives, i.e. contrast, engagement and transportation of experience. Second, it examines the combined effects of the game-specific factors, i.e. game-newness and interactivity. Third, the present study



**Figure 1.**  
Interaction effect of newness and interactivity on brand recall



**Figure 2.**  
Interaction effect of  
newness and  
interactivity on  
brand attitude

examines the IGA effects in an emerging market context, like India. Finally, this paper reveals the IGA effects on 16-19 years age group.

The findings of the study showed that incongruent-newness resulted in high brand recall whereas incongruent-newness in in-game brand placements resulted in more favorable brand attitude. Although not hypothesized, it was found that high interactivity resulted in higher recall and more favorable brand attitude. Further, interaction between newness and interactivity reported a higher brand recall in the case of incongruent-newness with high interactivity, whereas more favorable brand attitude in the case of congruent-newness with high interactivity. These findings are consistent with the past literature (Jiang and Benbasat, 2007; Vashisht and Chauhan, 2017) that a rise in interactivity can affect consumers to be more involved in an activity (i.e. the gameplay in our IGA context), and as a result, it results in higher brand responses, i.e. high brand recall and favorable brand attitude. Also, from the perspectives of attention and transportation of experience, this study showed that for in-game brand placements, one has to look after both the aspects, i.e. attention elements as well those elements which help in positive transportation of experience. In our study, it was found that congruent/incongruent newness could be an attention element and interactivity could be a transportation of experience element. These two aspects must be taken care while embedding brands in digital games.

## 6. Implications

### 6.1 Theoretical implications

The present research tests the impact of two vital design aspects for online games: newness and interactivity. Based on the CT, ET and TT, this paper describes the fundamental mechanisms of how these two aspects impact the ad effectiveness of online games. CT provides the fundamentals to understand how gamers' brand memory can be affected by the game factors, namely, newness and interactivity in an IGA context. It contributes to the conceptual understanding of in-game brand placements by determining the cognition mechanism involved in brand information processing. Further, the ET and the TT give a base for comprehending how players' brand attitude can be influenced by the design factors of newness and interactivity. It adds to the theoretical understanding of ad effectiveness of brand placements in online games by assisting to identify the mechanisms underlying favorable attitudes toward the in-game placed brand. These mechanisms comprise the phenomenological experience of gratification through involvement in a narrative mediated

<i>ANOVA results</i>							
	Effects	Mean	SD	F-value	Significance	Hypotdesis	
Game newness on brand recall – F (1,170)	Congruent-newness	1.50	0.21	11.34	0.000	<i>H1</i> (Supported)	
	Incongruent-newness	3.55	0.18				
Game newness on brand attitude – F (1,170)	Congruent-newness	2.80	0.23	17.53	0.000	<i>H2</i> (Supported)	
	Incongruent-newness	1.02	0.22				
Interactivity on brand recall – F (1,170)	High interactivity	3.35	0.19	13.42	0.000	Not hypothesized in this paper but results are presented here	
	Low interactivity	1.02	0.22				
Interactivity on brand attitude – F (1,170)	High interactivity	2.88	0.07	18.38	0.000		
	Low interactivity	1.21	0.16				
<i>MANOVA results</i>							
	Effects	Mean	Wilk's Lamda	F-value	Significance	Hypothesis	
Game newness × interactivity on brand recall – F (2,168)	High interactivity × incongruent-newness	3.48	0.59	49.22	0.000	<i>H3</i> (Supported)	
	Low interactivity × incongruent-newness	1.10					
	High interactivity × congruent-newness	1.08	0.51	37.45	0.672	Not hypothesized	
	Low interactivity × congruent-newness	1.01					
Game newness × interactivity on brand attitude – F (2,168)	High interactivity × incongruent-newness	1.92	0.42	22.08	0.881	<i>H4</i> (Supported)	
	Low interactivity × incongruent-newness	1.53					
	High interactivity × congruent-newness	2.79	0.52	29.43	0.000	Not hypothesized	
	Low interactivity × congruent-newness	1.11					
<b>Note:</b> Values in the parenthesis show df							

**Table 2.**  
Results

atmosphere, commitment and amusement through the valuable significance of game experience and the conditions under which brand attitudes are improved or condensed. This research highlights that, in the context of IGA, transportation itself is a three-way development (based on thoughtfulness, images and emotions) of swaying communication in the marketing environment as well as in the gaming context.

The study reveals the role of newness in shaping consumers' brand responses and also highlights the importance and impact of interactivity factor which is considered as an exceptional physiognomy of online games (new advertising media) compared to the traditional advertising media platforms. This study replicates the effect of newness that has been demonstrated in brand attitude literature (Ang and Low, 2000; Ang et al., 2007) in the context of IGA. The results contribute conceptually to the theory of

newness and congruity. The newness results provide support for the idea that consumers do give attention and undergo cognitive elaboration because of congruent/incongruent new elements present in the games that consequently affect their brand recall and attitudes. Regarding interactivity, it is very clear from the study that because of interactivity factor in game (i.e. gamer's interaction with the in-game brand components), the consumer no longer remains a passive spectator, and instead he/she becomes an active participant. Also, the interactivity component makes consumers to leave their corporal and psychosomatic veracities behind in a game's plot and get wholly involved as an active player in a narrative gaming context. The paper's findings encompass the theoretic limit in the HCI literature (Jiang and Benbasat, 2007; Jiang *et al.*, 2010) by integrating interactivity in the online advertising context. Reviewing the impact of interactivity in the IGA context is significant because users' interface with the brand components is a main characteristic of online games. Also, the paper contributes to the advertising literature by examining the combined effect of newness and interactivity on brand responses from attention, elaboration and transportation of experience perspectives. This is a major contribution to the existing literature of HCI and advertising (Jiang and Benbasat, 2007; Jiang *et al.*, 2010). According to a study (Wignall, 2015), new and high-interactive games may lead to high alertness and smartness in gamers. Thus, the findings of our study contribute to the current literature in a big way by exhibiting the major ad consequences of making new and interactive games on consumers' brand recall and attitudes.

### *6.2 Practical implications*

The present paper offers various insinuations for advertising practitioners and game designers to improve the effectiveness of IGA so as to effectively endorse their brands. Marketers can develop the online games which best match with their advertised brands according to their advertising objectives by making a right mix of the two proposed aspects of online games.

First, the paper suggests that incongruent-newness can enhance users' brand recall, whereas congruent-newness can result into more favorable brand attitudes. This implies that advertisers and game developers need to insert only those newness elements in the game which are congruent with the game theme if their goal is to improve consumers' brand attitudes or else they need to embed incongruent newness elements in the game for brand recall enhancement. The findings also show that under incongruent-newness condition, high interactivity results in higher brand recall than that in a low-interactivity condition. Nonetheless, under congruent-newness condition, both high- and low-interactivity conditions result in the same level of brand recall.

Regarding IGA effect on brand attitude, the study shows that under congruent-newness condition, high interactivity results in more favorable brand attitude than that in a low-interactivity condition. However, under incongruent-newness condition, both high- and low-interactivity conditions result in the same level of brand attitude. These findings imply that advertisers must embed those new brand-elements in the game which are highly interactive as well as congruent with the game theme so as to enhance consumers' brand attitudes if improving brand attitude is their marketing objective. Otherwise, to achieve an advertising objective of increasing brand recall, the game developers must embed only those new brand elements in the game which are highly interactive but incongruent with the game theme.

Furthermore, there could be a few important implications for the advertising regulatory bodies, policymakers and the society in general. Some educative and informational games can be developed for the young consumers by taking an appropriate combination of

newness and interactivity. *Vis-à-vis* the issue of controlling the ad-content on different media, it is comparatively easy to regulate the content of television box and print advertising than monitoring the content of online advertising and IGA (Carlsson, 2006). Also, the worldwide reach of the internet poses a big question in front of ad regulators on how they can regulate online advertising.

As evident from the literature (Wright *et al.*, 2005), game interactivity and game newness are very much required to effectively deal with marketing communications. But young consumers devoid of this knowledge cannot develop cognitive defense strategies such as counter arguing strategy to deal with market place persuasion (Friestad and Wright, 1994). As the ultimate goal of advertising policymakers is to create a fair, strong and robust advertising media atmosphere (Vashisht, 2017), hence they must have enough knowledge about the advertising aspects of online advertising media that triggers young consumers' engagement level with the games. Perhaps, the policymakers can consider certain strategies such as inclusion of ad breaks or bumpers in the game that will provide media literacy about advergaming to the young consumers that IGA is more than just "an entertaining game." Hence, our study will be very beneficial for advertising policymakers as well as advertising regulators in attaining their goal of creating an unbiased and healthy advertising media environment.

### 7. Limitations and future research

There are certain limitations of the study. First, the study used only undergraduate college students as its sample, thus, future studies can take up some other samples to generalize the present study results, as the population playing computer or digital games has extended to other segments than the college students over the past years. Second, we only test our hypotheses in only one game genre (a racing computer game). Computer game genres extensively differ on features and gameplay so forthcoming investigations must use other computer game genres to ratify these results. Third, the present article tests the effects of newness and interactivity only on brand recall and brand attitudes. Newness and interactivity may affect some other variables such as game attitude, purchase intention and brand advocacy. Thus, future studies must explore the effects of newness and interactivity on new dependent variables, such as game-attitude, purchase intention and brand advocacy. Fourth, the current study used fictitious brand names in the games, whereas the study results can be checked further by taking real brands into consideration. Another limitation could be that the study checked the hypotheses only in emerging market context. These hypotheses can be checked in a developed economy and can be compared with that of emerging market results. Thus, comparative study can be done in this area to make the future studies more enriched in terms of usage of various countries and culture.

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