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# Twenty years of research on gamified advertising: a systematic overview of theories and variables

Z. M. C. van Berlo[a], E. A. van Reijmersdal[a] and M. K. J. Waiguny[b]

[a]Amsterdam School of Communication Research, University of Amsterdam, Amsterdam, the Netherlands; [b]IMC University of Applied Sciences Krems, Krems an der Donau, Austria

**ABSTRACT**

Gamified advertising has received considerable attention from advertising scholars over the last two decades. In the literature, two main types of gamified advertising can be identified: in-game advertising (IGA) and advergames (AG). In this article, we synthesize 20 years of research into these types of advertising – and pay special attention to the role played by the International Journal of Advertising (IJA). We give a systematic overview of the most often used theories explaining the persuasive effects of advertising *in* games (in-game advertising) and *through* games (advergames) and discuss the main conclusions that can be drawn from the existing gamified advertising literature. Furthermore, we propose a framework that offers an overview of the most important ad, game, and player characteristics influencing the effectiveness of gamified advertising. Finally, we look ahead and discuss the future of research on gamified advertising.

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## Introduction

People like to play. Playing can foster learning behaviors and facilitate social interactions, especially in gameplay. A *game* is a particular type of play, which is characterized by its voluntarily and entertaining nature (Huizinga 1998). As opposed to random play, games follow a rule set and have certain conditions to win (Caillois 2001). Compared to, for example, watching television, games are usually much more immersive (Potter 2009) leading to longer and repeated exposure times (Waiguny 2013). These characteristics led to a special interest of advertisers, who have started using games and game-like approaches to promote engagement with their commercial messages (Terlutter and Capella 2013). This process, of using game thinking and game mechanics to make advertising messages more engaging, is better known as the 'gamification of advertising'.

In the literature, two main types of gamified advertising can be identified: in-game advertising (IGA) and advergames (AG). In-game advertising is a type of advertising which is characterized by the placement of one or more brands in existing games

**CONTACT** Zeph M. C. van Berlo Z.M.C.vanBerlo@uva.nl Amsterdam School of Communication Research, University of Amsterdam, PO box 15791, 1001 NG Amsterdam, the Netherlands
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(e.g., video games). Advergames are branded games built to convey a branded message (Terlutter and Capella 2013).

A recent meta-analysis of advergame effects (Van Berlo, Van Reijmersdal, and Eisend 2021) showed that, overall, gamified advertising outperforms non-gamified advertising on many important advertising metrics – except for cognitive brand responses like brand recall and recognition. The meta-analysis focused exclusively on the effects of advergames, however, similar effects have been found for in-game advertising. Overall, gamified advertising is thus believed to stimulate affective processing of the advertised message, while at the same time hindering its cognitive processing.

Over the last two decades, gamification has received considerable attention from advertising scholars. In this article, we aim to synthesize this research and we look ahead and discuss the future of research on gamified advertising. We give an overview of the most popular theories used to explain the persuasive effects of advertising *in* (i.e. in-game advertising) and *through* games (i.e. advergames). Furthermore, we propose a framework that builds on the work by Terlutter and Capella (2013), in which we offer a comprehensive overview of the ad, game, and brand characteristics that have been studied in the context of gamified advertising over the past twenty years.

## A systematic overview of research on gamified advertising

To identify all relevant literature on gamified advertising, we conducted a comprehensive literature search. We followed a systematic search procedure, visualized in a flow diagram (see Figure 1). For papers to be selected, they had to meet the following three criteria: (1) report on empirical work related to in-game advertising and/or advergames, (2) be published in a peer-reviewed publication, and (3) be written in English. Afterward, we reviewed the reference lists of the included papers to determine whether additional papers could be found. A final set of 280 relevant papers was identified and included in this review (a complete list of the references can be found in the Appendix as online supplementary material).

To be able to draw inferences from the literature, we coded the final set of papers. For each paper, we coded the source, type of gamified advertising (in-game advertising vs. advergame), variables (IVs, DVs, moderators, & mediators), theories used, type of research, sample characteristics (age range & country), and game genre. A

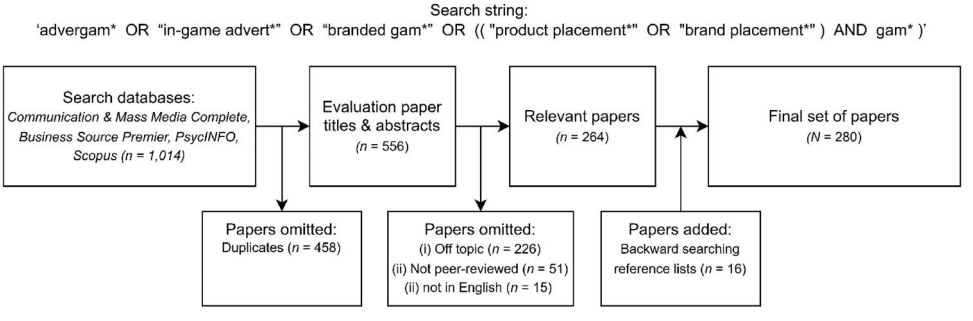


**Figure 1.** Flow diagram of the systematic search procedure.

detailed description of the codes and a summary of the coding can be found in the online Appendix (Tables 1A–4A).

## Theories on games and advertising

In their seminal work, Terlutter and Capella (2013) suggest that four main theoretical models ground the research in gamified advertising: the persuasion knowledge model (Friestad and Wright 1994), the limited-capacity model of motivated mediated message processing (Lang 2000), social cognitive theory (Bandura 1977), and flow theory (Csikszentmihalyi 1990). It is outside of the scope of this review to give detailed explanations of how each of these theories explains the effectiveness of gamified advertising, however, Terlutter and Capella (2013, pp. 98-99) offer clear descriptions in their work.

The results of our systematic review show that in many studies, multiple theories are adopted to explain the effectiveness of gamified advertising. Rather than just adopting a single overarching theory, different theories are integrated and used to explain moderations and/or mediations of the gamified advertising effects. Notably, over half of the papers do not use any theories at all to develop their research hypotheses, but instead, exclusively use prior empirical evidence.

In line with Terlutter and Capella (2013), we find that over the last twenty years, the persuasion knowledge model, limited capacity model of motivated mediated message processing, and flow theory are among the most commonly adopted theories for studying the effectiveness of gamified advertising (see Table A4 in the online Appendix for an overview of the most often used explanations for the effectiveness of gamified advertising). Interestingly, the social cognitive theory is, to date, considerably less studied as a theoretical model in the context of gamified advertising.

When differentiating between in-game advertising and advergame studies, it is striking that the persuasion knowledge model seems relatively often used in the advergaming (compared to in-game advertising) literature. An explanation for this could be that advergames seem to be, more often than in-game advertising, compared with other types of advertising (e.g., TV ads, print ads). In contrast, in-game advertising studies seem more likely to adopt a limited cognitive capacity approach (Lang, 2000) and for example, study the role of brand placement prominence in a game.

Flow theory or closely related theories like presence (Lombard and Ditton 1997) or transportation imagery theory (Green, Brock, and Kaufman 2004) are used in a range of studies particularly looking into the experience of gaming. These theories are often used to explain moderating or mediating effects. Interestingly, a large range of studies refers to entertainment, but without clearly conceptualizing it or adopting an entertainment theory. Instead, entertainment is simply used as a general measure of game liking or to measure that 'the game was entertaining'. Only a few studies have adopted more complex entertainment theories – like dual appraisal entertainment theories or immersiveness.

When looking beyond the four theories discussed in Terlutter and Capella (2013), our review shows that also common advertising theories, like advertising congruence, perceptual and conceptual fluency, the mere exposure effect (Zajonc 1968), and dual processing models (e.g., elaboration likelihood model and heuristic-systematic model of information processing; Petty and Cacioppo 1986; Chaiken 1980) are popular theories for studying the effectiveness of gamified advertising. Also, affect (Zillmann 1988) and

meaning transfer (McCracken 1989), and conditioning effects are used in a range of studies, in particular studies explaining the transfer of game content or the gaming experience onto the brand. Another set of studies explains the effects of gamified advertising by using media richness theory (Daft and Lengel 1986) as well as on the uses and gratifications that players can obtain from gaming (Katz and Foulkes 1962)

Similar to social cognitive theory, other research areas are relatively less studied in the context of gamified advertising over the past two decades. Take for example the role of characters in games. Characters play an important role in many modern (computer) games because people can identify with them, which can help players transport into a storyline of a game. In particular, for story-driven advergames and in-game advertising in role-playing games, this theory could be a powerful predictor of persuasive effects, especially if the characters interact with brands.

Also, theories on implicit memory and associations seem to be tested relatively rarely in theoretical frameworks, however, interestingly these theories are sometimes used to explain (unexpected) findings and are mentioned in several literature reviews. Additionally, both gamer experience and social interaction between players are neither theoretically nor empirically examined. This is notable, because, for example, flow theory suggests that differences in players' (gaming) skills (resulting from gaming experience) would affect their flow experience – and would subsequently impact the persuasiveness of the gamified advertising. Similarly, the role of physical activity in the games, including game controls and full-body immersion, is rarely studied. On embodiment in particular, there is a relevant body of theories (for an overview see Bargh et al. 2012) that address how players' motoric and sensory experiences transfer into semantics (Meteyard and Vigliocco 2008) and subsequently can drive persuasion.

Our appraisal of the theoretical models of the 280 papers suggests that, due to the complex nature of gaming (e.g., mental and physical processes involved; design and story elements), a range of theories are needed to explain the persuasive effects of gamified advertising. Therefore, we propose a framework to address this complex interplay.

## Framework for the analysis of gamified advertising

Based on our systematic review, we propose the *model of effects of gamified advertising* (MEGA). This framework (see Figure 2), builds on the 'framework for the analysis of advertising in digital games' (Terlutter and Capella 2013) and offers an overview of the variables that are found in the literature to explain the effectiveness of gamified advertising. In addition to giving an overview of the effectiveness measures (like psychological and behavioral responses) of gamified advertising, the framework underlines the importance of three types of characteristics: Ad (brand/placement) characteristics, game characteristics, and player characteristics. Finally, the framework also accounts for the role of (advertising) regulations, which affect, in particular, advertisers' choices regarding ad and game characteristics.

### *Ad characteristics*

Important ad characteristics that have been found to influence the effects of gamified advertising are, for example, brand placement prominence and degree of interactivity

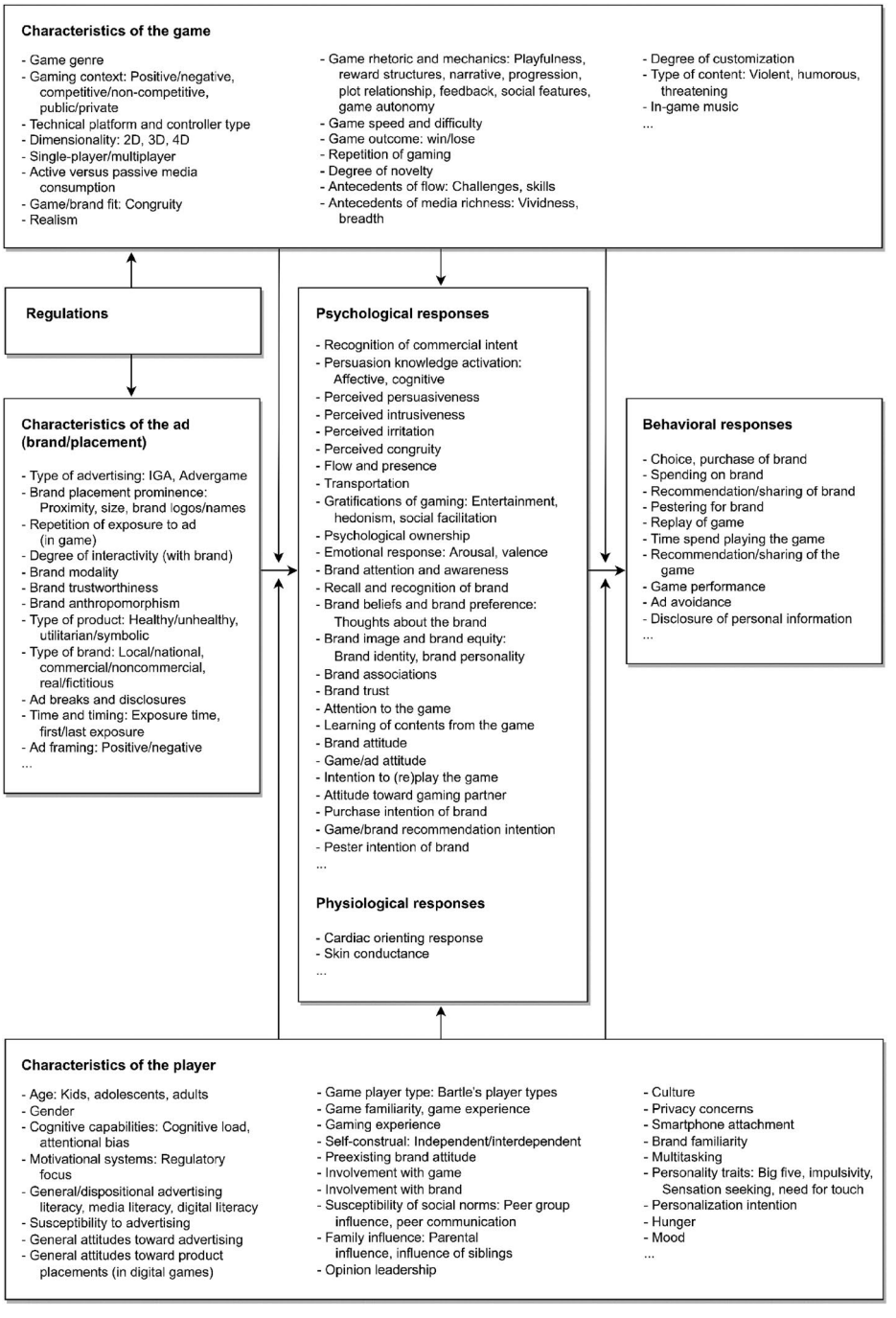


**Figure 2.** The model of effects of gamified advertising (MEGA).

with the brand. Research published in the *International Journal of Advertising* (IJA) for example showed that, on the one hand, brand placement prominence has an inverse (or no) effect on brand attitude (Cauberghe and De Pelsmacker 2010), while on the other hand having a positive effect on brand recall (Lin 2014; Schneider, Systems,

and Cornwell 2005). In another study, Rifon et al. (2014) found that when young players could interact with a brand, it was remembered better than brands that were integrated into the background.

### *Game characteristics*

In addition to ad characteristics, game characteristics can also influence the effects of gamified advertising. Examples of game characteristics that are often studied are game-brand fit and game difficulty. In an in-game advertising study, Vermeir et al. (2014) found that when there was a good fit between a game and a brand, brand recall and brand evaluations were higher (albeit only when consumers experienced higher levels of game-induced flow). In another study, Herrewijn and Poels (2013) found that the more difficult the game becomes, the less likely a brand placement is to be remembered and the less positive brand placements have been evaluated.

### *Player characteristics*

Finally, also player characteristics can influence the effectiveness of gamified advertising effects. Among the most studied player characteristics are characteristics related to the susceptibility of young consumers (e.g., age, cognitive capabilities, dispositional advertising literacy). This is important because young consumers are believed to be particularly susceptible to gamified advertising because of their underdeveloped cognitive skills (i.e., executive functioning and emotion regulation; Rozendaal et al. 2011). Several studies published in IJA have focused on the effects of gamified advertising on children (Neyens, Smits, and Boyland 2017; Rifon et al. 2014; Van Reijmersdal et al. 2015; Vanwesenbeeck, Walrave, and Ponnet 2017). Even though these studies did not compare the effects of gamified advertising between children and adults, the aforementioned meta-analysis of advergame effects (Van Berlo, Van Reijmersdal, and Eisend 2021) did find that, for advergames, the relative effect sizes of studies among children were significantly larger than those of studies among adults. Advergames thus have a larger persuasive impact on younger consumers than on older consumers. These findings are in line with the persuasion knowledge model (Friestad and Wright 1994) and support the notion that consumers' understanding of, and abilities to cope with, particular types of advertising develop over time. Alternatively, preexisting brand attitudes and behaviors that are strengthened over time could also explain potential differences in persuasive effects between children and adults.

## Future of research on gamified advertising

For the future of research on gamification in advertising, we foresee several avenues that are important to investigate. First, regarding methods, there is a need for longitudinal studies. Key characteristics of gaming are interactive, intense, and often long-lasting exposure (De Hesselle et al. 2021). To capture the impact of enduring exposure to advertising in games, the processes that underlie this impact, and the long-term effects of gamified advertising longitudinal studies are crucial. Only with a longitudinal design, we can test whether processes of gaming indeed precede its effects and also whether

the immediate effects measured in experiments last over time. In addition, qualitative studies on gaming and advertising are needed to gain more in-depth insights into people's motivations to play games with ads and how they appreciate these, as the large body of studies has been predominantly quantitative (for an overview, see Vashisht, Royne, and Sreejesh 2019).

Regarding variables, future research should focus on the persuasive effects of the social contexts of gaming. A popular form of gaming is playing online in larger communities, including massively multiplayer online (MMO) video games, both with friends and strangers (Eklund 2015). Opposing hypotheses could be tested. On the one hand, playing with others may distract from processing the advertising message, but on the other hand, the social context might lead to enhanced conversations about the promoted brands, strengthening persuasion (De La Hera Conde-Pumpido 2017; Herrewijn and Poels 2015).

Not only gaming together but also seeing others play games, has rapidly gained popularity (Sjöblom and Hamari 2017). Influencers who post videos that show them while gaming are among the most popular influencers on YouTube—and also on channels such as *Twitch* and *Caffeine.tv*. With millions of followers, these influencers have the potential to persuade many. The question is how seeing someone play games affects the persuasion process of the viewer. Previous research already showed that seeing someone game can affect brand memory and brand attitudes (e.g., Herrewijn and Poels 2015; Nelson, Yaros, and Keum 2006; Rifon et al. 2014).

A new phenomenon that warrants investigation is advertising in the metaverse (Kim 2021). The metaverse is a three-dimensional virtual world inhabited by avatars of real people (Kim 2021, p. 141). One of the key drivers of the metaverse is the gaming industry (Lee et al. 2021). Key characteristics of the metaverse are social interaction, interactivity, extended reality, embodiment, immersion, and artificial intelligence (Nevelsteen 2018). The metaverse is expected to transform the impact of advertising (Kim 2021), for example, because we can interact with brands via our embodied selves. Therefore, research is needed to develop theories on how gamified advertising in the metaverse affects its users.

Finally, apart from focusing on users and effects, future research may want to focus more on the considerations of advertisers, game developers, platforms, and influencers to engage with gamified advertising. This will help us understand the added value of gamified advertising for the industry and may reveal new developments that are relevant for theory and empirical research in this area.

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## Disclosure statement

No potential conflict of interest was reported by the authors.

## Notes on contributors

***Zeph M. C. van Berlo*** is Assistant Professor of Persuasive Communication at the Amsterdam School of Communication Research, ASCoR, University of Amsterdam. His research focuses on

the effects of gamified branded content, like advergames and branded apps. He also studies the application of virtual reality in commercial and health-related contexts. His work has been published in leading academic journals, like *Journal of Interactive Marketing*, *Journal of Business Research*, and *Journal of Advertising*.

***Eva A. van Reijmersdal*** is Associate Professor of Persuasive Communication at the Amsterdam School of Communication Research, ASCoR, University of Amsterdam. Her research focuses on the processing and effects of sponsored content on children and adults. In addition, she examines how children and adults can be informed about sponsored content using disclosures. Her work has been published in many academic journals, including *International Journal of Advertising, Computers in Human Behavior* and *Journal of Youth and Adolescence*. Van Reijmersdal regularly appears in national and international media as an expert on sponsored content and consumer protection.

***Martin K. J. Waiguny*** is Professor of Consumer Behavior and Marketing at the IMC University of Applied Sciences Krems and currently the Academic Head of the university. His research addresses mainly our behavior with new media like games, social media, and other entertainment formats. Furthermore, he researches children's consumer behavior. The *Journal of Advertising*, *Media psychology*, *Young Consumers*, *Australasian Marketing Journal* among others are outlets where this research is published.

## ORCID

Z. M. C. van Berlo http://orcid.org/0000-0002-1008-8654
E. A. van Reijmersdal http://orcid.org/0000-0002-3950-3524
M. K. J. Waiguny http://orcid.org/0000-0003-3091-3698

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