CUSTOMER EXPERIENCE IN GAMIFIED COMMERCIAL WEBSITES: THE IMPACT OF GAME DIFFICULTY AND GAMEPLAYS

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Abstract

Despite companies' increasing use of video games and advergames to interact with customers, gamification literature has so far barely explained how the gamification of a commercial website and the degree of difficulty of the games inserted in the website may affect online customer experience. To address this gap, and based on the flow theory, this paper analyses what effect inserting promotional advergames into websites has on online customer experience and customer behaviour, i.e., website traffic, intention to recommend, and intention to buy. It also explores the impact of game difficulty and its presentation through gameplays. We conduct two experiments with websites and advergames created ad hoc for this purpose. Results provide evidence on how gamification improves customer experience, website traffic and, indirectly, the intention to buy and recommend the website. The difficulty of the game is seen to increase user predisposition to recommend the website, whilst the introduction of gameplays does not improve the experience in an advergame context. Finally, e-commerce designers are advised to include promotional advergames that pose a difficult challenge. These challenges encourage users to recommend the website, and they increase traffic and the time spent on the site, without negatively affecting sales.

Keywords

Website gamification; customer experience; advergames; difficulty; streaming; illustrative gameplays

1. Introduction

In recent decades, the video game industry has grown exponentially. Gaming possibilities are no longer limited to consoles or computers that only interest a marginal part of the population. Nowadays, everyone has a device in their pocket that can provide access to thousands of games. This trend will continue to increase, and the global video game market is expected to reach $218 billion by 2024 (Newzoo, 2021). There is no reason to expect interest in gaming and the aforementioned growth of the video game industry to slow down, and companies will be able to take advantage of this by applying the same mechanisms that engage gamers to marketing activities. This practice is known as gamification (Huotari & Hamari, 2017), and it has attracted interest from marketing practitioners and academics alike (Deterding et al., 2011; Hamari et al., 2014).

One field in which gamification can help to improve user experience is in website design. In recent years, website gamification has grown, mainly thanks to the gamification of promotions they contain. When visiting any domain, rather than giving direct discounts some e-commerce sites propose winning these by completing quizzes (fabletics.com provides first-time visitors with a special offer that can be obtained after answering a quiz about sportswear preferences), with a small wheel which, when spun, gives users the chance to win exclusive discounts for a limited time (belivehotels.com introduced a prize wheel to obtain different discounts on bookings), or with a "scratch card" (Hock et al., 2020). In addition to gamification that does not involve a challenge or games of chance, another practice is to include promotional advergames in the website, i.e., video games that include a challenge and require active consumer participation, such that playing the game provides rewards in the form of exchangeable points or discounts. For instance, Ted Baker activated Valentine's Day' sales with an advergame of skill and speed, where players collected goodies to gain points and win prizes. Molton Brown also introduced a

simple online game where users had to ‘throw’ snowballs at gifts and catch them in sleighs to win prizes (see more examples in https://smack.agency).

Advergames seek to provide a powerful message for the brand advertised, to achieve greater web traffic, and to become viral (Okazaki & Yagüe, 2012; Terlutter & Capella, 2013; Tuten & Ashley, 2013; Renard & Darpy, 2017). Moreover, a positive experience with the advergame might thus translate to a better perceived experience with the website and to user behaviour. Achieving these objectives may depend on game design. Although usually easy to play, advergames can be designed with a greater degree of difficulty, challenging consumers to win the promotions and placing them in a more real game-like context. The more demanding the advergame, the greater the consumer interest might be and the greater the likelihood of users sharing the challenge with others. A promotional advergame could be a motivation to play and spend time on the website, yet might also prove to pose a barrier to further shopping, particularly when the challenge is difficult. We therefore wonder whether incorporating advergames into online sites - including difficult promotional advergames on e-commerce sites - improves customer experience and encourages customers to buy, or whether, on the other hand, it might discourage them from continuing with the purchase.

In line with the recent evolution of the video game industry, in which video games are released with a video showing their gameplay, some authors have already highlighted the motivations of watching other people play (Sjöblom & Hamari, 2017; Gros et al., 2017; Cheung & Huang, 2011). It is reasonable to think that this motivation aroused by gameplays in video games can be extended to the field of gamification, especially if advergames are more difficult to play. However, there are as yet no studies in this regard.

Despite the increasing use of this gamification technique on websites, only a few studies have explored gamification applied directly to websites (Farzan et al., 2008; Hamari,

2017; Müller-Stewens et al., 2017; Hsu & Chen, 2018), and analysis of what effects advergame difficulty might have on consumer experience in websites remains scarce (Gutt et al., 2020). Furthermore, these studies focus on the overall gamification of the website and not on the gamification of the process for obtaining promotions and other rewards.

The objective of this work is therefore twofold. First, the aim is to test how the inclusion of an advergame on an e-commerce website affects user behaviour by enhancing customer experience. Second, this research seeks to analyse how the degree of difficulty influences both the customer experience through the challenge/skills binomial, as well as user willingness to recommend and buy, and to evaluate whether including an illustrative gameplay can improve the experience in the context of more difficult advergames. In this research, we conduct two experiments: a field experiment in a real shopping context, and a laboratory experiment. Both experiments are carried out on websites gamified with advergames.

This study mainly contributes to the literature on customer experience under gamified conditions (Yang et al, 2017; Mulcahy et al, 2020), while advancing the study of the effects of gamification in isolation (Seaborn & Fels, 2015). The present work also contributes to developments in gamification design with new techniques to produce more engaging and enjoyable experiences (Rapp et al., 2018) by varying the difficulty of the game and the way in which it is presented (illustrative gameplays).

The paper proceeds as follows. First, we conceptualize website gamification in the context of e-commerce. We then develop our hypotheses on how website gamification with advergames affects user experience and behaviour, and we discuss the role of game difficulty and illustrative gameplay. We next present two experiments that examine the effect of e-commerce gamification in a real scenario and in a laboratory context. Finally,

we summarize the main findings, describe the theoretical and managerial implications, and offer some future research directions.

2. Conceptual framework and hypotheses

2.1. Gamification of commercial websites

The competitiveness of a commercial website depends on designers' ability to coordinate both visual and verbal work in their sales or landing pages in order to turn visitors into buyers. Gamification can be of great help in this process since it facilitates consumer engagement and brand attitudes (Tuten & Ashley, 2013; Yang et al., 2017) and can increase consumer conversion rate (Hock et al., 2020). Indeed, gamified commercial websites are those that include game mechanics or full-fledged games - mainly advergames - which users must go through during the purchasing process in order to obtain information, discounts, promotions, and other advantages.

For the purposes of this paper, we focus on commercial websites that include promotional advergames as the main element of gamification. In these gamified commercial websites users are invited to play a game in order to obtain discounts or promotions, such that their experience and intention to continue shopping will be influenced by the experience and results in the game. By using promotional games, marketers seek to add brand communication elements to content with which consumers engage for entertainment purposes (Wise et al., 2008). Companies can introduce these promotional advergames on the websites easily and may become viral when individuals perceive playfulness and worthwhile prizes (Zhao & Renard, 2018). These promotional games can also improve brand image and brand awareness, as well as provide companies with user data for use in marketing purposes. (Renard & Darpy, 2017).

The existing literature so far has focused on the effectiveness of promotions involving uncertainty and surprise (Laran & Tsiros, 2013; Alavi, Bornemann, & Wieseke, 2015), the conditions under which consumers engage in promotional games (Briley, Danziger, & Li, 2017), the elements of the design that require player skills (Renard & Darpy, 2018), or decision making after winning (Hock et al. 2020). However, few studies have analysed the application of promotional advergames as an element to gamify websites or their impact on the online customer experience when interacting with them. In fact, only a few studies have explored gamification applied directly to websites (Table 1).

Insert Table 1 here

As noted, existing works on website gamification do not focus on the gamification of the process for obtaining promotions and other advantages, but on overall website gamification. Furthermore, although some works measure specific aspects of the online experience, such as customer playfulness (Bittner & Shipper, 2014; Müller-Stewens et al., 2017; Zhao & Renard, 2017), entertainment (Hsu & Chen, 2018), usefulness (Hamari & Koivisto, 2015; Mulcahy et al., 2020) or social connectedness (Yang et al., 2017; Jang et al., 2018; Wolf et al., 2019), they fail to provide a holistic view of the online customer experience. Moreover, they focus on the experience with the game or with the game elements and do not look at how gamification can affect the holistic web experience.

2.2.Gamified commercial websites and online customer experience

Due to the absence of physical interaction, customers evaluate their experience with the website based solely on the elements of its design, unlike what they would do if in a traditional retail store (Bleier et al., 2019). Consumer experience is understood to be a multidimensional concept that includes cognitive, affective, sensory, social, and behavioural aspects (Lemon & Verhoef, 2016). In line with this, in the present study we draw on the proposal of Bleier et al. (2019) to conceptualize consumer experience on a

website from four dimensions: cognitive (informativeness), affective (playfulness), sensory (attractiveness or sensory appeal), and social (presence).

Web informativeness is the cognitive dimension of online customer experience and is defined as the degree to which a website presents information in a clear and useful way, helping customers to learn about the product and even to make purchasing decisions. In this line, Mulcahy et al. (2020) demonstrated, through an application to promote sustainable consumption, that some game mechanics enable users to obtain more information.

Playfulness refers to the intrinsic enjoyment that comes from absorbing activities which offer an escape from day-to-day routine (Mathwick et al., 2001; Zhao & Renard, 2018; Hwang & Choi, 2020). It involves two subdimensions: entertainment and escapism. Any element of gamification ultimately aims to entertain. As several researchers have highlighted (Hamari & Koivisto, 2015; Müller-Stewens et al., 2017; Zhao & Renard, 2018; Mulcahy et al., 2020) including gamification in an activity or service provides a playful value to the user. Likewise, games themselves are a source of escapism for users. Each element is designed to provoke that flow sensation in which nothing else matters but the game (Berger et al., 2018; Hwang & Choi, 2020).

Sensory appeal is the way in which beauty or aesthetically pleasing stimuli are perceived (Bleier et al., 2019). Presenting content through aesthetics and an appearance that includes gamified elements can enhance users' experience by providing them with sensations - mainly visual - that are more pleasant than those experienced when game elements are absent. Müller-Stewens et al. (2017) demonstrated that the active role which users play when interacting with a gamified presentation enhances the way it is experienced and its vividness and Sutcliffe & Hart (2017) reported how the interactivity of a website can improve the attractiveness that users report.

Finally, social presence refers to the human contact that can be perceived when interacting with the website. Some gamification features can contribute to users perceiving greater social interaction, such as in-game chats, teamwork, contests with other users or rankings. Including mechanics that allow the comments, blogs and social networks of other users of the same game to be read can also give players a feeling of unity, shared ideas or group membership (Francisco-Aparicio, et al., 2013). In this sense, Tuten & Ashley (2013) report that advergames which enable social interaction result in more positive responses to the brand. In the context of gamified mobile exercise apps, Hamari & Koivisto (2015) and Jang et al. (2018) proved that an increased level of social integrative benefits leads to a higher level of behavioural engagement.

Therefore, it can be assumed that the gamification of commercial websites with advergames will lead to a better user experience in its different dimensions:

> H1. Individuals who interact with a gamified commercial website with advergames will report a better online experience than those who interact with a non-gamified website.

2.3. Gamified commercial websites and behavioural outcomes

According to the self-determination theory (Ryan & Deci, 2000, 2002), gamification provides users with intrinsic and extrinsic motivations. As regards intrinsic motivation, games induce players to demonstrate self-efficacy (autonomy), a desire to acquire and develop skills (competence), and a desire to relate to other players (relatedness). As for extrinsic motivation, people engage in gamification activities in order to earn points, badges, or other rewards (Tobon et al., 2020). These motivations activate user behaviour. In the context of websites, Hamari (2013, 2017) shows how the inclusion of badges on a peer-to-peer trading website could increase user activity level, and Müller-Stewens et al.

(2017) show how the presentation of information in a gamified way increases individuals' adoption of innovation.

One of the behavioural outcomes derived from the use of advergames in e-commerce is web traffic. Just as physical stores are located on main streets and seek to motivate people to enter and discover what is inside, web traffic seeks to attract visitors from other sites to discover their content. Achieving a high volume of traffic is also important for a website if it also earns revenue by selling advertising space (Alpar et al., 2014).

Yet web traffic is not limited to external website sources. Within the website, traffic is also distributed among different pages. Returning to the physical store analogy, the distribution of the physical store is usually designed to ensure that customers go all the way through the store, making sure that they pass close to the products which the store is particularly keen to sell. The same thing happens on a website. In addition to visiting the website, there are products or pages that have higher conversion rates than others; that is, their sales rate is much higher than the rest of the pages of the same domain. It is therefore important that all the traffic which reaches the website is redistributed and ends up taking the visitor at some point to those pages that have a higher conversion rate.

Gamification has a motivational component that influences individuals' intrinsic and extrinsic psychological motivation (Sailer et al., 2017; Kim & Ahn, 2017; Wolf et al., 2019; Xi & Hamari, 2019). Driven by this motivation, individuals interacting with a gamified website will be more inclined to visit a greater number of pages or spend more time on the web. It has been shown how individuals who play games or have fun report higher levels of curiosity (Trevino & Webster, 1992), which will drive users to want to learn more and keep browsing the website. In this sense, incorporating a complete game, such as an advergame, can invite users to visit other sections for different reasons: specific

questions they have to solve, clues to solve certain puzzles or even the game itself being accessible from that page. Therefore, we propose:

> H2. Commercial website gamification with advergames will have a positive effect on traffic within the website.

Online user experience has been shown to have a strong influence on online consumer behaviour (Bilgihan et al., 2013). Thus, the improved experience derived from gamification will also have a positive effect on behavioural variables. This mediating effect of user experience on the relationship between gamification and behavioural outcomes has already been studied in the gamification literature (see Table 2).

Insert Table 2 here

However, until now research has not explored how including an advergame in an e-commerce website can affect user experience, not only when interacting with the game but in the website experience as a whole, such that the experience may stimulate recommendation and intention to buy - two variables widely used to measure user intentions on websites (Finn et al., 2009; Yusuf et al., 2018; Ye et al., 2019).

As proposed, when individuals are browsing an e-commerce website and discover an advergame to play, they will experience greater pleasure on the website than in normal conditions. If this experience is better in terms of information, playfulness or sensorial appeal, individuals will feel the intrinsic motivation to interact with other potential users and will be eager to recommend e-commerce websites they have enjoyed. Moreover, the expectation of gaining rewards is an extrinsic motivation that encourages the individual to play and, eventually, to buy. As a result, if the experience has been positive, they will show greater purchase intention (Bittner & Schipper, 2014; Bleier et al., 2019). Therefore,

H3. Online customer experience mediates the effect of a gamified commercial website with advergames on the intention to recommend the website (H3b), and the intention to buy the product/service (H3c).

2.4. Game difficulty

When commercial website gamification is executed by means of advergames, the success of the gamification will be related to the characteristics of the game. There is a wide variety of games, i.e., different genres of games that can be played on different platforms and for different purposes (Connolly et al., 2012). Whatever the genre, a game may be more or less attractive to the user depending on the degree of difficulty.

The difficulty of an advergame can affect the online customer experience on the gamified web. It can impact the online customer experience in two ways. First, the degree of difficulty increases the perceived challenge for users, i.e., the perception of obstacles embedded in games that require advanced skills (Huang et al., 2018). Second, difficulty reduces the perceived competence, i.e., the feeling of having skills and being competent or capable of overcoming the obstacles and finishing the game.

In the field of learning, some authors have already pointed out how the lack of challenge can reduce learner engagement and, conversely, how more difficult subjects can trigger less engagement (Yazzie-Mintz, 2007; Shernoff, 2013). This effect is explained by the flow theory (Csikszentmihalyi, 1975), which holds that the optimally balanced combination of challenge and skills leads to a flow state. Thus, a game that does not prove to be a challenge for users will lead to boredom or apathy towards it. In contrast, a game that is too difficult or one in which users do not feel they can achieve the necessary skills to succeed will result in anxiety, rejection or abandonment.

Several authors have worked on this challenge/skills binomial in the gamification literature. Interfaces designed with challenge mechanics have been shown to provoke more compelling experiences (Poncin et al., 2017) and to have a positive effect on perceived information and entertainment (Mulcahy et al., 2020). Hamari et al. (2016) showed how both skills and challenge have a positive effect on individuals' engagement and immersion.

However, challenge and skills are not perceived equally by all users. More experienced players will find the same game less challenging and will feel they possess the skills to complete it to a greater degree than an inexperienced player. Achieving an optimal challenge in the game avoids boredom or anxiety, positively predisposes the user and, as a result, has an impact on user engagement and leads to a better perception of the online experience (Berger et al., 2018). The user's involvement in the game will not only bring entertainment or diversion, but also a greater appreciation of the aesthetic, informative or social aspects of the web.

Thus, we propose the following hypothesis:

> H4. The effect of advergame difficulty on online customer experience is positively mediated by the perceived challenge (H4a) and negatively mediated by the perceived competence (H4b).

The difficulty of the advergame can also influence user behaviour. Berger & Milkman (2012) noted how users shared content to entertain others, surprise them or improve their own reputation. In line with this, a difficult advergame is more likely to be shared by individuals who have discovered it on a website. They will share it because of the chance it offers to test and challenge others. Renard & Darpy (2017) showed that a game requiring player skill will increase the intention to invite friends to join the game.

On the other hand, increased difficulty will lead to more frustration, and individuals may not manage to complete the game. In the context of a promotional advergame that offers rewards, users will perceive that they have not obtained the same benefits as other consumers who have been given discounts. Therefore, we hypothesize:

> H5. Advergame difficulty has a positive effect on website recommendation (H5a), and a negative effect on the intention to buy (H5b).

2.5. The use of illustrative gameplays

In the video game industry, previewing the game through a video is the mechanism used today to attract potential users and to show the game's playability. These kinds of video are known as video-gameplays and allow potential players to gain an idea of what to expect when interacting with the game (Sjöblom & Hamari, 2017). Most video games are presented by using a gameplay that shows what the game looks like when interacting with it.

Watching other people playing video games is nothing new. Back in the 1950s, in the arcades, people grouped around a single screen to watch other players playing games (Newman, 2004). In the online context, this kind of behaviour is taking on great importance thanks to the emergence of platforms such as Twitch, Youtube Gaming or Mixer, among others. In recent years, this behaviour has attracted the interest of scholars with regard to topics such as what motivates users to watch others playing video games (Sjöblom & Hamari, 2017; Gros et al., 2017; Sjöblom et al., 2017; Xu et al., 2021). However, what has not yet been explored is how this growing trend of watching other people playing video games can be used to achieve marketing goals in the context of advergames.

The inclusion of a game video or gameplay has been related to certain dimensions of the customer experience. The motivation behind watching other people playing video games is to have fun and be entertained (Gros et al., 2017) and because of the need for escapism (Hamari & Sjöblon, 2017). In terms of information, this dimension has been shown to be one of the main motivations for using online media (Whiting & Williams, 2013). Moreover, it is the major reason why users start watching streams on platforms, such as Twitch (Hamilton et al., 2014). The social factor of watching others playing video games has also been extensively studied (Hamilton et al., 2014; Gros et al., 2017; Hu, Zhang, & Wang, 2017; Wu & Gao, 2019). Bleier et al. (2019) highlighted that the best way to build sensory experiences is to employ a video that uses dynamic audio and visuals. Based on this, we propose the following hypothesis:

> H6. Users who are presented with gamification through illustrative gameplays will report a better online experience than participants who only have the gamification available.

This technique used in the video game industry can be used to mitigate the trade-off between skills and challenge when the difficulty of the game increases. According to the flow theory (Csikszentmihalyi, 1975), having some initial guidelines to start playing and seeing someone playing the game will make users perceive less of a challenge, as they will know what to do to master the game and what to expect from it. They will also feel more skilled to complete the game as a result of having seen someone playing and of having learned the basics (Sjöblom & Hamari, 2017; Tang et al., 2020). Thus, presenting gamification with an illustrative gameplay will increase the level of perceived user competence, such that it will then improve the online experience. However, gameplay reduces the level of perceived challenge, such that it may contribute negatively to online customer experience. Therefore,

H7. The effect of illustrative gameplays on online customer experience is negatively mediated by the perceived challenge (H7a) and positively mediated by the perceived competence (H7b).

Insert Figure 1 here

3. Empirical Analysis of the Case Studies

We present two studies to examine the proposed hypotheses. The purpose of Study 1 is to provide evidence of how the gamification of an e-commerce website through the inclusion of an advergame can affect customer experience and behaviour in the real shopping context of a product sales website. Hence, in Study 1 we examine the effect of an advergame on the customer's experience on e-commerce websites (H1), on the traffic in the websites (H2), and on the intention to recommend the website and to buy there (H3).

Study 2 analyses the impact of advergame difficulty on the online customer experience and on customer behaviour. Specifically, it explores how the challenge-skill binomial mediates the effect of the game difficulty on the customer experience (H4) and the effect of difficulty on customer intention to recommend the website and to buy the promoted products (H5). It also explores how the inclusion of an illustrative gameplay can improve the customer experience (H6) and the effect on customer behaviour through new perceptions of challenge and competence (H7).

3.1 Study 1

3.1.1 Design, stimuli, and procedure

In order to contextualize the experiment in a real scenario, we designed and launched a new e-commerce website to sell basic t-shirts with embroidered text (https://quotee.es/). The website content consisted of the product (t-shirts) presentation and the shopping cart,

the presentation of the brand on Instagram and information about sales promotions (a temporary special offer and an additional discount for registering on the web and creating an account).

Website gamification was manipulated by means of advergames. Taking into account that the game genre can affect the experience, we designed two different advergames to control its effect. We created three experimental conditions: (1) the standard website *without an advergame*, that included a temporary 15% discount offered through a pop-up that appeared when browsing the web; (2) a gamified website with the special offer (15% discount) won through a *skills advergame* that consisted of collecting the isotype of the brand while dodging different obstacles (the special offer was found within the game and on the final screen); and (3) a gamified website with the special offer in a *memory advergame* in which customers had to remember pairs of cards, some of which contained the promotional codes. In the two gamified conditions, individuals were invited to play in order to obtain the discounts (Appendix A).

Data were collected over a period of 15 days in July 2020. Each level of treatment was applied over a period of approximately five days. Customers were taken to the website through advertising on social networks using the Facebook Ads platform and special offers of micro-influencers. When browsing the web for several minutes they were offered the chance to answer a questionnaire in exchange for free shipping costs on their next purchases. Both techniques of attracting web traffic recorded 3,691 visits and a total of 177 responses to the questionnaire, all of them from Spanish-speakers, of which 133 were valid (M_{Age} = 23.32, SD_{Age} = 3.91; 76.1% female; N_{no_adver} = 44, N_{adver_skills} = 47, N_{adver_memory} = 42).

3.1.2 Measurement

For this experiment, online customer experience was measured as a multidimensional construct built on four dimensions: information, playfulness-entertainment, playfulness-escapism, and sensory appeal. Since individuals have no social interaction when browsing the web, in this study we did not consider social presence. To measure each dimension of customer experience, we took items adapted from Bleier et al. (2019) and Zhao and Renard (2018) on a 5-point Likert scale. To measure the accuracy of these constructs, a confirmatory factor analysis was performed, with the results indicating a good model fit ($\chi^2(29)=24.378$ p=0.710, GFI=0.965, AGFI=0.933, CFI=1.000, RMSEA=0.000). Cronbach's alpha values are above 0.80, indicating internal consistency. In addition, the average variance extracted (AVE) from all constructs exceeds 0.60, and composite reliability (CR) is above 0.80. Convergent validity was supported, with loadings above 0.7 (see Appendix B).

There are two useful metrics for explaining traffic within the website: time spent on the website and the average number of pages per visit. We asked on an ordinal scale from 1 to 5 how long visitors had browsed the website before answering the questionnaire (see Appendix B). We also extracted the average time spent on the website per visit from Google Analytics, and the average number of pages visited by each user (measured as the percentage of the total, since the gamified website had one more page than the standard). Finally, we asked respondents about their intention to recommend ("Will you recommend the website to your friends?") and intention to buy ("Do you intend to buy at Quotee?"), with responses ranging from Not at all (1) to Yes, I am totally determined to (5).

3.1.3 Data analysis and results

First, we examined the effect of website gamification on the three dimensions of online customer experience. Multivariate analysis of variance (MANOVA) results show significant multivariate positive effects between advergame and customer experience

variables (Wilks's $\lambda = 0.912$, $F = 2.455$, $p = 0.037$), with the results supporting H1. We also examined inter-subject effects and found differences in entertainment ($M_{no\_adver}=3.46$, $M_{adver}=3.81$; $F=3.777$, $p=0.054$), escapism ($M_{no\_adver}=3.01$, $M_{adver}=3.51$; $F=5.134$, $p=0.025$), and sensory appeal ($M_{no\_adver}=3.56$, $M_{adver}=3.90$; $F=3.693$, $p=0.057$) but not in information ($M_{no\_adver}=3.61$, $M_{adver}=3.70$; $F=0.283$, $p=0.596$).

We also found a significant effect on time on the website ($M_{no\_adver}=2.68$, $M_{adver}=3.12$; $F=7.590$, $p=0.007$), thereby supporting H2. In addition, data obtained from Google Analytics also lends support to this hypothesis. Users who visited the gamified website spent an average of two minutes and 10 seconds browsing, while those who interacted with the website without gamification spent one minute and 44 seconds. In addition, users visited 17% more pages per session in the gamified condition (68% vs. 51% of the total pages on the website). We also tested for differences between the two types of advergames, but failed to find any significant effects either on customer experience or on the intention to recommend and to buy.

Finally, we examined the mediating effect of online customer experience on the intention to recommend the website and the intention to buy (using Smart PLS). Online customer experience was treated as a second order multidimensional concept. Both indirect effects were significant: B=0.065, p=0.042 for the path Advergame → Customer Experience → Intention to recommend; and B=0.057, p=0.052 for the path Advergame → Customer Experience → Intention to buy. Therefore, we found support for H3. We also included gender as a control variable, with the results revealing that men showed a greater intention to buy.

3.1.4 Conclusions of Study 1

The results of Study 1 provide evidence of how website gamification with an advergame can lead to an enhanced customer-reported experience. However, while we observed that

gamifying a website affects playfulness and sensory appeal, it does not seem to have a significant effect on the information acquired. Although previous research suggests that gamification provides more information to consumers in some contexts, such as new product launch (Müller-Stewens et al. 2017; Hsu et al. 2017), in the context of promotions, the information provided by advergames is insignificant. This result may be due to the context in which the experiment was carried out, since the information provided (products, prices, possible discounts) was simple and obtained quickly. In this case, a gamified tool barely contributed to better assimilating the information that could be deemed necessary.

Our argument that gamification increases web traffic within the website, both in terms of time and number of pages visited, is also supported by user response to the questionnaire and by Google Analytics results. Consistent with our arguments, customer experience also mediates the relationship between website gamification with an advergame and customer intention to recommend the website and to buy on it.

Since ours was a field experiment in a real context, it should be noted that users interacted with the website without knowing that they were part of an experiment and that they had been assigned to a random experimental group. In addition, the interaction with the advergames in the gamified conditions was voluntary, even though discounts were offered. Therefore, not all the subjects in the experimental group with gamification necessarily interacted with the game. Another limitation is that, for reasons of website design and sales style, the social presence dimension was not taken into account. This limitation is corrected in the next study.

3.2. Study 2

3.2.1 Design, stimuli, and procedure

To test the proposed hypotheses, we designed an ad hoc website that promotes a fictitious natural energy drink (Gorilla) and that included a promotional advergame also designed for this purpose. The game was a basic platform, with five levels, in which users had to complete each level before losing all their energy (the time given to complete the level). When they lost, they automatically re-started the level so that they could try again (see appendix A). Participants obtained the promotional code if they finished the five levels.

The experiment was carried out with a 2 (high vs low difficulty) x 2 (without illustrative gameplay vs with illustrative gameplay) design. The degree of difficulty was manipulated through the time (energy) given to complete the levels (less time in the difficult version) and the penalty for errors (a greater penalty in the difficult version). The gameplay was presented with an experienced player (content creator) who showed in his Twitch channel how to progress in the game.

Data were collected in May 2021. The sample consisted of a total of 128 undergraduate students from Spain (M_{Age} = 20.95, SD_{Age} = 2.410; 58.6% female) who were recruited for an online experiment and assigned to one of the four experimental conditions. Despite being a convenience sample, students are appropriate research subjects for the purposes of our study since the latter was conducted in a laboratory context, and young people represent consumers who are familiar with online shopping processes and the use of videogames. Moreover, a sample of students can enhance research validity because of their homogeneity in terms of age and education (Peterson and Merunka, 2014).

The experimental procedure was as follows: first, participants in the illustrative gameplay condition visited a Twitch channel where they watched on livestream how the content creator played the Gorilla game and tried to get the promos. They advanced until halfway into the game. Participants were then given the website link and were told they had 20

minutes to view the website and obtain the special offers, for which they had to play the advergame. Participants in the no gameplay condition started at this second point.

As proof of the different degree of difficulty, 93.5% of participants in the easy version completed the game, compared to 31.8% of those who interacted with the difficult advergame. In addition, users who completed the game did it in less time in the easy version ($M_{low\_difficulty}$ = 5.9, $M_{high\_difficulty}$ = 11.2; F=7.830, p<0.001).

3.2.2 Measurement

At the end of the website visit, participants were asked to answer a questionnaire. We used scales similar to those of Study 1 to measure customer experience, recommendation and intention to buy (in this case "Would you try Gorilla products?"), using 7-point Likert scales. To measure online customer experience, we then considered five dimensions: information, playfulness-entertainment, playfulness-escapism, sensory appeal, and social presence. In addition, we measured perceived challenge ("Obtaining the special offers was not much of a challenge", "Playing the Gorilla game to get a reward made me push my abilities to the limit") and perceived competence ("As I played, I improved and I felt more able to do it" "I feel able to complete games like this"). The results of the confirmatory factor analysis indicated an adequate model fit ($\chi^2(86)=110.74$ p=0.023, GFI=0.908, AGFI=0.849, CFI=0.973, RMSEA=0.051), and the reliability values (Cronbach's alpha, CR, and AVE) indicate internal consistency. Convergent validity was supported since the loadings of the measurement model are significant and above 0.6 (see Appendix B).

3.2.3 Data analysis and results

We analysed the effects of advergame difficulty on customer experience with a MANOVA, with the results showing no significant differences (Wilks's λ = 0.985, F =

0.467, p = 0.760). We also performed an analysis of variance to test the effect of difficulty on intention to buy (M_{low}=3.54, M_{high}=3.50; F=0.069, p=0.793) and found that it was not significant (we reject H5b), although we did observe a significant effect on recommendation (M_{low}=4.74, M_{high}=5.23; F=3.834, p=0.052), as proposed in H5a.

We also ran another MANOVA to test the effects of including a gameplay on customer experience. Results show significant multivariate effects between advergame and customer experience variables (Wilks's $\lambda = 0.904$, F = 2.580, p = 0.030). The inter-subject effects indicate differences in entertainment ($M_{gameplay}$=6.07, $M_{nogameplay}$=5.72; F=4.057, p=0.05), escapism ($M_{gameplay}$=5.56, $M_{nogameplay}$=5.98; F=4.561, p=0.03), and social presence ($M_{gameplay}$=4.56, $M_{nogameplay}$=5.26; F=10.620, p=0.001), but not in sensory appeal ($M_{gameplay}$=5.88, $M_{nogameplay}$=6.16; F=2.560, p=0.112) or information ($M_{gameplay}$=5.28, $M_{nogameplay}$=5.40; F=0.375, p=0.541). These results go against what was hypothesized in H6, therefore leading us to reject said hypothesis.

In order to test the mediating effects, we then estimated a structural model considering direct and indirect effects. For this purpose, online experience was considered as a second order construct with five dimensions. Discriminant validity of the constructs in the model was supported since the square root of the AVE for each construct exceeds the correlations between the construct and other constructs (Table 3). The estimates of the structural model are shown in Figure 2 and Table 4. We also estimated the model including gender as a control variable. Women showed lower levels of perceived competence, intention to buy, and intention to recommend, and higher levels of perceived challenge, although these effects did not change the significance of the other relationships.

Insert Table 3 here

Insert Figure 2 here

Insert Table 4 here

The perceived challenge positively mediates between advergame difficulty and customer experience (thus, supporting H4a), while the mediation of perceived competence is negative (supporting H4b). We also observe that the positive effect of difficulty on customer experience through the challenge is suppressed by the negative direct effect, and by the negative effect through competence. The null effect of difficulty on customer experience translates into a null indirect effect on recommendation and on the intention to buy the product.

According to the flow theory, when the challenge exceeds the individual's competence, they experience stress, and when the competence exceeds the challenge, they feel boredom. Therefore, in order to further examine the dual effect of advergame difficulty on customer experience we divided the sample into individuals who indicated that they had completed the game and those who had not. We tested the difference in the level of perceived competence, and perceived challenge, as well as the level of stress ("Playing the game Gorilla to get rewards has stressed me") and the level of boredom ("Playing the game Gorilla to get rewards was too easy and I found it boring"). Results are shown in Table 5. Individuals who did not complete the game reported higher levels of stress and challenge. On the other hand, individuals who completed the game show higher levels of competence and boredom.

Insert Table 5 here

With regard to hypothesis H7, the perceived challenge is seen to negatively mediate between the inclusion of a gameplay and customer experience (supporting H7a), whilst perceived competence also negatively mediates this relationship, which goes against what was hypothesized in H7b.

3.2.4 Conclusions of Study 2

Study 2 examines the psychological processes by which increasing the difficulty of an advergame can affect customer experience on the web. We show that perceived challenge and perceived skills mediate the relationship between game difficulty and customer experience, such that the effect of difficulty on the overall experience becomes null.

However, the difficulty of the game has a positive effect on the predisposition to recommend the website, although it does not seem to have an effect on purchase intention. In other words, increasing the degree of difficulty has had no negative consequences and can be used to boost the virality of a product without harming its sales.

Furthermore, and contrary to our proposal, results show that the inclusion of a gameplay worsens the customer experience. This may be due to two factors: first, the surprise factor or the novelty effect (Hamari, et al., 2014). Individuals who had no illustrative gameplay discovered something new and unexpected, while the surprise factor disappeared when the gameplay showed the advergame. Secondly, we observe that including a gameplay not only reduces the perceived challenge, as expected, but also the perceived competence, maybe because individuals observed an experienced player who was more skilled than they were. Therefore, adding a gameplay for this purpose does not add value and leads to a worse customer experience.

4. Discussion

The success of online marketers depends on their ability to employ website design elements that provide effective customer experiences which not only provide information but also entertain (Bleier et al. 2019).

The results of the present study show that the gamification of the promotional content of e-commerce webpages favours effective customer experiences in terms of playfulness

and sensorial appeal, in addition to boosting website traffic. This result is in line with Terlutter & Capella's concept of advergame (2013). Said authors propose that the aims of advergames are to deliver a powerful message of the advertised brand and to achieve higher traffic on brand websites. Moreover, when the gamified website provokes a positive experience, the intention to buy in that webpage and the intention to recommend it increase.

Based on the flow theory (Csikszentmihalyi, 1975), we also evaluate how increasing the difficulty of an advergame can affect individuals' experience, mediated by the perceived challenge and skill. In line with previous studies on the flow theory in gamified experiences (Berger et al., 2018; Shernoff, 2013), we show how a balance in the challenges/skills binomial can lead to a better online experience: too much difficulty may improve the perceived challenge, but reduce the perceived competence. Our results demonstrate how difficulty, despite having negative effects on competence levels, increases the willingness to recommend the webpage. Renard & Darpy (2017) showed that the individual's perceived skill resulted in higher levels of advergame recommendation. Nevertheless, our results point to a greater effect of the perceived challenge. Individuals do not recommend a website with advergames because of their own skill, but because of the challenge it may pose to others.

Finally, we observe that the inclusion of an illustrative gameplay in a streaming platform leads to a worse reported customer experience. This result contradicts certain studies which indicate that watching live videos in streaming platforms provides positive experiences (Hamilton et al., 2014; Gros et al., 2017; Hu et al., 2017). One explanation for this result may be that we conducted the experiment in a laboratory context where not all the users were active consumers of streaming platforms and that the content creator/streamer was totally unknown. Another explanation is that gameplays are not

useful in the context of promotional advergames. These games usually have easy rules and mechanics, such that watching an expert player does not improve the knowledge of the game's mechanics, but worsens the perceived competence. Other features, such as tutorials, or very easy levels at the beginning of the game with progressive scaling, may help to achieve a better balance between challenge and skill levels in more difficult advergames.

4.1.Theoretical and managerial implications

From a theoretical point of view, the present study advances our understanding of the effects of incorporating advergames into the buying process. Specifically, this study further contributes to current understanding of the use of advergames in e-commerce and how the gamification of promotional content in e-commerce webpages favours effective customer experiences and boosts some of the most commonly used website metrics. Our analysis contributes to the existing literature on gamification of promotions (Renard & Darpy, 2017; Zhao y Renard, 2018; Hock et al., 2020) and on the website gamification (Farzan el al., 2018; Hamari, 2017; Müller-Stewens et al., 2017; Hsu y Chen, 2018) by introducing the concept of gamified commercial websites and by showing that e-commerce gamification through advergames not only improves the experience but also increases website traffic, sales, and recommendation.

The study also contributes to our knowledge about the impact of some common practices in the video game industry implemented in the case of advergames: difficult games (Hamari, et al., 2016; Berger et al., 2018) and the presentation of the advergame through gameplays (Sjöblom & Hamari, 2017). As for the literature gap regarding the role of difficulty in promotional advergames, this work explores the parallel effects of the perceived competence and challenge that emerge when increasing the difficulty of a game and their influence on the experience. We find that difficult games do not promote sales,

but do impact in terms of attracting new users. The result concerning the impact of gameplays cannot be considered conclusive but does show that the use of gameplays does not seem to be effective in the context of advergames.

Our findings also have important managerial implications. First, we show how gamifying an e-commerce website can improve the enjoyment and involvement reported by users when browsing it and their predisposition to buy and recommend. Inserting a small advergame in a website is easy, need not necessarily affect its aesthetics and structure and can achieve good results in terms of customer experience and behaviour.

Second, the difficulty of the game is not relevant in terms of customer experience or purchase intention but does have an effect on the willingness to recommend the website. This can be used by firms when designing advergames, especially when the main aim is to make the website viral and to encourage users to recommend, and it does not adversely affect sales.

Third, users who browsed the gamified website reported more time on the site on average. According to Google Analytics, users spent 26 seconds longer on average on the website and visited 17% more pages per session. Knowing this can be useful for companies that have problems with fast bounces on their website, or users not getting past the home page. Increasing this traffic will be of enormous benefit for companies, both in sales and in terms of what is generated by advertising space (Alpar et al., 2014).

4.2. Limitations and further research

Our study provides motivations for future research on gamification and websites. As regards gamification, further research should analyse the effect of gamified websites on web-individual interactions in contexts such as the motivation to interact with gamification, the novelty effect or the perceived surprise, the effectiveness of different

types of advergames, or the combination of different elements of gamification in the website. Additionally, cross-cultural analysis would be suitable to prove the external validity of the results and to analyse the differences that may arise from the individual's culture in perceived experience, perceived difficulty or perceived challenge/skill.

Many metrics related to online business have not been considered in the current research. Future studies should evaluate how different gamification elements can affect other metrics, such as willingness to leave personal data or rebound rate, as well as the effects that these techniques can have in the long term.

Finally, further research is required about the effect of advergame presentation through illustrative gameplays. It would be interesting to test the effect of gameplays and streamers on the reported experience in a real context, where consumers are regular followers of the streamer or content creator. Advergames introduced by popular streamers, and watching them play on the website, would more accurately reflect the real context.

5. Conclusion

This study confirms that inserting promotional advergames into e-commerce websites does not bother the users, but offers them entertainment, fun and disconnection from the routine. Eventually, it results in an increase of website traffic, the intention to buy the product, and the recommendation of the webpage. If the promotional advergames are designed with a certain degree of difficulty, the perceived challenge encourages users to recommend the website without negatively affecting sales.

Although in the videogame industry gameplays are used to show the game’s playability and to attract potential users, this mechanism does not work in the case of promotional

advergames. In this context, a gameplay reduces the perceived challenge and the perceived competence and leads to a worse reported customer experience.

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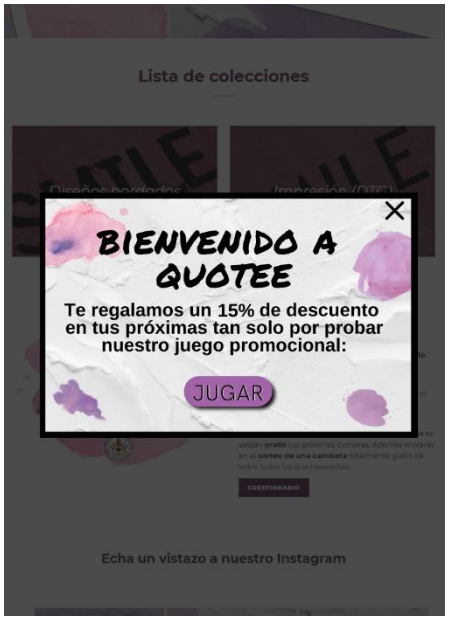
Appendix A

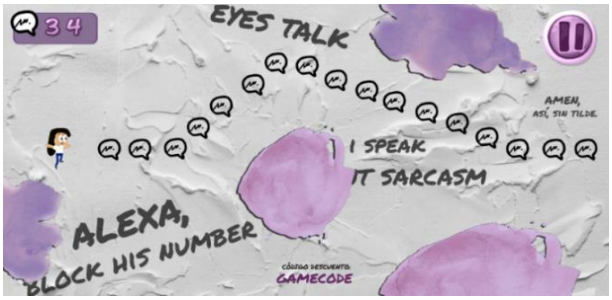
Experimental conditions of Study 1

Condition 1. Website without advergame

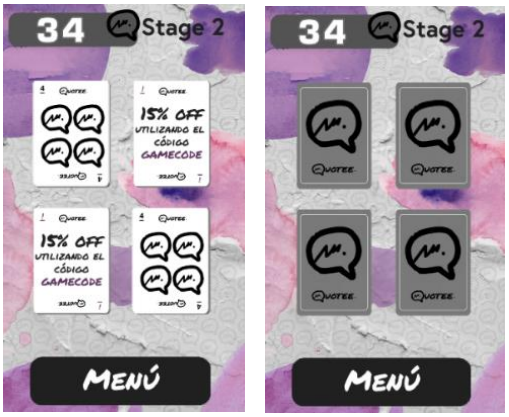
Condition 2. Website with advergame



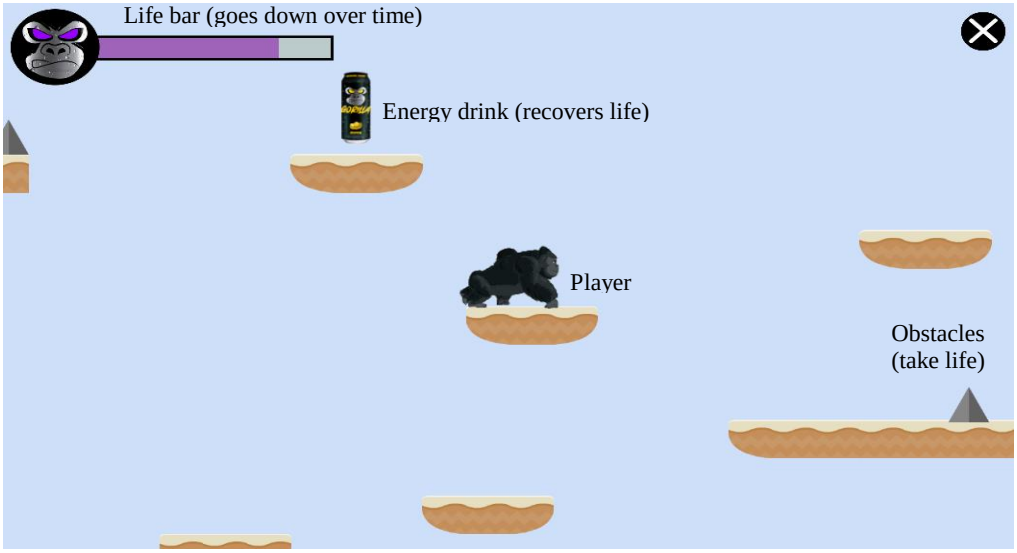
Condition 2a. Skill game



Condition 2b. Memory game



Advergame used in Study 2



Appendix B: Constructs and measures

Study 1

Constructs and measures	*Mean*	*SD*	*Loadings (CFA)*
Information (adapted from Bleier et al., 2019) (α: 0.823; CR: 0.833; AVE: 0.627)			
Quotee's website has allowed me to obtain discount information through several channels	3.41	1.14	0.716
The information obtained about promotions and discounts is useful	3.80	1.06	0.882
The information provided by the website on available discounts helps to make the purchase decision	3.79	1.02	0.768
Playfulness-Entertainment (adapted from Bleier et al., 2019) (α: 0.885; CR: 0.883; AVE: 0.716)			
I found the presentation of the types of discounts on the website entertaining	3.62	1.11	0.836
My experience with the website and the discounts it offers has been fun	3.64	1.06	0.875
I like the presentation of the promotions of this website	3.82	1.05	0.826
Playfulness-Escapism (adapted from Zhao & Renard, 2018) (α: 0.880; CR: 0.863; AVE: 0.759)			
Interacting with the web and getting the different promotions has allowed me to disconnect for a few seconds	3.47	1.29	0.904
Interacting with the website and getting its promotions has allowed me to distract myself from my daily routine	3.23	1.31	0.837
Sensory Appeal (adapted from Bleier et al., 2019) (α: 0.845; CR: 0.849; AVE: 0.737)			
The animation with which promotions and discounts are presented is striking	3.74	1.10	0.888
This website contains discount information that is visually appealing	3.83	0.99	0.828
Time on the website			
How long did you surf the Quotee.es website? a) Less than one minute (1) b) Between 1 and 2 minutes (2) c) Between 2 and 5 minutes (3) d) Between 5 and 10 minutes (4) e) More than 10 minutes (5)	2.98	0.89	n/a
Intention to recommend			
Will you recommend the website to your friends?	3.74	0.92	n/a
Intention to buy			
Do you intend to buy at Quotee?	2.85	0.95	n/a

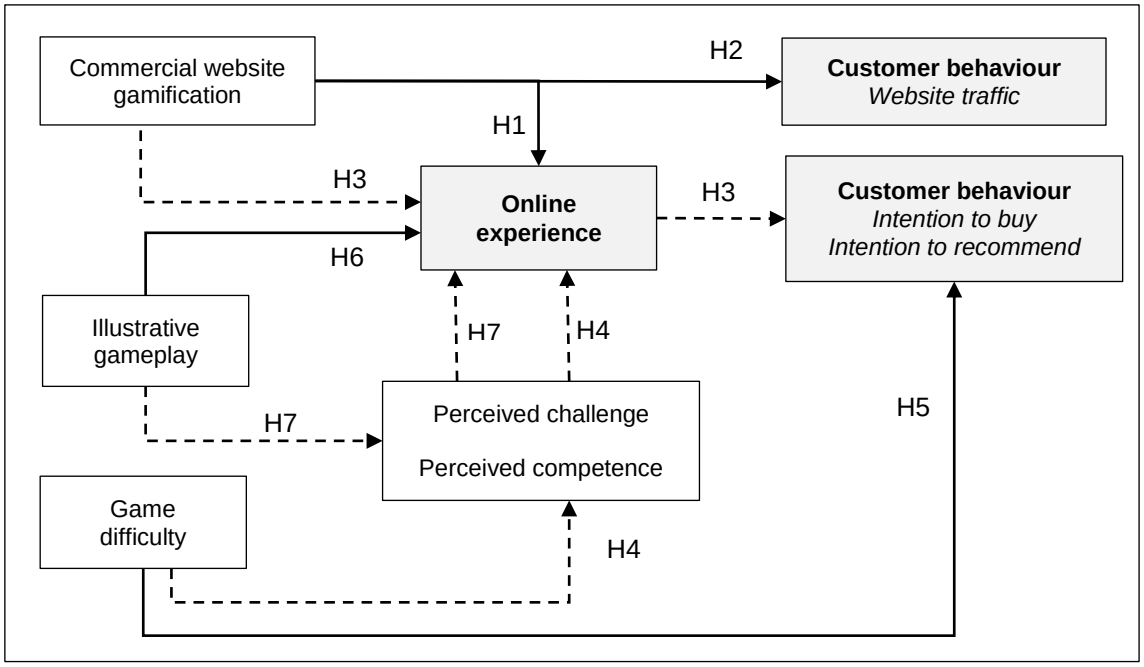
(α = Cronbach's Alpha, CR= Composite Reliability, AVE=Average Variance Extracted)

Study 2

Constructs and measures	*Mean*	*SD*	*Loadings (CFA)*
Information (adapted from Bleier et al., 2019) (α: 0.808;CR: 0.811; AVE: 0.589)			
The way the information is presented has allowed me to be well informed about promotions	5.28	1.39	0.776
The information obtained about promotions and discounts is useful	5.52	1.24	0.796
The information provided by the website on available discounts helps to make the purchase decision	5.23	1.26	0.729
Playfulness-Entertainment (adapted from Bleier et al., 2019) (α: 0.883; CR: 0.879; AVE: 0.708)			
I found the presentation of the types of discounts on the website entertaining	5.95	1.10	0.869
My experience with the website and the discounts it offers has been fun	5.82	1.24	0.830
I like the presentation of the promotions of this website	5.91	1.17	0.850
Playfulness-Escapism (adapted from Zhao & Renard, 2018) (α: 0.861; CR: 0.889; AVE: 0.800)			
Interacting with the web and getting the different promotions has allowed me to disconnect for a few seconds	5.69	1.34	0.846
Interacting with the website and getting its promotions has allowed me to distract myself from my daily routine	5.59	1.39	0.941
Sensory Appeal (adapted from Bleier et al., 2019) (α: 0.751; CR: 0.755; AVE: 0.607)			
The animation with which promotions and discounts are presented is striking	6.09	1.1	0.831
This website contains discount information that is visually appealing	5.95	1.07	0.724
Social Presence (adapted from Bleier et al., 2019) (α: 0.746; CR: 0.801; AVE: 0.681)			
The way promotions are presented creates an up-close-and-personal feel	5.33	1.29	1.000
By interacting with this website and its promotions, I experience human not artificial contact	4.48	1.51	0.603
Challenge (adapted from Hamari, et al., 2016) (α: 0.738; CR: 0.749; AVE: 0.599)			
Getting the web promotions has been a bit of a challenge for me	5.43	1.56	0.801
Playing the GORILLA game to get the promotions has made me push my capabilities to the limit	4.08	1.92	0.746
Competence (adapted from Ryan et al., 1983) (α: 0.688; CR: 0.730; AVE: 0.584)			
The more I played, the better I became and the more I felt I was able to do it	5.59	1.46	0.893
I feel I can complete more of these types of games	5.54	1.79	0.609
Intention to recommend			
Will you recommend the website to your friends?	4.99	1.42	n/a
Intention to buy			
Would you try GORILLA products? a) No, not at all (1) b) Unlikely (2) c) Maybe in the future (3) d) Yes, most likely (4) e) Yes, I am totally determined to (5)	3.52	1.035	n/a

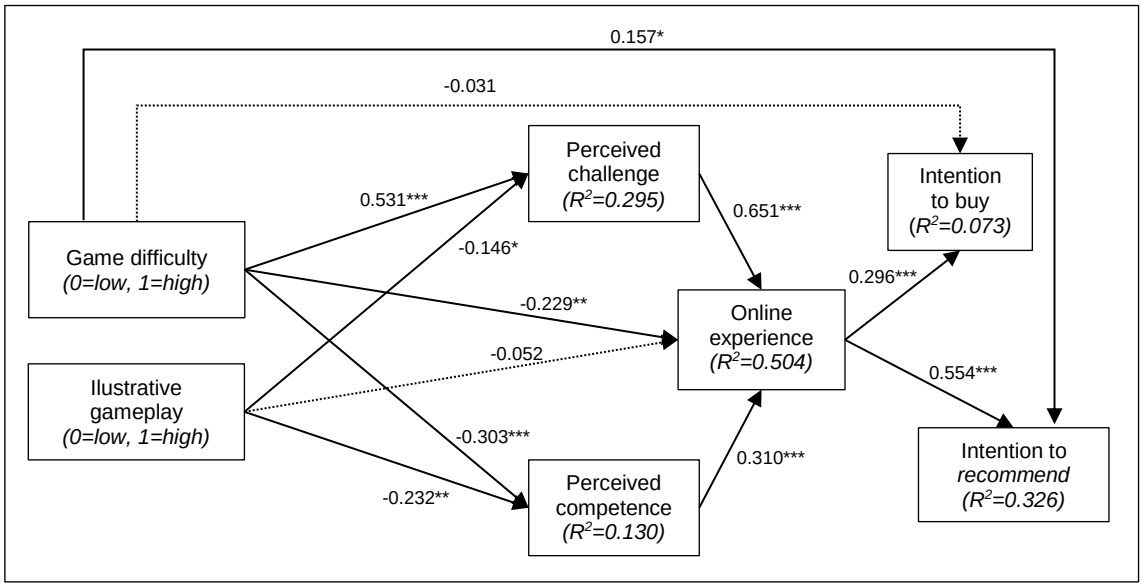
(α = Cronbach's Alpha, CR = Composite Reliability, AVE = Average Variance Extracted)

Figure 1. Proposed hypotheses



* Continuous lines represent direct effects and discontinuous lines mediating effects.

Figure 2. Structural model estimation



***p<0.001, **p<0.01, *p<0.05. Discontinuous lines represent non-significant effects.

Table 1. Website gamification studies

Authors	*Context*	*Independent (I), mediating (M), and dependent (D) variables*	*Results*
Farzan et al. (2008)	A points-based reward system in a website consisting of a social networking site	I: Gamification D: User contributions	Users who were able to earn points through the system increased their contributions to the site. Differences were also observed between types of users in response to the points system.
Hamari (2017)	Adding a badge system to an existing website over a one-year period	I: Gamification D: Participation	Users who participated in the gamification system were more likely to comment on or propose transactions.
Müller-Stewens et al. (2017)	Advergame conveying information about a product innovation	I: Gamified information presentation M: Fun, Curiosity, Vividness, Relative advantage D: Adoption of innovation	The presentation of information in a gamified form increases individuals' adoption of the innovation by stimulating their curiosity for the fun associated with gamification and the perceived relative advantage through the vividness of the presentation.
Hsu & Chen, (2018)	An environmental protection website that uses points, badges and full-fledged games	I: Gamification M: Hedonic value, Utility value D: Entertainment, Interaction, Privacy, Novelty, Attitude towards the brand	Gamification has a positive effect on perceived hedonic and utilitarian value, which in turn increases users' environmental behaviours and increases satisfaction and brand love.

Table 2. Studies of the influence of gamification on customer behaviour, mediated by user experience.

Authors	***Context***	***Dimensions of customer experience***	***Behavioural outcomes***
Bittner & Shipper (2014)	Gamified advertisement	Enjoyment Usefulness	Purchase behaviour
Hamari & Koivisto (2015)	Online service that gamifies exercise	Usefulness Ease of use Enjoyment Playfulness Recognition Social influence	Exercise
Müller-Stewens et al. (2017)	Advergame conveying information about a product innovation	Playfulness	Innovation adoption
Jang et al. (2018)	Gamified mobile exercise app	Epistemic benefits Social benefits Personal integrative benefits	Engagement behaviours Purchase
Zhao & Renard (2018)	Viral promotional advergame	Playfulness	Consumers' personal data sharing Game forwarding
Mulcahy et al. (2019)	Gamified app to encourage sustainable household energy usage	Enjoyment Knowledge	Behavioural intentions regarding sustainable consumption

Table 3. Correlation matrix

	(1)	*(2)*	*(3)*	*(4)*	*(5)*
(1) Perceived competence	*0.876*				
(2) Perceived challenge	0.110	*0.893*			
(3) Intention to buy	0.136	0.090	*n.a.*		
(4) Intention to recommend	0.297	0.352	0.416	*n.a.*	
(5) Online experience	0.462	0.570	0.295	0.559	*0.765*

n.a. Not applicable.
Diagonal values indicate the square root of the average variance extracted.

Table 4. Specific and total indirect and total effects.

	Indirect effects	***Direct effects***	***Total effects***
Difficulty → Customer Experience	0.252**	-0.229**	0.023
Difficulty → Challenge → Customer experience	0.346***		
Difficulty → Competence → Customer experience	-0.094**		
Difficulty → Intention to recommend	0.013	0.157*	0.170*
Difficulty → Competence → Customer experience → Intention to recommend	-0.052*		
Difficulty → Customer experience → Intention to recommend	-0.127**		
Difficulty → Challenge → Customer experience → Intention to recommend	0.192***		
Difficulty → Intention to buy	0.007	-0.031	-0.025
Difficulty → Customer Experience → Intention to buy	-0.068*		
Difficulty → Competence → Customer experience → Intention to buy	-0.028		
Difficulty → Challenge → Customer experience → Intention to buy	0.102**		
Gameplay → Customer Experience	-0.167**	-0.052	-0.219*
Gameplay → Challenge → Customer experience	-0.095*		
Gameplay → Competence → Customer experience	-0.072*		

***p<0.001, **p<0.01, *p<0.05

Table 5. Differences between individuals who completed and who did not complete the game

	Completed the game (n=79) M (SD)	***Not completed the game (n=49) M (SD)***	***F (1, 187)***	***Sig.***
Competence	6.04 (1.07)	4.81 (1.60)	27.163	0.000
Challenge	4.32 (1.60)	5.45 (1.20)	17.890	0.000
Stress	3.46 (2.20)	5.88 (1.33)	48.287	0.000
Boredom	2.76 (1.61)	2.18 (1.74)	3.633	0.059