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Creating brand engagement through in-store gamified customer experiences

Johan Högberg[a,*], Marcus Olsson Ramberg[a], Anders Gustafsson[b], Erik Wästlund[a]

[a] Service Research Center, Karlstad University, Universitetsgatan 2, 651 88, Karlstad, Sweden
[b] BI Norwegian Business School, Nydalsveien 37, 0484, Oslo, Norway

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ABSTRACT

The purpose of this study is to understand how gamification contributes to customers' value creation in a retail context and how this value creation relates to brand engagement. The study builds on a field experiment using a two-group between-subjects design combined with correlational research. The experiment involved 378 participants recruited at a major European sports retailer. Participants were exposed to one of two conditions: one with a gamified activity in a store, and one in which the participants performed the same activity without being exposed to any game elements. The findings show that gamification affects the hedonic value of an activity and that this effect can be partly explained by positive affect. When this hedonic value was compared to the satisfaction with a reward, the hedonic value was found to be a better predictor of continued engagement intention. Finally, gamification through continued engagement intention is positively associated with brand engagement.

1. Introduction

Retailing is transforming rapidly due to digitalization (Hagberg et al., 2016), and news articles have reported that the threat of online shopping is creating a crisis among brick-and-mortar stores (e.g., Walker, 2014). Despite these negative reports, surveys highlight the continuing importance of such stores. According to one such survey (SessionM, 2015), more than 70 percent of consumers had made a non-grocery purchase in a physical store during the preceding three months, and 68 percent had bought all their clothes and footwear in such stores. Many customers enjoy shopping in physical stores since, in addition to utilitarian shopping experiences, they also pursue hedonic experiences (Hirschman and Holbrook, 1982), such as seeking the thrill of bargain hunting along with enjoying browsing and window-shopping (Arnold and Reynolds, 2003; Verhoef et al., 2009). Since customers seek value that emerges from such hedonic experiences, retailers can focus on providing such experiences – in addition to utilitarian experiences – in their physical stores when digitalizing to improve the overall customer experience.

One of the more prominent facilitators of digitalization is the widespread use of smartphones (Hagberg et al., 2016). Such devices have become constant accessories for their users, which makes them suitable as supplementary channels for physical retailers (Shankar et al., 2010). This current state of smartphone use has created an opportunity for such retailers to compete by using these digital tools to take the in-store experience to higher levels (Walker, 2014). One way of doing this is to use smartphones to stage unique hedonic customer experiences in stores by gamifying. The aim of gamifying is to create gameful experiences that will ultimately lead to a target behavior (Huotari and Hamari, 2017). The outcome of these gameful experiences is enjoyment (Eppmann et al., 2018; Högberg et al., 2019), which makes these services hedonic. Since gamified services also add utilitarian value (Hamari and Koivisto, 2015), such services should have the potential to add both the hedonic and the utilitarian value that customers seek when visiting stores. This potential makes gamification an interesting option to use for marketing purposes in stores; as such, gamification may have several interesting effects for retailers regarding factors such as purchase, attitude, retention, and engagement (Hofacker et al., 2016).

However, gamification has attracted criticism. For example, Gartner (2012) projected that 80 percent of gamified applications would not meet business objectives. This highlights the needs for better understanding of how gamification works as a marketing tool in order to avoid such failures. The present study empirically investigates how gamification contributes to customers' value creation in a retail store context, in the form of (a) hedonic value and (b) satisfaction with a reward. We also investigate how this value creation instigated by gamified services relates to brand engagement. For this purpose, we

* Corresponding author.
E-mail addresses: johan.hogberg@kau.se (J. Högberg), marcus.olsson@kau.se (M.O. Ramberg), anders.gustafsson@bi.no (A. Gustafsson), erik.wastlund@kau.se (E. Wästlund).

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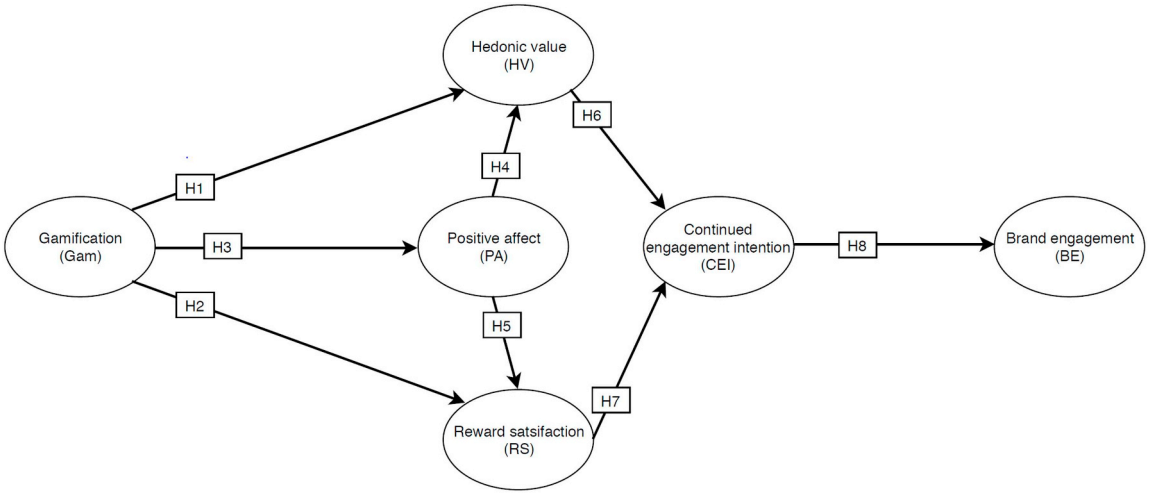

Fig. 1. The theoretical process of using gamification to induce brand engagement.

conducted a field experiment that included 378 customers at a sports store who were exposed to one of two conditions: one with a gamified activity in a store, and one in which the participants performed the same activity without being exposed to any game elements.

2. Theory and hypotheses

A physical store can be seen as a staged experience in which customers are invited to enter and interact with the merchandise in a partly predefined way (Pine and Gilmore, 1999). Retail shopping can be enjoyable, and physical stores offer an opportunity to experience something that cannot be satisfied through online shopping (Cox et al., 2005). An important concept related to such customer experiences is the notion of touchpoints, which are part of the customer's purchase journey during which the customer experience is established (Lemon and Verhoef, 2016). In the last decade or so, smartphones have emerged as an additional touchpoint that can affect such customer experiences in stores (Lemon and Verhoef, 2016).

The widespread use of smartphones has paved the way for gamification. Gamification is the "process of enhancing a service with affordances for gameful experiences in order to support users' overall value creation" (Huotari and Hamari, 2017). This means that – as a facilitator of value creation – gamifying in-store touchpoints can be a possible tool for creating value for customers visiting physical stores. In effect, this will add value during the part of the purchase journey that takes place in the store and will thus add to the overall customer experience. The gameful experience is of seminal importance when gamifying since it drives the user's value creation. Failure to create this experience means that the whole process of gamification has failed (Huotari and Hamari, 2017).

The gameful experience has been defined as "the positive emotional and involving qualities of using a gamified application" (Eppmann et al., 2018, p. 100). It is a multidimensional construct (Eppmann et al., 2018; Högberg et al., 2019) and is co-created by the user and the gamified service (Huotari and Hamari, 2017; Högberg et al., 2019). The goal of creating these experiences is to motivate future service use and a target behavior. This added focus to motivate a target behavior differentiates the gameful experience from the experience of playing a game (Högberg et al., 2019). The gameful experience is spurred by affordances for such gameful experiences – or game elements, to use a related and commonly used term (Deterding et al., 2011). These game elements are building blocks of what constitutes a game; for example, rewards, levels, stories, and challenges (Hamari et al., 2014). Since the gameful experience drives the user's value creation when gamifying (Huotari and Hamari, 2017), the gameful experiences afforded by the gamified touchpoints have the potential to add value to the customer's purchase journey and, as such, to the overall customer experience.

There is currently a movement toward brand (or customer) engagement within the field of customer management. Brand engagement is a concept that acknowledges behaviors and attitudes that transcend purchases (Lemon and Verhoef, 2016) and has been defined as "a psychological state that occurs by virtue of interactive, co-creative customer experiences with a focal agent/object (e.g., a brand) in focal relationships" (Brodie et al., 2011, p. 9). This definition stresses both the importance of interaction for, and the co-creative nature of, the generation of brand engagement. Therefore, it corresponds well to the interactive and co-creative nature of the gameful experience (Huotari and Hamari, 2017; Högberg et al., 2019).

In addition, the definition of Brodie et al. (2011, p. 9) stresses the importance of customer experiences in causing brand engagement to emerge. Therefore, it seems reasonable that the gameful experiences afforded by gamified touchpoints should have the potential to create customer experiences that will ultimately result in brand engagement. This expectation is augmented by the aim of gamified systems to provide both utilitarian and hedonic value (Hamari and Koivisto, 2015), which means that gamifying touchpoints in stores can support both the utilitarian and the hedonic shopping experiences that customers seek when going shopping in physical stores (see, e.g., Cox et al., 2005; Hirschman and Holbrook, 1982). To support the claim that gameful experiences can lead to brand engagement, empirical data are emerging that show that gamification can lead to the closely related construct of customer engagement. For instance, in a longitudinal study, Jang et al. (2018) found that benefits from using a gamified service increased customer engagement, and Leclercq et al. (2018) found evidence that gamification in the form of competition and cooperation increased customer engagement by creating positive customer experiences. Our theoretical model of how to use gamification to induce brand engagement can be found in Fig. 1.

2.1. Hypothesis development

Gamification creates hedonic value. The creation of hedonic experiences through game-related challenges can be described using the theoretical perspective of flow (Cowley et al., 2008; Csikszentmihalyi, 2014; Sweetser and Wyeth, 2005). According to this perspective, flow occurs when a person performs activities that balance challenge and skill (Csikszentmihalyi, 1975). Such activities are done for their own sake rather than for an external outcome, which means that they are intrinsically motivating and, as such, an important source of enjoyment in life (Ryan and Deci, 2000). Consequently, one driver of game-related

hedonic value in the form of enjoyment is the experience of being challenged (Ijsselsteijn et al., 2008; Malone, 1981; Sherry et al., 2006). For example, Abuhamdeh and Csikszentmihalyi (2012) showed how challenges are highly associated with enjoyment among chess players. Since shopping motives can be hedonic (Hirschman and Holbrook, 1982), implementing gamification as a challenge at in-store touchpoints could add hedonic value during a shopping trip through flow experiences. Thus, we propose the following hypothesis:

H1. Gamification creates hedonic value.

Gamification will affect reward satisfaction. When a person experiences an inconsistency between two cognitions – where a cognition might be any knowledge, opinion, or belief about the environment, about oneself, or about one's behavior – a state of dissonance occurs. These inconsistencies are unpleasant and are usually not accepted by the person, resulting in attempts to rationalize them to restore consistency (Festinger, 1957). For example, if a person experiences unpleasantness during their initiation into a group, that person will increase their liking of that group to justify this unpleasantness (Aronson and Mills, 1959); thus, the effort of joining the group is justified by valuing the membership higher, and consistency is restored. A more recent study found this effect for rewards, where earning such a reward – compared to receiving it by chance – increased the degree to which the person liked it (Loewenstein and Issacharoff, 1994).

Being challenged is part of playing games (Ijsselsteijn et al., 2008; Juul, 2003; Malone, 1981; Sherry et al., 2006) and of using gamified services (Högberg et al., 2019), and dealing with such challenges takes a certain amount of effort (Hildebrand et al., 2014). Consequently, such challenge-based effort should have the potential to affect judgment due to cognitive dissonance. This has been investigated in the context of gamified purchase decisions, where induced effort through challenges was found to be able to steer customers toward using offers that were unlocked as a reward (for completing such challenges) (Hildebrand et al., 2014). This choice implies that the unlocking of the reward increased the degree to which the customer liked the reward. Building on these findings, the evaluation of a reward that is received for meeting a challenge should be more positive, due to effort-induced cognitive dissonance, than receiving the reward without the challenge. Thus, we propose the following hypothesis:

H2. Gamification leads to increased reward satisfaction.

Gamification induces positive affect. Although there has historically been little agreement on the structure of affect (Russell, 2003), it is commonly depicted using two independent dimensions: one positive and one negative (e.g., Watson and Tellegen, 1985). Since flow is a state with a positive feeling tone (Csikszentmihalyi and Nakamura, 2014), it is plausible that games that induce flow will also induce positive affect. In line with this statement, game-based flow has been suggested to induce positive affect (Johnson and Wiles, 2003), and this relationship between flow and positive affect has been found within contexts other than games (e.g., Rogatko, 2009). This claim is also supported by the common usage of affect as a depiction of the experience of playing games (e.g., Brown and Cairns, 2004; Calleja, 2007; Poels et al., 2007). Consequently, gamified services that use the game element challenge to cause flow experiences should have the potential to induce positive affect. Therefore, we hypothesize the following:

H3. Gamification leads to an increase in positive affect.

This positive affect will drive hedonic value and reward satisfaction. According to the feelings-as-information approach, people use affective experiences as an information source. As such, they base judgments partly on affective responses toward a target (e.g., Schwarz and Clore, 2007). This influence of emotional states on evaluation is widely recognized and has been thoroughly investigated with robust findings (Bagozzi et al., 1999). However, these emotions do not need to be directed toward the evaluated object in order for this to happen. For instance, Schwarz and Clore (1983) found that people use current affective states as input for evaluating their general happiness and life satisfaction. In fact, most research within consumer psychology on this subject has focused on incidental affect; that is, affect unconnected to the object of evaluation (Cohen et al., 2008). In accordance with this feelings-as-information approach, positive affect induced by a gamified activity has the potential to affect (a) the evaluation of an activity and (b) the evaluation of a reward for participating in such an activity. Therefore, we propose the following hypotheses:

H4. Positive affect is positively associated with hedonic value.

H5. Positive affect is positively associated with reward satisfaction.

Hedonic value will drive continued engagement intention. When systems are enjoyable to use and therefore create hedonic value, the motivation to use them comes from the interaction with the system per se (van der Heijden, 2004). This means that this interaction is intrinsically motivated; that is, the activity is done “for its inherent satisfactions rather than for some separable consequence” (Ryan and Deci, 2000, p. 56). This intrinsic motivation can be seen, for instance, in research that shows that enjoyment predicts intentions to use entertainment systems (e.g., Hamari, 2015; Moon and Kim, 2001; van der Heijden, 2004; Venkatesh, 1999). Therefore, since hedonic value is intrinsically motivating, such value will drive the intention to engage in the same type of future activities; thus, we propose the following hypothesis:

H6. Hedonic value is positively associated with continued engagement intention.

Reward satisfaction will drive continued engagement intention. A reward is an extrinsic motivator; that is, a separable outcome of an activity that aims to move a person toward a behavior (Ryan and Deci, 2000). The effect of such extrinsic motivators have been comprehensively studied, particularly considering the operant conditioning paradigm and behaviorism (Skinner, 1953), showing how rewards can be used to positively reinforce behavior (Sundel and Sundel, 2005). Moreover, rewards commonly occur within the gamification literature as a way to motivate behavior (e.g., Hamari et al., 2014; Seaborn and Fels, 2015). Since a reward is an extrinsic motivator, the satisfaction with such a reward will drive the intention to engage in future activities that will result in the same type of reward. Therefore, we state the following hypothesis:

H7. Reward satisfaction is positively associated with continued engagement intention.

Continued engagement intention will drive brand engagement. Gameful experiences are the basis for the value created when using games and gamified services (Huotari and Hamari, 2017). These experiences are created through co-creative interactions (Huotari and Hamari, 2017; Högberg et al., 2019). This means that the use of a gamified service co-creates these experiences in the interaction between the customer and the gamified service developed by a company. Since brand engagement occurs due to such interactive and co-created customer experiences with a brand – which are iterative (Brodie et al., 2011) – we expect such brand engagement to occur when iteratively using a gamified service. We propose the following hypothesis regarding the effect of continued engagement intention on brand engagement:

H8. Continued engagement intention is positively associated with brand engagement.

3. Method

The present study was a field experiment using a two-group between-subjects design combined with correlational research. The

Table 1
Game elements implemented in the app.

Game element	Description
Quiz	The main game element was a number of sports-related questions that the user had to answer correctly. Only one of the four answers was correct.
Clear goal	The goal was to correctly answer four out of six questions.
Reward	The participant received a 20 percent discount coupon for successfully achieving the goal.
Feedback	The user received direct feedback about whether they had answered correctly or incorrectly.
Time limit	A 30-s time limit was set to answer each question.
Visual feedback	When 10 s remained, the interface started to flash red.
Haptic feedback	When 6 s remained, the phone started to vibrate.
Progress bar	A progress bar showed the progress toward the goal.
Others' response	A function showed what other participants had supposedly answered.
50/50	A function removed two of the wrong answers.

participants were randomly assigned to either a gamified condition or a control condition. In the control condition, participants performed an activity in a store. In the gamified condition, participants performed the same activity, but with an added challenge in the form of a quiz.

3.1. Procedure

Participants were recruited at the entrance of a major European sports retail store, and only people who entered the store were approached. The customers were asked to participate in a study that included an activity in the store; they were told that the rationale for the study was to investigate how new technology can be used during store visits and that they would receive a lottery ticket for participating. Those individuals who agreed to participate were randomly assigned to either the gamified condition or the control condition. Participants in the gamified condition were told about the activity, which included the challenge in the form of a quiz, and that they had a chance to win a 20 percent discount coupon valid for the current day if they successfully passed the quiz. Participants in the control condition were told about the activity and that they would receive a 20 percent discount coupon, valid for the current day, just for participating. To avoid biasing the sample toward people with a disposition for games or coupons, both the quiz and the coupon were first mentioned after participants had agreed to join the study. Finally, participants received a smartphone with an app installed that enabled the activity, after which they were sent into the store to perform the activity.

The participants were instructed to actively seek out six different easy-to-find locations; at each location, the participants performed a task that depended on certain conditions (as described in the two subsequent subsections). After the activity, participants filled out a questionnaire. Finally, all participants in the control condition and those in the gamified condition who had successfully finished the quiz received the discount coupon.

3.1.1. Gamified condition

The main game element of the gamified activity was a challenge in the form of a quiz consisting of six questions that were accessed at six different locations in the store. Four alternative answers were presented with each quiz question. Only one answer was correct. The participants had to answer four of the six questions correctly in order to succeed, and they received the discount coupon as a reward for doing so. Together with each question, a short informational text was presented on a sports theme related to the location. A number of game elements were implemented that together constituted a coherent small game, thereby gamifying this activity (Table 1).

In the conceptual development, we argued that hedonic value is created through challenge-induced flow experiences (Cowley et al., 2008; Csikszentmihalyi, 2014; Sweetser and Wyeth, 2005), and that reward satisfaction is created through challenge-induced cognitive dissonance (Festinger, 1957; Hildebrand et al., 2014; Loewenstein and Issacharoff, 1994). Therefore, we took measures to uphold the challenging aspects of the activity. Participants had a 30-s time limit to answer the quiz questions, as setting a time limit is a way of inserting challenge in games (Malone, 1980). The questions were designed so that the quiz appeared difficult, although most of the participants should have been able to finish it successfully. This was accomplished using a combination of difficult and simple questions. The app also included two elements that are known from the television show “Who Wants to be a Millionaire?” which has also has been used in a gamification context (Fotaris et al., 2016). There was a “50/50” option that removed two of the wrong answers and an “Others’ response?” option that showed the frequency with which other participants had supposedly been answering. Both were rigged so that when they were used, it would become obvious what the correct answer was. These elements were included to help participants with difficult questions and could only be used once per game.

Ninety-five percent of the participants finished the quiz successfully and received the discount coupon. Forty-three percent had six correct answers out of six, 37 percent had five correct answers, and 15 percent had four correct answers. Fig. 2 shows the user interface for the gamified condition.

3.1.2. Control condition

The participants in the control condition had to visit the same six store locations. However, the quiz and all other game elements were removed from the app. The app only provided the short informational text (also available in the gamified condition) on a sports theme related to the location. The primary objective of showing this text was to ensure that the participants would engage in the activity at the locations. Fig. 3 shows the user interface in the control condition. Participants received the same discount coupon as in the gamified condition just for participating in the study. This could be seen as a problem, given that rewards are a commonly used game element (Hamari et al., 2014); consequently, one could argue that the control condition is gamified to a certain degree. The decision to give a coupon to both groups was motivated by the risk of only having an effect that depended on the reward and not on the experience of the gamified activity per se.

3.2. Measurement

All of the included measures (Table 2) consisted of seven-point Likert-scale-type items, ranging from 1 (“strongly disagree”) to 7 (“strongly agree”). The psychometric properties of the scales are presented in Table 2. A brief description of the measures is provided below.

Hedonic value (HV) was measured using the interest/enjoyment scale from the intrinsic motivation inventory[1] (McAuley et al., 1989), one of the most commonly used scales for measuring enjoyment when playing games (Mekler et al., 2014). Enjoyment can be seen as an indication of the hedonic value a participant attaches to an activity; as such, we operationalize hedonic value as enjoyment (composite

[1] http://selfdeterminationtheory.org/.

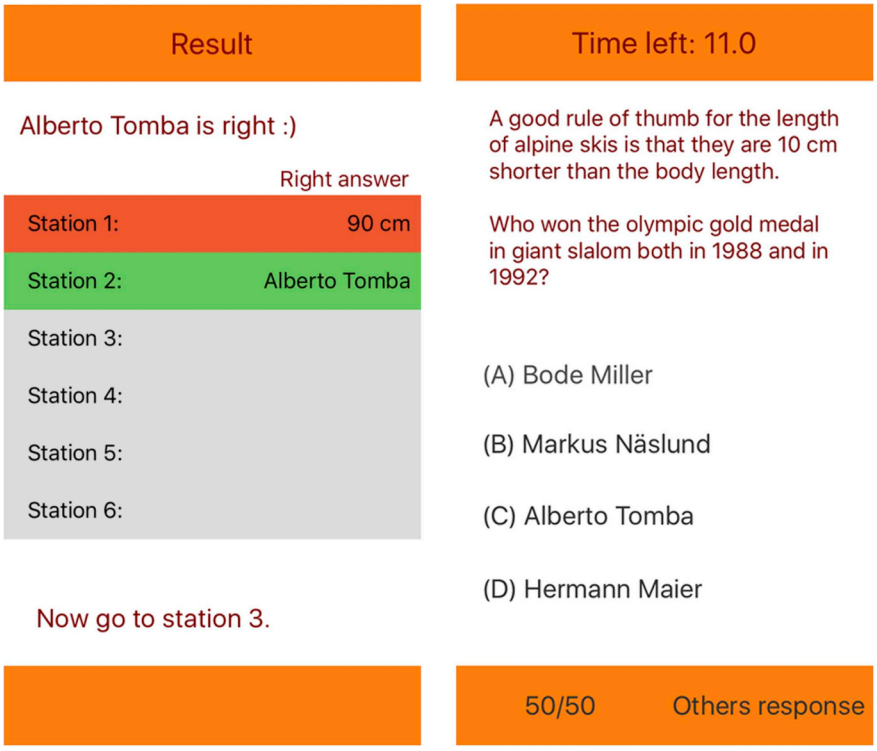

Fig. 2. User interface in the gamified condition.

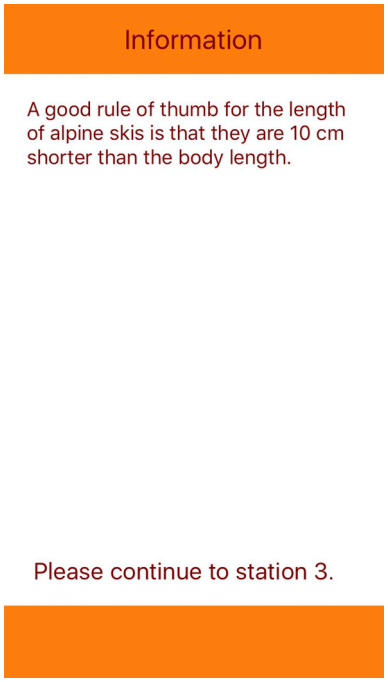

Fig. 3. User interface in the control condition.

reliability = .903).

Reward satisfaction (RS) was measured using an adaption of the coupon proneness measure developed by Lichtenstein et al. (1990). This scale measures the degree to which a person is coupon-prone, thus measuring a trait. For the purposes of our study, the scale was adapted to be situation-specific and to measure the proneness to use a specific coupon. Thus, reward satisfaction is operationalized as this situation-specific coupon proneness. Four out of eight items of the initial coupon proneness measure were deemed useable for this purpose. Furthermore, our analysis showed that one of these four items loaded insufficiently on the latent variable, so it was removed from the analysis (composite reliability = .914).

Positive affect (PA) was measured using the positive affect dimension of I-PANAS-SF, which is a short version of the PANAS measure (Thompson, 2007). This dimension consists of five items (composite reliability = .912).

Continued engagement intention (CEI) was measured as the conscious plan for the future behavior of using a service; that is, the continued engagement intention in the same type of gamified activity in the future. This measure was constructed specifically for the present study (composite reliability = .935).

Brand engagement (BE) was measured using the affection part of the scale developed by Hollebeek et al. (2014). A brand can be related to the manufacturer of a product sold by a retailer and can be related to the retailer per se (Verhoef et al., 2009). In this study, we focus on the brand of a retailer (composite reliability = .933).

3.3. Participants

A convenience sample of real customers was recruited at the entrance of a sporting goods store. Three hundred and ninety-four individuals aged between 18 and 79 participated. Sixteen were later removed from the dataset due to not completing the study, either by their own choice or due to technical problems that left them unable to finish. Thus, data from 378 participants were analyzed, 223 of whom were assigned to the gamified condition (female: 50 percent; age: M = 42, SD = 16) and 155 to the control condition (female: 54 percent; age: M = 42, SD = 15). Seventy-eight percent of the participants visited the specific store where the study was conducted at least monthly or quarterly. Only 1.6 percent (n = 6) claimed they visited this specific store less than once a year.

3.4. Apparatus and materials

The app was developed for the purposes of this study and was

Table 2
Constructs, items, and their outer loadings, including bootstrapped sample mean and standard deviation.

Construct	Items	Loadings	Mean	SD
HV				
	Think of the activity you just participated in			
	I enjoyed doing this activity very much	.871	5.01	1.59
	This activity was fun to do	.879	5.44	1.49
	I thought this was a boring activity (Reversed)	.608	1.97	1.38
	This activity did not hold my attention at all (Reversed)	.435	2.18	1.70
	I would describe this activity as very interesting	.837	4.91	1.54
	I thought this activity was quite enjoyable	.887	5.25	1.52
	While I was doing this activity, I was thinking about how much I enjoyed it	.646	3.68	1.79
RS				
	The coupon I will get …			
	will make me feel good when I redeem it	.887	5.68	1.40
	will give me a good deal	.897	5.88	1.21
	will cause me to buy something I normally would not buy		Removed	
	will give me a sense of joy, beyond the money I will save	.831	5.52	1.36
PA				
	Think of yourself and how you felt while you were doing the activity. During the activity I felt …			
	Alert	.807	5.58	1.53
	Inspired	.861	5.29	1.50
	Determined	.839	5.19	1.46
	Attentive	.782	5.74	1.40
	Active	.817	5.73	1.30
CEI				
	Think of the activity you just participated in			
	I would gladly do this activity again	.911	5.47	1.64
	If it was possible to participate in an activity like this again, where I would get discounts for solving tasks, I would gladly do it	.889	5.78	1.45
	If possible, I would participate in a similar activity more frequently rather than less frequently	.896	5.15	1.72
BE				
	I feel very positive when I shop at [retailer name]	.896	5.57	1.23
	Being at [retailer name] makes me happy	.918	5.29	1.26
	I feel good when using products from [retailer name]	.896	5.57	1.18
	I feel proud to use products from [retailer name]	.760	5.05	1.34

distributed using an iPhone 5C. In the store, six signs were placed in easy-to-find locations. The signs measured 21 × 29 cm and included the station numbers and a university logo. The app's location-based functionality was enabled using iBeacons, which were mounted on the back of each sign. When the smartphone was held close to an iBeacon, it reacted according to condition.

4. Results

Partial least squares structural equation modeling (PLS-SEM) was used to test the model. The software utilized was SmartPLS 3 (Ringle et al., 2015). PLS-SEM was chosen due to its suitability for studies oriented at prediction and at explaining the variance of endogenous latent variables. Moreover, PLS-SEM is a non-parametric method; this suited our data, which was not always normally distributed. In addition, all of the items in the model are seen as traits that explain the indicators. They are not seen as jointly determining the meaning of the constructs and are therefore mutually interchangeable (Hair et al., 2014). Hence, we conclude that the model only includes reflectively measured constructs.

Table 3
Test of composite reliability (CR), Cronbach's alpha (Alpha), convergent validity (AVE), and discriminant validity (Fornell − Larcker criterion).

	CR	AVE	Gam	PA	RS	HV	CEI	BE
Gam	1.000	1.000	1.000[a]					
PA	.912	.675	.243	.822[a]				
RS	.905	.761	-.030	.296	.872[a]			
HV	.898	.570	.264	.536	.337	.755[a]		
CEI	.926	.808	.182	.404	.422	.753	.899[a]	
BE	.925	.757	.001	.359	.529	.482	.543	.870[a]

[a] Square root of AVE.

4.1. Validity and reliability of the measurement model

Composite reliability (CR) is used to evaluate internal consistency reliability (Table 3). In our case, all constructs had values well over the lower limit of 0.7 (Hair et al., 2014). Continuing with the evaluation of the measurement model, convergent validity was evaluated using both average variance extracted (AVE) and indicator reliability. All of the constructs had values over the limit AVE ≥0.5 (Bagozzi and Yi, 1988). Indicator reliability measures how well indicators of a specific construct converge − that is, how much variance they share − and a common rule of thumb is to include items with loadings of 0.7 or more (Hulland, 1999). In our data, one item that belonged to the reward satisfaction measure had a loading of less than 0.4; this item was removed. Moreover, three items had loadings between 0.4 and 0.7, all of which were kept despite being lower than 0.7. They are all part of the intrinsic motivation inventory, a well-established measure, meaning we have good theoretical arguments to keep them.

Discriminant validity was assessed using the Fornell–Larcker criterion (Fornell and Larcker, 1981). In order to follow this criterion, the square root of AVE needs to be higher than the latent variable correlations. Our data are in concordance with this rule (Table 3).

4.2. Assessment of the structural model

To assess the structural model, we first evaluated collinearity, looking for excessive correlations among predictor variables of the latent variables. Since the variance inflation factor (VIF) < 5 (Hair et al., 2011) for predictors of any of the constructs, we conclude that collinearity is not a problem within this data.

The hypothesized relationships were evaluated using a bootstrapping procedure[2] involving 10,000 subsamples. All paths were significant ($p < .05$) (Table 4). All total effects were significant ($p < .001$) except for the effect of gamification on reward satisfaction (Table 5); therefore, all hypotheses except for H2 were significant. All indirect effects were significant ($p < .001$) (Table 6).

To evaluate the explained variance of each construct, we have reported the adjusted coefficient of determination (Adj. R^2) (Table 7). Using a rule of thumb suggested for marketing research (Hair et al., 2011), we find that continued engagement intention is moderately explained by the model, while hedonic value and brand engagement are weakly explained. However, Adj. R^2 is < 0.25 for positive affect and reward satisfaction. Thus, these constructs are less than weakly explained by the model.

We also report the impact of the individual exogenous constructs on their endogenous counterparts using the effect size f^2 (Table 4). Using the rule of thumb from Cohen (1988), the effect of hedonic value on

[2] The bootstrapping procedure was run using the settings Sign changes: "No sign changes"; Confidence interval method: "Bias corrected and accelerated bootstrap"; Weighting scheme: "Path"; Maximum iterations: "1000"; Stop criterion: "7"; and Initial outer weights: "+1."

Table 4
Significance testing, path coefficients, effect size (change of R2 when latent variable is omitted).

Latent variables	Path coefficient	*T*	*95% CI*	f^2
Gam → RS	-.108*	2.012	[-0.210, −0.0003]	.012
Gam → HV	.143*	2.979	[0.049, 0.237]	.028[a]
Gam → PA	.243**	4.801	[0.145, 0.343]	.063[a]
PA → RS	.322**	5.651	[0.210, 0.433]	.108[a]
PA → HV	.501**	10.136	[0.405, 0.598]	.341[b]
RS → CEI	.189**	4.643	[0.109, 0.270]	.079[a]
HV → CEI	.690**	20.024	[0.625, 0.755]	1.052[c]
CEI → BE	.543**	12.633	[0.458, 0.625]	.417[c]

*p < .05, **p < .001.
[a] Small (.02).
[b] Medium (.15).
[c] Large (.35) (Cohen, 1988).

Table 5
Total effects.

Latent variables	Total effect	*t*	95% *CI*
Gam → CEI	0.177**	4.801	[0.099, 0.257]
Gam → RS	−0.030	0.575	[-0.130, 0.072]
Gam → HV	0.264**	5.341	[0.167, 0.361]
Gam → PA	0.243**	4.801	[0.145, 0.341]
Gam → BE	0.096**	3.991	[0.052, 0.146]
RS → CEI	0.189**	4.643	[0.109, 0.270]
RS → BE	0.103**	3.957	[0.055, 0.158]
HV → CEI	0.690**	20.024	[0.620, 0.755]
HV → BE	0.374**	10.950	[0.309, 0.444]
PA → RS	0.322**	5.651	[0.210, 0.433]
PA → HV	0.501**	10.136	[0.405, 0.598]
PA → CEI	0.407**	9.905	[0.330, 0.491]
PA → BE	0.224**	7.171	[0.166, 0.286]
CEI → BE	0.543**	12.633	[0.458, 0.625]

**$p < .001$.

Table 6
Indirect effects.

Latent variables	Indirect effect	*t*	95% *CI*
RS → BE	0.103**	3.957	[0.055, 0.158]
Gam → BE	0.096**	3.991	[0.052, 0.146]
Gam → RS	0.078**	3.616	[0.041, 0.126]
Gam → HV	0.122**	4.087	[0.069, 0.185]
Gam → CEI	0.177**	4.366	[0.099, 0.257]
HV → BE	0.374**	10.950	[0.309, 0.440]
PA → BE	0.221**	7.171	[0.166, 0.286]
PA → CEI	0.407**	9.905	[0.330, 0.491]

**$p < .001$.

Table 7
Explained variance.

Exogenous latent variable	Adj. R^2
PA	.056
RS	.094
HV	.303[a]
CEI	.597[b]
BE	.292[a]

[a] Weak (.25).
[b] Moderate (.5) (Hair et al., 2011).

continued engagement intention and the effect of continued engagement intention on brand engagement were strong, positive affect had a medium-sized effect on hedonic value, and gamification had an effect on reward satisfaction that was too small to categorize. All other effects were weak.

5. Discussion

The digitalization of retailing and the prevalence of the smartphone have paved the way for using gamification as a marketing tool (e.g, Hollebeek et al., 2014). Our field experiment examined how such gamification can create value in a retail store context and how this value relates to brand engagement. The key findings of the study are as follows: (a) gamification leads to continued engagement intention through hedonic value; (b) both hedonic value and reward satisfaction drive continued engagement intention, although the hedonic value is a stronger motivator; and (c) continued engagement intention is associated with brand engagement. Basing the inferences on total effects (Table 5), all of the hypotheses except H2 were supported.

5.1. Theoretical implications

This study makes three key contributions. The first is the evidence that gamification leads to continued engagement intention through hedonic value, which indicates that gamified services can be suitable for creating the hedonic value that are pursued by customers in stores (see, e.g., Cox et al., 2005; Hirschman and Holbrook, 1982). This finding shows the importance of focusing on the hedonic value; in other words, the fun part when gamifying with the aim of enhancing customer experience and brand engagement. Furthermore, the gamified activity causally affected positive affect – although the explained variance was small (Adj. $R^2 = 0.056$) – which in turn mediated the effect the gamified activity had on hedonic value. Thereby, we show how the emotional aspects of playing games (e.g., Brown and Cairns, 2004; Calleja, 2007; Poels et al., 2007) are also relevant for the usage of gamified services in making them fun. From a marketing perspective, this is important due to the emotional aspects of consumption (e.g., Hirschman and Holbrook, 1982), the importance of the emotional component to the overall customer experience (Lemon and Verhoef, 2016), and the association between customers' in-store emotional state and both customer satisfaction and spending (Babin and Darden, 1996).

Second, we show how both hedonic value and reward satisfaction drive continued engagement intention. However, the more interesting result is the considerable difference when comparing these effects. The size of the effect of hedonic value on continued engagement intention was large ($f^2 = 1.05$), but it was small ($f^2 = 0.08$) for reward satisfaction (the satisfaction of the coupon received as a reward). This result means that there might be good reasons for focusing on the enjoyable aspects of gamifying, thus staging gamified touchpoints that focus on hedonic value experiences. Having this focus corroborates the idea of successful companies as stagers of experiences induced by memorable and enjoyable events that are distinct from the offered services or products (Pine and Gilmore, 1998). Moreover, as a reward, the coupon is a separable outcome from the activity per se and is, as such, an extrinsic motivator (Ryan and Deci, 2000). Extrinsic motivators commonly occur when gamifying (see, e.g., Hamari et al., 2014), and our results indicate that an overly narrow focus on such extrinsic motivators, thus leaving out hedonistic aspects, might not be the most effective way to gamify.

Third, our results show that continued engagement intention is associated with brand engagement. Brand engagement reflects the psychological state induced by interactive customer experiences with a focal object or agent within specific service relationships (Brodie et al., 2011). Thus, our results indicate that the interactive and co-created gameful experience (Huotari and Hamari, 2017; Högberg et al., 2019) can be such customer experiences that lead to brand engagement. However, it is important to remember that games and gamified services require the active involvement of the user (Huotari and Hamari, 2017; Högberg et al., 2018) and that service experiences are of a co-creative nature where the user is actively engaged (Prahalad and Ramaswamy, 2004; Vargo and Lusch, 2008). Accordingly, theory suggests that the active participation of the user is necessary for this effect to occur.

Finally, we did not find support for a positive effect of gamification on reward satisfaction. Hildebrand et al. (2014) showed how a challenge increased the propensity to choose an unlocked reward to greater degree. Therefore, we expected our results to indicate an increase in the satisfaction with the coupon received as a reward for successfully finishing our quiz-based challenge. However, we did not find support for this expectation. Instead, our results partly corroborate the finding of Högberg et al. (2018) that a gamified activity is not always positive for the disposition to choose to act on an offer. In fact, the field experiment presented in Högberg et al. (2018) shows that the effect can even be negative. Therefore, the results in our study provide further evidence that the type of quiz-based in-store gamification implemented in the present research and in Högberg et al. (2018) might not be an effective way to steer customers toward a specific purchase in physical stores. Instead, our results indicate that such implementations are better at creating hedonic value, which has the potential to create brand engagement instead of pushing a customer toward a short-term purchase decision.

5.2. Managerial implications

Gartner (2012) predicted that business objectives would not be met for 80 percent of gamification implementations. Our results offer insights into what the physical retailer can do to avoid such failures. This study is the second (in addition to Högberg et al. (2018)) to show how using a quiz-based challenge to steer customers toward a specific purchase decision (in the present study, by influencing the evaluation of a reward in the form of a coupon) does not work as predicted. Therefore, this approach might be questionable when gamifying for marketing purposes, especially considering that such implementations might even have negative consequences (Högberg et al., 2018). Instead, our results indicate that gamification could be used to create hedonic value – through an enjoyable experience – that leads to brand engagement; thereby focusing on long-term rather than short-term effects. This conclusion is also corroborated by our results showing that hedonic value is better than the satisfaction with a reward to promote continued engagement intention with the same type of activity – even though the reward did have an effect, albeit not as strong.

5.3. Limitations and future research

This study takes an inherently positive perspective on using gamification for marketing purposes. The gamified scenario was created in such a way that most participants would be able to complete the challenge successfully. However, since a lack of balance between skill and difficulty might result in either boredom or anxiety (Csikszentmihalyi, 1975), gamified activities that lack such a balance might produce negative effects. For example, one study found a negative association between negative emotions and customer satisfaction, and also that this negative effect was stronger than the positive effects of positive emotions (Babin and Darden, 1996). Thus, studies investigating the effects of both overly easy and overly difficult challenges would be welcome.

As the present study has shown, reward satisfaction was less effective than hedonic value at predicting continued engagement intention. The reward used in this study was a 20 percent discount coupon, valid for the current day. If that coupon had had other characteristics, these results might have been different. For instance, the short time span of the coupon might have made the customers feel pushed or manipulated into using it, which might limit the effect the reward had on continued engagement intention. Even the specific form of being a discount coupon might have had the same type of impact (that the customer feels pushed or manipulated), since a coupon comes with an added expectation that the customer needs to buy something for it to be valuable to them.

The hypotheses development regarding the effect of our experiment rests on the participants being challenged. Consequently, a manipulation check to investigate whether the participants in the gamified condition felt more challenged would have been in order. Since such a manipulation check was not included, we cannot rule out the possibility that our results depend on neither the presence of the internal state of being challenged nor a lack thereof. The instrument GAMEFULQUEST (Högberg et al., 2019) is a recently published instrument for measuring the gameful experience; it has been validated in a gamification context. GAMEFULQUEST includes a challenge dimension that could be used to perform such a manipulation check.

In the present study, we see that a challenge in the form of a quiz created hedonic value. However, customers might grow tired of performing such an activity repeatedly; over time, its effect on hedonic value might decrease. Despite the need to understand this long-term sustainability of gamification (AlMarshedi et al., 2015), the present study has not explored this aspect. Fully understanding the effect of gamification and its implication for creating positive customer experiences requires longitudinal research.

Conflicts of interest

None.

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