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Value Creation in Gamified Chatbot Interactions and its Impact on Brand Engagement

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Abstract. Gamification is a powerful instrument to motivate consumers to intensify their brand relationships. Though this potential, the effects of enriching chatbot interactions with gameful experiences on brand engagement has not been studied. To fill this gap, this study tries to understand how gamification contributes to customers' value creation in a gamified conversational context and how this value creation relates to brand engagement. Specifically, we investigate whether and to what extent the hedonic and utilitarian values provided in interactions with gamified chatbots affect cognitive, emotional, and behavioral brand engagement. Based on an empirical study involving a fully functional gamified chatbot, we show that the perceived hedonic value has a major impact on all three brand engagement dimensions, and especially the cognitive dimension. Utilitarian values, though not related to the cognitive dimension of brand engagement, significantly boost the emotional and the behavioral engagement dimensions. These findings point to the potentials of extrinsic and utilitarian motivations for boosting brand engagement also in entertainment-oriented settings like gamified chatbot interactions.

Keywords: Chatbots, Gamification, Utilitarian value, Hedonic value, Consumer-brand engagement

1 Introduction

Chatbots are disembodied conversational agents that communicate with humans through text-based chats or voice commands to address a variety of requests and customer needs [22]. So far chatbots are primarily deployed as non-human versions of frontline service employees resolving simple, standardized tasks in a highly efficient way. Correspondingly, prior research has focused on examining users' engagement with the conversational agent like satisfaction with chatbot interaction [37], intention to use the chatbot again [12] or likelihood of recommending the chatbot [68]. What has been widely neglected so far is whether conversational agents have the potential for engaging customers with brands [38]. Such an augmented view of conversational-based agents for triggering customer engagement beyond solving single service issues has

been frequently called for in current literature [35]. In the new digital society, understanding how to engage and establish powerful connections between consumers and brands has never been so important, as a new ‘’experience economy’’ is taking over with consumers starting to highly value dematerialized interactions [42], and previous engagement strategies based on monetary rewards failing their purpose [15]. Since individuals play games for intrinsic, almost addictive reasons [23], using game design elements as an approach for engagement stimulation is an emerging trend in the marketing field (e.g. [16, 61]). This activity for engagement stimulation, known as “gamification” [36], that involves applying game elements to non-game related contexts, has been extended to the marketing field where the use of game design elements in non-game contexts is becoming popular [66]. Augmenting chatbots through game elements is becoming increasingly possible as major technological advancements give computer agents the ability to interact with users in a much wider variety of contexts [1, 40]. To get customers to engage with the brand, however, chatbots have to integrate elements that have a unique power for unfolding consumers’ motivational energy to interact with a brand [42]. We argue that infusing gamification into chatbot interactions could be such an approach for turning chatbots into “engagement machines”. Integrating game elements into chatbots could have the potential to elicit experiences that are similarly powerful as those instilled through gameplay and hence can effectively motivate engagement responses [16]. A gamified interaction detaches individuals from their surroundings and immerses them in the experience thus provoking a sense of natural flow [9]. Therefore, combining the immersive and motivational power of gamification in human-chatbot interactions could be a strategy for revolutionizing the way brands engage consumers.

In this study, by using a real-life chatbot interaction, we empirically investigate how interacting with a chatbot featuring a gamification design affects consumer-brand engagement. We argue that infusing a gamified experience into a chatbot generates not only hedonic but also utilitarian value for users, which in turn strengthens cognitive, emotional, and behavioral engagement with the brand. The empirical findings provide nice contributions to the recently emerging research on the intersection of gamification and conversational technologies. We shed light on the mechanisms that enable gamified chatbots to effectively boost brand engagement by identifying two opposing psychological processes (utilitarian vs. hedonic value). We show that embedding gamification in a given system is effective when the game elements can impact the targeted users in terms of what they personally value [19, 62].

2 Theoretical Framework and Hypotheses Development

2.1 Chatbots and Gamification

Due to the explosive proliferation and technological advancements of artificial agents, for many firms, chatbots have become the dominant interface when it comes to communicating with consumers. It is not surprising that firms see chatbots also as a potential means to enhance firm and brand engagement. Companies are heavily

investing in conversational agents to engage their customers better, and the use of these agents is predicted to increase by 241% in the travel and hospitality industry and by 187% for consumer good [39].

Gamification is an emerging technology process that enables to mimic the entertaining experiences that games are all about, by using game elements just like playful design does, while having rules, goals, and feedback systems [36]. Literature on gamification applications in marketing stresses that brand engagement occurs mostly because of interactive and challenging experiences and that game elements can facilitate such experiences [6, 36]. There are many types of game components, such as avatars, points, badges, levels, gifting, levels, as well as leaderboards [59], that are more likely to be recognised by users and better integrated into chatbots [44]. This makes the integration of such gamification elements into chatbots a clear option for engagement stimulation. Despite this, no study so far has examined how gamified chatbots enhance brand engagement. Our suggestion to combine chatbots and gamification principles, borrowed from the Werbach and Hunter's Dynamics-Mechanics-Components Pyramid (DMC Pyramid) [59], addresses studies that lament that many gamification applications do not work as intended [40], as well as practitioners and researchers' need to look at appropriate technological systems in which game elements can be embedded to make them (more) impactful.

2.2 Consumer Engagement

Consumer engagement is a positive motivational state that a consumer might experience when interacting with a specific object [33], which is affected by the context and conveyed through cognitive, emotional, or behavioural expressions [14]. Consumers' engagement with the brand is a crucial construct to be investigated because it is a key aspect of company equity and capital [64] as individuals who have a higher engagement with a brand are more satisfied and exhibit higher loyalty [60]. As a result, since in the marketing domain a lot of attention has been cast on how consumers can be triggered to become more aware of and engage more intensively with the brand, marketing practitioners have recently started seeking new solutions to overcome consumer engagement hurdles by using insights from the research on games [29, 36, 61]. Since consumer-brand engagement occurs due to interactive and co-created customer experiences with a brand, it is expected that brand engagement may increasingly occur when iteratively using a gamified service [30].

While some researchers consider engagement to have one dimension, namely behavioural [54] some others believe engagement to be a complex state hanging on several dimensions that deserve further understanding [33] with a one-dimensional concept not fully reflecting its complex scope [32]. Based on this, the present study includes all three main dimensions, i.e. cognitive, emotional, and behavioural, so that a broader and more detailed perspective can be given. Cognitive engagement is the psychological investment or degree of interest [58] when interacting with a brand. Emotional engagement is related to the development of emotional connections and affection towards a brand [33]. Behavioural engagement represents consumers' level of participation and

positive involvement in the experience [21]. The examination of these three different foci of brand engagement is important for several reasons. While these different foci often coexist in a given consumption context [14], one focus might prevail over another in the formation of relevant consumer relationship outcomes according to the context and the different foci may play various and variable roles in shaping engagement in terms of the underlying psychological processes that may be activated.

2.3 Utilitarian and Hedonic Values

Högberg et al. [30] propose that consumer-brand engagement is positively reinforced by consumers' perceived values towards a gameful experience. This is in line with [55] who believe that knowing consumer values is essential to support information systems since they heavily influence internet users' perceptions [45] and guide behaviour [48].

According to Means-Ends model by Woodruff and Gardial [62], which is one of the most prominent value models in the literature, consumers act according to what might produce desired benefits and avoid negative consequences. Consumers' engagement towards a given object should thus be influenced by their personal values and own beliefs. In other words, consumers make a self-evaluation of the correlation between what they value from different perspectives and the perceived value offered by the experience, and in case the experience supports them, engagement behaviours are expected [13]. Therefore, personal values work as antecedents of consumer engagement [69], meaning that when aiming at engagement outcomes, managers must understand how consumers perceive value so they can develop experiences that outperform the ones from competitors [63]. Generally, various types of value are taken into account and depending on what is expected from an experience, consumers are contemplated as either problem-solvers or as individuals that seek emotional stimulus [28]. Babin et al. [3] pinpoint the relevance of both utilitarian values including economic and functional aspects, and hedonic values including emotional and social aspects, which respectively reflect Holbrook's [31] extrinsic and intrinsic values. In previous research, Carpenter et al. [7] proved that, rather than one form of motivation being overriding, both hedonic and utilitarian elements are crucial in the retail experience, although one may be more dominant than the other depending on the context. So, there is room to believe that, ideally, both types of value should be considered for consumer engagement creation, especially in case of new technologies.

Perceived utilitarian value refers to the utilitarian outcome resulting from some type of conscious pursuit of an intended consequence [3], which is defined as a way of assessing the functional and economic benefits that consumers receive for choosing a product or service [45]. In general, utilitarian value has been considered to be driven by the desire to fill a basic need or to accomplish a functional task [11]. Overall, when considering utilitarian value, consumers assess the perceived value of an experience through a more cognitive perspective [52], which is recognized as a determinant of consumer engagement as well as behavioural intention [57], reflecting judgments of time-saving, function, and convenience, that relate to a more task-oriented and rational

form of evaluation [47]. Utilitarian value has a marked influence on the attitude toward Internet users [18], while showing direct positive effects on consumer satisfaction and word-of-mouth [4].

Based on the above we propose that in a gamified human-chatbot interaction:

H1: Utilitarian value is positively related to cognitive engagement with the brand
H3: Utilitarian value is positively related to the emotional engagement with the brand
H2: Utilitarian value is positively related to behavioural engagement with the brand

Overby and Lee [45] define perceived hedonic value as an assessment of the experimental benefits of choosing a specific product or service, such as the enjoyment, the fun, and the excitement perceived when consuming [28], meaning that an activity that offers these hedonic elements should motivate users to engage in the experience [55]. Being hedonic value intrinsically motivating, this should drive higher levels of engagement in the interaction and equally reflect the positive experience to who conceived such activity [30]. Overall, when considering hedonic value, consumers assess the perceived value of an experience by evaluating emotional and affective factors [34]. From this perspective, if the experience provides a relevant hedonic benefit for consumers, like gamification should do due to its inherent nature, this should drive continuing engagement behaviours (e.g. [13]) and intentions [57]. Like the utilitarian value, the hedonic value was also found to have a positive effect on preference, satisfaction, and behavioural intention [56]. As found in Chan et al. [8], the positive emotions and level of satisfaction provided by the experience increase and contribute to allowing more interactions and behavioural intentions towards the brand. Following this rationale, we expect that, same as utilitarian values, hedonic value is positively associated with consumers' engagement in all its three dimensions when interacting with the gamified chatbot. According to Cronin et al. [10], value judgment has a positive impact on preference, which is the propensity of a shopper to favor a particular retailer. According to Batra et al. [5], a brand must be highly appreciated for a person to experience engagement. Since for more hedonic-oriented users, pleasure and fun are primary benefits while for more pragmatic-oriented users, utilitarian benefits, such as reaching a goal should be more reasoned, brand engagement may be impacted by hedonic elements of extrinsic attributes in all contexts where a utilitarian benefit, such as a discount, might be achieved. Thus, in keeping with the above rationale, we propose that in a gamified human-chatbot interaction:

H4: Hedonic value is positively related to the cognitive engagement with the brand
H5: Hedonic value is positively related to the behavioural engagement with the brand
H6: Hedonic value is positively related to the emotional engagement with the brand

The proposed model would then be the one depicted in the next figure.

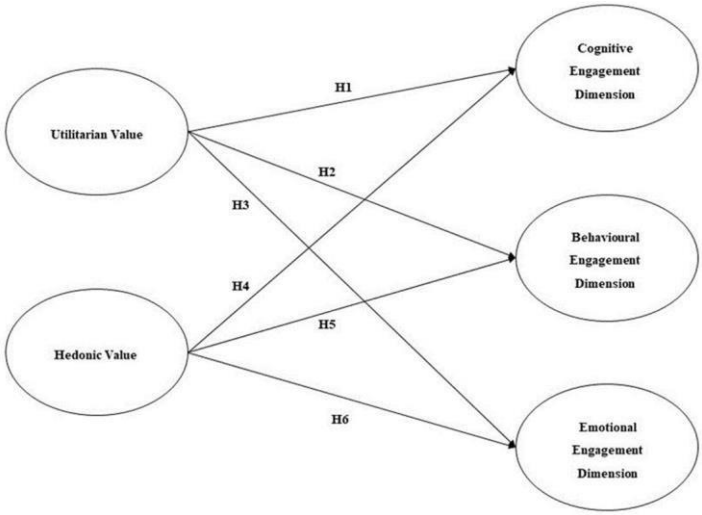

Figure 1. Research model

3 Research Method

3.1 Study Design

The study aimed to apply real chatbot interactions to enhance external validity to the study. This is less likely to happen when scenarios or screenshots are used, which happens in most of chatbots studies.

A pilot study was run on 60 participants to understand what elements and gamification strategies revealed more relevant results when applied to human-chatbot interaction. These game elements were retrieved from the DMC Pyramid by Werbach and Hunter [59] and included three categories: 1) game dynamics, in the form of emotions, narrative, progression, and constraints; 2) game mechanics, in the form of challenge, reward system, and feedback; 3) game components, in the form of points and badges. Based on the results from the GAMEX scale, developed by Eppmann et al. [17] and the qualitative comments made by participants, the element of the gamified activity for the main study was a challenge in the form of a quiz that consisted of four questions about the brand and its products and a "can you spot the differences" game to win a discount. Each question had three alternative answers for participants to choose from and was related to a different level of difficulty, to give them a sense of progression and challenge. Progression to the next game level was rewarded with a discount of 10% to spend on any product of the brand, and with a symbolic badge to visually recognize the achievement. Badges were used as the main game elements in the interaction, as in Hamari [25]. Participants received instant feedback about whether they answered questions correctly and about their progression in the game. If the answer was correct, participants received a recognition badge and were able to progress to the next level to

achieve the highest discount possible. If their answer was wrong, participants would be given the code for the discount associated with the reached level. The conversational design was associated with a fictitious brand page created on Facebook, named "Rainbow Packing" and the chatbot was created using Chatfuel (https://chatfuel.com/), which allow to develop rule-based chatbots using tree-like flows and pre-defined structures to help users with their queries. Figure 1 below provides an extract of the gamified chatbot design. The chosen products for the study were suitcases because of the necessity to use a neutral product with no cultural interferences, to avoid biased results.

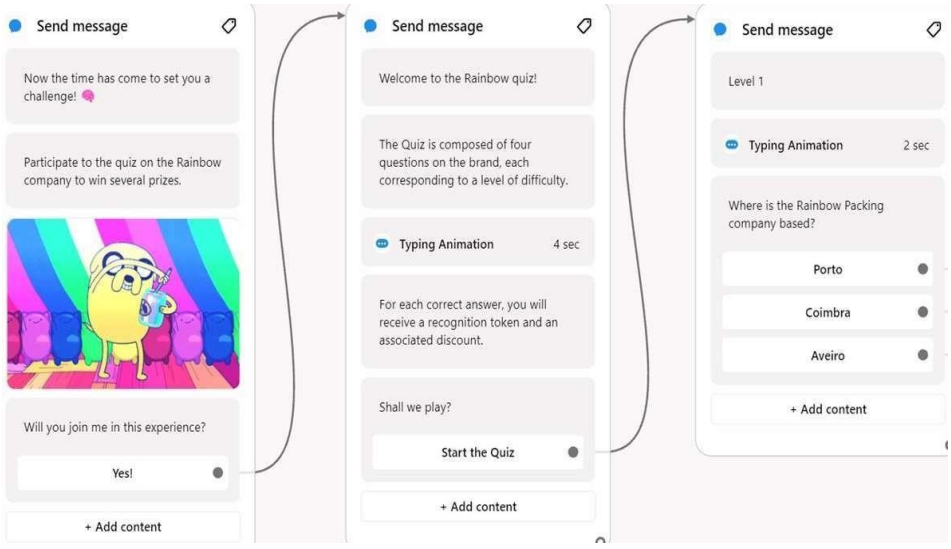

Figure 2. Extract from the gamified chatbot design

3.2 Main Study: Measurement Development and Sample

The questionnaire was developed with Google Forms and shared online through social networks with participants invited to share, in turn, the survey with their contacts. The data collection took place throughout December 2020. The sample included a population of young Portuguese consumers possessing a Facebook Messenger account (that was required to enable the interaction with the chatbot.

The first part of the survey involved demographic questions, such as age, gender, and profession, while other questions were related to prior chatbot use, online shopping habits, and participants' preference and need for the products. Later, the following constructs of interest were measured: (1) hedonic value, (2) utilitarian value, (3) cognitive engagement, (4) emotional engagement, and (5) behavioural engagement. To measure both hedonic value and utilitarian value (see Table 1 below), we adapted the scales from Babin et al. [3]. The three dimensions of engagement, including the cognitive engagement dimension, emotional engagement dimension, and the behavioural engagement dimension, were assessed to evaluate the brand engagement of consumers. To this end,

it was applied Dessart's et al. [14] brand engagement scale. This scale was chosen based on its variety of engagement foci – making it a more uniform measure for consumer engagement – and its ability to clarify the dimensionality of engagement. It recognises consumer engagement as a three-dimensional concept and adds more detail to its conceptualization. While the behavioural dimension is related to the level of effort and time spent [33], the cognitive aspect of engagement is about the level of absorption that a user is able to reach, and the emotional dimension relates to the measure of enjoyment and enthusiasm [58].

4 Results

4.1 Demographic Information

The data retrieved from the demographic questions were analysed through SPSS Statistics software version 26.0. The majority of participants were able to reach the final levels. Those participants (38) who could not reach the final levels were discarded from the analysis, which led to a final sample of 165 participants (74 men, 91 women). The majority of participantsare between 18 and 23 (66.7%) and 24 and 39 years old (23%). 43.6% of participants possess a Bachelor's degree, 21.25% a Master's degree, and 32.1% a high school di- ploma. More than half of participants declared to have already experienced an interac- tion with a chatbot (55.8%) and 57% of participants declared to regularly make online purchases. Almost all participants liked the products showcased by the chatbot (92.1%), while 72.1% of participants reported a need for the products (suitcases).

4.2 PLS Analysis and Measurement Model

To estimate the measurement and structural models, Partial Least Square Structural Equation Modeling (PLS-SEM) [24] through SmartPLS 3.2.8 software [46] was used. Due to a low factor loading, three items were deleted from the subsequent analysis: HV1, BED 5, and EED2, while due to high variance inflation factor (VIF) value, two items were deleted from the hedonic values scale (HV3 and HV7) to avoid collinearity issues that arise when Variance Inflation Factor (VIF) records a value exceeding 5.00 [24]. The final model consisted of 5 constructs and 21 items. All the VIF values and factor loadings for the remaining constructs are reported in Table 1. All indicators have exceeded the threshold established at 0.6. Similarly, the minimum cut-off values, established by Fornell and Larcker [20], at 0.7 for composite reliability, 0.6 for Cronbach's Alfa, and 0.5 for AVE, have been also exceeded. Reliability and convergent validity were respectively assessed by Composite Reliability (CR) and Average Variance Extracted (AVE) and each composite's AVE square-root values were compared with the correlations between the different composites of the model [20]. In all cases the AVE values exceed the corresponding squared inter-composite, correlational values. Discriminant validity was also assessed by HeteroTrait-MonoTrait ratio (HTMT)

of correlations, because of its superior performance compared to more traditional methods [27], with values below the threshold 0.90. Standardized loadings were used to assess the indicator reliability. The thresholds for CR, AVE, and lambda are .7, .5, and .6, respectively. For the HTMT criterion, the threshold level of .90 was used [26].

Item	Mean (SD)	VIF	Loading	α	Composite Reliability	AVE
Utilitarian value				0.897	0.929	0.766
UV1	5.570 (1.376)	3.24	0.903			
UV2	5.867 (1.333)	1.85	0.798			
UV3	5.673 (1.349)	3.48	0.917			
UV4	5.527 (1.355)	2.71	0.877			
Hedonic value				0.889	0.919	0.694
HV2	5.764 (1.392)	2.30	0.823			
HV4	5.642 (1.339)	2.64	0.863			
HV5	4.818 (1.542)	2.15	0.835			
HV6	5.661 (1.399)	2.60	0.868			
HV8	5.309 (1.579)	1.80	0.774			
Cognitive Engagement Dimension				0.915	0.940	0.796
CED 1	4.333 (1.756)	2.59	0.866			
CED 2	4.606 (1.661)	3.24	0.901			
CED 3	5.036 (1.456)	3.68	0.924			
CED 4	4.600 (1.617)	2.57	0.878			
Behavioral Engagement Dimension				0.920	0.943	0.806
BED1	5.139 (1.375)	2.84	0.886			
BED 2	5.224 (1.363)	2.44	0.853			
BED3	5.200 (1.372)	3.90	0.922			
BED 4	5.145 (1.336)	3.12	0.887			
Emotional Engagement Dimension				0.910	0.937	0.788
EED 1	5.158 (1.302)	2.64	0.878			
EED 3	5.315 (1.274)	3.04	0.897			
EED 4	5.085 (1.355)	4.07	0.913			
EED 5	5.170 (1.421)	3.68	0.903			

Table 1. Loadings, reliability, and validity

4.3 Structural Model

The hypotheses were tested using 5000 bootstraps resamples. As reported in Table 2, results show that utilitarian value is not related to the cognitive engagement dimension of consumer engagement since the relationship between these variables is not significant (γ = -0.045, p = 0.563), thus not supporting the hypothesis (H1). However, utilitarian value, in line with H2 and H3, is positively related to the behavioural and emotional engagement dimensions (respectively γ = 0.195, p <0.05 and γ = 0.259, p < 0.05). In line with H4, H5 and H6, hedonic value is positively related to the cognitive (γ = 0.764, p <0.001), behavioural (γ = 0.636, p <0.001), and emotional (γ = 0.477, p < 0.001) engagement dimensions, thus confirming the three hypotheses. The coefficient of determination value (R^2) for cognitive (0.541), emotional (0.458), and behavioural (0.606) engagement dimensions represent a good value for behavioural research [24]. It was also used the blindfolding procedure to evaluate the relevance of exogenous variables to model performance. [24]. The results of Stone- Geisser's blindfolding technique (Q^2) show that the cognitive (Q^2 = 0.423), emotional (Q^2 = 0.349) and behavioural (Q^2 = 0.480) engagement dimensions have satisfactory predictive relevince, since their value is far above 0 [53].

Hypotheses	Path coefficient	CIs (bias corrected)	t-Value	F^2	Supported
H1	-0.045	[-.189, .116]	0.578	0.002	No
H2	0.195	[.048, .348]	2.528	0.054	Yes
H3	0.259	[.087, .431]	2.968	0.070	Yes
H4	0.764	[.616, .888]	11.100	0.714	Yes
H5	0.636	[.471, .770]	8.317	0.577	Yes
H6	0.477	[.289, .640]	5.369	0.236	Yes

Table 2. Structural model estimates

5 Discussions, Implications and Future Studies

This study aimed to disentangle the relationships between perceived hedonic and utilitarian values and consumer-brand cognitive, emotional, and behavioral engagement in gamified human-chatbot interactions. A research model grounded on the Means-Ends model by Woodruff and Gardial [62], was developed to test the hypothesised relationships based on Dessart et al. [14] and Hsu and Chen's [34] work.

Similar to other studies, such as the ones from Högberg et al. [30] and Żyminkowska [69], the utilitarian and hedonic values were predictors, and the three dimensions of consumer engagement were considered as criterion (dependent) variables.

Results show that both utilitarian and hedonic values were found to positively affect the emotional dimension of engagement. Reasonably, hedonic value was found to have a higher influence than the utilitarian value ($\beta = 0.259$), probably because of its strong relation to the subjective and emotional level of experience. In fact, as stated by Xi and Hamari [64], when using achievement-related features such as badges, points, and goals, it is easier to achieve emotional engagement because of the sense of winning a prize and thus experiencing an emotional winning state. Similarly, to what emerged with the emotional dimension, both utilitarian and hedonic values were found to be positively related to the behavioural dimension of engagement. According to previous findings, the latter was found to have a higher influence on the behavioural dimension of engagement than the utilitarian value ($\beta = 0.195$). These findings go along with Żyminkowska [69], who found that hedonic value, being an intrinsic characteristic, has a stronger effect than the utilitarian value on behavioural engagement, but are opposite to Yuan, Zhang and Wang [67] who found a higher effect of utilitarian value rather than hedonic value on intention to use artificial assistant, meaning that in a gamified human-chatbot interaction, although the means of the interaction is still task-driven (receiving a discount for a purchase), the role of the intrinsic aspects far outweighs the role of the extrinsic elements.

Interestingly, the current study pinpoints that the utilitarian value does not generate significant effects on the cognitive dimension of brand engagement, as contrary to what was expected, the extrinsic motivation and the cognitive dimension of engagement were not significantly related. Given that cognitively engaged users are supposed to be deeply engrossed in the interaction and to feel present and focused on the brand and its related attributes, and that cognitive engagement holds motivational components [50], the result suggests that only emotional factors (entertainment) and not instrumental factors such as having achieved the goal or the good economic (discount) value help users to feel cognitively engaged.

This study contributes to the marketing literature by providing an exploratory Means-End model to evaluate the values perceived in the interaction with a gamified chatbot and its impact on consumer-brand engagement. The study also advances the gamification literature, which is a fast-emerging topic, mainly applied for educational, health, or civic engagement purposes [49], which makes this investigation on consumer engagement with brands through a gamified chatbot particularly innovative.

The present study also contributes to the emerging literature on consumer engagement, as most studies have not yet considered the multidimensionality of consumer

engagement and have not yet explored the relationship between consumer values and consumer engagement in human-chatbot interactions [69]. Unlike previous studies that considered engagement as a unidimensional construct [65], this study analysed engagement as a multidimensional concept including cognitive, emotional, and behavioural dimensions, which allows a more detailed and accurate knowledge of the phenomena compared to a unidimensional approach. Even though businesses are starting to understand the great potential that chatbots present to various activities, there are still no relevant studies on the effect of a gamified experience with a chatbot in an online business setting. In this respect, our study also advances knowledge on the literature concerning human-chatbot interactions. As chatbots have been mainly investigated and applied to support customer service [41], this study takes an innovative approach on the transformation of communication tools, as it recognizes the benefits of using a chatbot and gamified interactions to establish a communication that goes beyond providing mere customer assistance, but rather creates engagement and connection with brands.

The results of this study offer valuable insights for managers. To date, there is still no clear guidance for companies to understand the underlying mechanisms that enable gamified chatbots to effectively boost brand engagement. Thus, we hope to provide insights related to this matter, firstly by providing empirical evidence regarding how gamification could be practically designed to effectively improve brand engagement, and second by identifying the weight of both hedonic and utilitarian values in determining cognitive, emotional, and behavioral engagement. Overall, this study highlights the importance for managers and designers to apply gamification strategies for brand engagement purposes through chatbot interactions. In this perspective, our results open an opportunity for the development of co-branding strategies, capable of adding value and increasing competitiveness through gamified experience. However, not all businesses might fully benefit from using gamification strategies, and by being aware of this, practitioners should find new ways of sustaining consumer-brand engagement [51] and develop different gamified experiences, which ultimately could positively influence brand performance, increase the number of sales, and resistance to competitors offers [33]. With respect to consumer involvement in the products and WOM behavior (behavioral engagement), the entertaining component of the gamified experience has a higher weight compared to utilitarian and instrumental features. Similarly, when it comes to assessing cognitive engagement, intrinsic rather than extrinsic and more utilitaristic motivations prevail, that is, promoting discount alone will not contribute to the development of cognitive engagement unless pure enjoyment and emotional interest are provided. In this light, our results reinforce the shift from the usage of purely extrinsic marketing strategies based on material and monetary rewards, such as discounts, customer loyalty programs and membership systems, to a more hybrid approach of extrinsic and intrinsic motivational strategies.

We conclude the paper by exploring limitations and suggesting some possible avenues for future research. The first limitation of the study lies in the snowball sample, which is a non-probability randomized technique that, although making the sampling more accessible and easier for researchers to select a unit to represent a population, it reduces the possibility of statistical inferences from the sample to the population.

Then, the design of the chatbot consisted of a limited number of achievement-related game features. Using a higher number of game components might increase the gameful experience. The objective of this study includes an exploratory approach: the research was conducted using a cross-sectional design and correlational analysis that may inadequately capture causality. Future studies could apply an experiment with a factorial design to try and test the influence of each gamified feature on perceived values and dimensions of engagement. In addition, future research should delve deeper into examining additional experiential antecedents of consumer-brand engagement. As results showed that the cognitive dimension of engagement has no significant relationship with the utilitarian value, contrary to what happened with the emotional and behavioural dimensions, its interpretation suggests that not all customers might fully benefit from using gamification strategies, especially those who are more task-oriented and with a lower or no need to feel immersed in the gamified interaction. Future research could delve into this research question and find evidence of whether results differ according to the type of consumer (for example in terms of need for affect or need for cognition). We chose a category of products that could be considered of regular use and non-subject to cultural influences, which is a common practice in marketing papers that use experiments as a methodology [43]. Future research could address different kinds of services in new research contexts as there is potential to extend the proposed typology (gamified chatbot interaction) into different markets and firm contexts. Finally, we suggest co-branding strategies involving a real brand and its product and a gaming brand to be explored.

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