Gamified services: How gameful experiences drive customer commitment

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Abstract: Digital service providers are increasingly gamifying their services (i.e., enriching non-game services with game elements) to maintain a loyal customer base. In this research, the authors aim at examining whether gamification actually translates into user behavior that is beneficial for the firm (i.e., customer commitment). In viewing gamification as a co-creation process between service providers and users, this research provides novel insight on the impact of four generic gameful experiences (i.e., the internal and subjective user responses arising while interacting with game elements during gamified service use) on customer commitment. Findings reveal that gameful experiences can increase commitment but can also harm it. For instance, self-development represents the strongest driver, suggesting that it triggers commitment when individuals have feelings of being effective in their actions. When experiences of self-development coincide with social comparison, this commitment enhancing effect is leveraged even more. However, social comparison and expressive freedom should not be evoked at the same time as they yield a negative interplay, undermining customer commitment.

1. Introduction

Digital service providers increasingly struggle to maintain a loyal customer base. For instance, after just one week of usage, 89% of users will not return to an app (Appboy, 2016). For mobile app providers, who generate their revenues through advertising, in-app purchases or paid-premium upgrades (Liu, Au, & Choi, 2014), this statistic is particularly worrisome. To offer additional value propositions and thus retaining customers, service providers rely on gamification to evoke gameful experiences (e.g., competition) through game elements (e.g., badges; Deterding et al., 2011; Huotari & Hamari, 2017). Given that investments in gamification are steadily growing across various contexts such as fitness or education, we aim at examining whether it actually translates into user behavior that is beneficial for the firm (Hofacker, de Ruyter, Lurie, Manchanda, & Donaldson, 2016; Markets and Markets, 2016).

Prior gamification research focused on its motivational effect (e.g., Kim & Ahn, 2017) and the resulting user performance (e.g., Hamari, 2017). Thus, it is not surprising that there is little research providing insights on how service providers can leverage gamification to retain customers (Hamari & Koivisto, 2015b). To close this gap, we examine how gamified services – defined as non-game

services, which are augmented with game elements that facilitate gameful experiences – foster customer commitment. We focus on commitment because it is a critical relational outcome for service firms and prevents switching behavior (Bansal, Irving, & Taylor, 2004).

In this research, we draw on service-dominant logic (S-D logic) to argue that the game elements embedded in gamified services merely represent value propositions for users. Thus, the value of a gamified service originates from experiences perceived while interacting with game elements through service usage (Chandler & Lusch, 2015; Sandström, Edvardsson, Kristensson, & Magnusson, 2008; Vargo & Lusch, 2004). Consequently, in the context of gamified services, user value is reflected by gameful user experiences (e.g., Huotari & Hamari, 2017; Zomerdijk & Voss, 2010).

Unfortunately, many firms lack an understanding of creating value-creating experiences related to gamified services (Hofacker et al., 2016; Pettey & van der Meulen, 2012). Moreover, such gameful experiences arise from various game elements to unfold their behavioral impact (e.g., feelings of achievement due to being awarded with badges; Wolf, Weiger, & Hammerschmidt, 2018). Consequently, addressing this knowledge gap is of upmost managerial relevance. Thus, as different gameful experiences are likely to emerge simultaneously during gamified service usage, our conceptual model builds on prior literature to examine four constituting experiences and their interactions (self-development, social comparison, social connectedness and expressive freedom) and links them to customer commitment (Wolf et al., 2018).

To test our framework, we build on a dataset comprising user perceptions on gameful experiences of ten real-life gamified apps varying in their embedded game elements. This study provides empirical evidence that gameful experiences drive customer commitment, while showing that not all experiences drive commitment to the same extent. Furthermore, the study reveals that focal gameful experiences can be synergistic and dissynergistic in their effect on commitment.

This research contributes to literature on service marketing as well as the emerging stream of literature on gamification in marketing. First, as suggested by several authors, we concentrate on gameful experiences instead of game elements and shift away from the pervasive design-oriented understanding of gamification towards a user-centered perspective (e.g., Huotari & Hamari 2017). Second, we demonstrate that co-created gameful experiences, which emerge through users' interactions with gamified services, can drive customer commitment. Third, by examining the interplay of gameful experiences, we reveal synergistic and dissynergistic effects that are critical to consider for service designers when designing services.

2. Conceptual Framework

2.1. Gamification

Having its origins in computer science research, gamification has been often defined as the use of game elements in non-game contexts (e.g., Deterding et al., 2011). This definition assumes that user behavior can be directly steered through implementing game elements in services and represents a design-centered perspective. Further, Deterding et al. (2011) posit that user experiences are pivotal in gamification, however they are not a constitutive element of their gamification conceptualization. In contrast, Huotari and Hamari (2017) suggest a change in perspective and highlight the need to consider gameful experiences as true drivers of user behavior and define gamification as a process of enhancing a service with affordances for gameful

experiences that support users' overall value creation. Our conceptual framework centers on this user-centric understanding of gamification.

2.2. Gameful experiences

We draw on S-D logic to emphasize that gamification is an approach of placing the user experience at the core of the service offering (Zomerdijk & Voss, 2010). In gamified services, value results from co-creation in terms of user interactions with a service (Vargo & Lusch, 2004). Thus, by enhancing services with game elements, firms offer a value proposition and afford users to gather gameful experiences during service usage (Zomerdijk & Voss, 2010). Further, because the value of gamified services manifests in user experiences during consumption and interaction with game elements (i.e., the value-in-use; Vargo & Lusch, 2004), S-D logic integrates the design and user perspectives discussed above (Hammedi, Leclerq, & Van Riel, 2017).

However, prior gamification literature still lacks a definition of gameful experiences (Huotari & Hamari, 2017). Thus, we draw on the concept of customer experience (e.g., Verhoef et al., 2009) and define gameful experiences as the internal and subjective user responses arising while interacting with game elements during gamified service use. This understanding implies that gameful experiences may differ between users as user responses are subjective and can only be facilitated but not provided per se. Prior gamification literature provides a plethora of different experiences, even if not necessarily labeled as gameful experiences (e.g., Matallaoui, Koivisto, Hamari, & Zarnekow, 2017). We draw on the findings of Wolf, Weiger, and Hammerschmidt (2018) in order to capture the comprehensive spectrum of gameful experiences emerging during gamified service usage and focus on four experiences: self-development, social comparison, social connectedness, and expressive freedom. Self-development refers to experiences of advancement in one's own capabilities. Social comparison is the experience of rivaling with others when performing an activity. Social connectedness manifests through interacting and cooperating with one another. Expressive freedom is experienced when acting on one's own will and being able to demonstrate one's own personality. These dimensions of gameful experiences are based on previous literature and thereby include and overlap with many prior concepts introduced to gamification (e.g., the idea of meaningful gamification by Nicholson, 2012)

2.3. Customer commitment

To remain profitable, digital service providers depend heavily on customers who commit to continued service usage (Palmatier, Dant, Grewal, & Evans, 2006). Customer commitment refers to a user's enduring desire to continue a relationship with a service provider and to make efforts to maintain the relationship (DeWulf, Odekerken-Schröder, & Iacobucci, 2001). Commitment is critical to the firm's profitability, because it directly translates into repeated service usage (Cho, 2006).

2.4. Conceptual model

Humans use services to gather satisfying experiences (e.g., Holbrook, 2006), which may result from entertainment, need satisfaction or supporting personal goal achievement (e.g., Lemke, Clark, & Wilson, 2011). Gamified services are designed to evoke those pleasurable and satisfying experiences (Huotari & Hamari, 2017). Importantly, users can gather and intensify such satisfying experiences through gamified service usage (Verhoef et al., 2009). Thus, we argue that gameful experiences should foster customer commitment based on the assumption that customers will keep using the service in the future to perceive them again. However, if different experiences occur at

the same time, the resulting interplay may yield synergistic or dissynergistic effects depending on whether they boost joyful feelings or cause unpleasant feelings. Thus, in our model, we focus on the impact of self-development, social comparison, social connectedness and expressive freedom, and their interactions on customer commitment.

3. Method

We collected survey data on users' gameful experiences and their intentions to commit to the service provider. The sample contains actual users of real-life gamified apps in different service contexts to assure high external validity. More precisely, we focus on users of ten apps, which we selected from 50 apps in four different service contexts (education [2 apps], fitness [2], nutrition [3], and organization [3]) based on app popularity.[1] To achieve a representative sample and high variation in gameful experiences, we ensured that the selected apps had varying numbers of game elements (range [2,9]).

3.1. Data collection

We conducted an online survey, which we distributed across social media groups. We collected data from 571 respondents, which resulted in an effective total of 511 usable data sets (61% female; $M_{age} = 28.23$, $SD_{age} = 8.53$). First, based on their previous personal experience and use, participants could choose one of the ten gamified apps. However, we excluded users who had no experience using any of these apps from the survey. Then, the respondents answered questions about their commitment intentions, gameful experiences with the focal app, and several control variables (e.g., demographics and technology experiences).

3.2. Measures

We used seven-point Likert scales (1 = "strongly disagree" and 7 = "strongly agree") to capture all items if not stated otherwise. To capture customer commitment, we adapted two items to measure intentions for relationship commitment (e.g., I am willing to remain loyal to this [App].; Cho, 2006; DeWulf, Odekerken-Schröder, & Iacobucci, 2001). Further, we adopted the nine items of Wolf et al. (2018) to capture gameful experiences. The Cronbach's alphas confirm construct reliability for all four dimensions of gameful experiences ($\alpha \geq .71$), except expressive freedom ($\alpha = .50$). Due to the insufficient Cronbach's alpha value for expressive freedom we ran an explorative factor analysis to assure discriminant validity. The results confirm the four dimensions of generic gameful experiences[2] identified by Wolf et al. (2018) and we use the resulting factor scores as measures. To eliminate confounds, we include controls: For service-specific factors, we consider dummies for the app contexts as behavior may vary across contexts. As user-specific factors we control for app usage duration, premium app users (vs. free app users), technology experience, age, and gender using single-items (e.g., Hamari, Koivisto, & Sarsa, 2014).

3.3. Model

We estimate the following regression model to examine the impact of gameful experiences and their interactions on customer commitment (COM):

[1] We conducted a pre-study (n = 443) to identify the most popular gamified apps of 50 randomly selected apps with more than 500,000 downloads. More information on pre-study results and selected apps contained in the sample is available upon request.

[2] Results available on request.

$$COM_i = \beta_0 + \beta_1 DEV_i + \beta_2 COP_i + \beta_3 CON_i + \beta_4 EXF_i + \beta_5 DEV_i \times COP_i + \beta_6 DEV_i \times CON_i + \beta_7 DEV_i \times EXF_i + \beta_8 COP_i \times CON_i + \beta_9 COP_i \times EXF_i + \beta_{10} CON_i \times EXF_i + \beta_{11} CFI_i + \beta_{12} CNU_i + \beta_{13} COR_i + \beta_{14} AUD_i + \beta_{15} PRU_i + \beta_{16} TXP_i + \beta_{17} AGE_i + \beta_{18} MAL_i + \varepsilon_i$$

where DEV_i, COP_i, CON_i, and EXF_i are gameful experiences: self-development, social comparison, social connectedness, and expressive freedom and CFI_i, CNU_i, COR_i are dummy variables to control for service contexts (fitness, nutrition, and organization, vs. education as reference group), AUD_i as app usage duration, PRU_i as premium app user, TXP_i as technology experience, AGE_i as age, and MAL_i as male participant. Finally, ε_i refers to the error terms of subject i.

4. Results

Table 1 contains the results from the regression model. The results show that all four generic gameful experiences have a significant positive main effect on customer commitment ($\beta_{1,2,3,4} \geq .17$, $p \leq .01$). The interaction of self-development and social comparison has a positive significant effect on customer commitment ($\beta_5 = .13$, $p \leq .05$). Furthermore, the results show a significant negative interaction effect of social comparison and expressive freedom on commitment ($\beta_9 = -.16$, $p \leq .01$). All other interactions have no significant effect on commitment ($|\beta_{6,7,8,10}| \leq .04$, $p > .10$).

Table 1: Results of OLS Regression

	Customer commitment		
Independent Variable	**Coefficient**	**SE**	**Std. Coefficient**
Constant	3.40***	.35	-
Gameful experiences			
Self-development	.42***	.07	.30***
Social comparison	.17**	.06	.12**
Social connectedness	.19**	.07	.14**
Expressive freedom	.23*,+*	.06	.16***
Interactions			
Self-development × social comparison	.13*	.06	.08*
Self-development × social connectedness	.01	.06	.01
Self-development × expressive freedom	-.03	.07	-.02
Social comparison × social connectedness	-.02	.05	-.01
Social comparison × expressive freedom	-.16**	.05	-.12**
Social connectedness × expressive freedom	.04	.05	.03
Controls			
Context fitness	.07	.17	.03
Context nutrition	.10	.18	.03
Context organization	.24	.24	.06
App usage duration	.01†	.00	.09†
Premium app user	-.02	.15	-.01
Technology experience	.12**	.05	.13**
Age	.01	.01	.07
Male	-.39***	.12	-.14***
Adj. R^2		.20	
Max. variance inflation factor		2.28	

† $p \leq .10$, * $p \leq .05$; ** $p \leq .01$, *** $p \leq .001$; Notes: $n = 511$. To account for heteroscedasticity, we estimated the model using robust standard errors.

5. Discussion

The results of the study are meaningful for service providers turning to gamification as a tool to enhance business outcomes by delivering gameful experiences. First and foremost, the results

demonstrate that gameful experiences indeed foster customer commitment. Focusing on the effects of experiences, comparing the standardized coefficients in Table 1 suggests that self-development is the strongest driver of commitment. Thus, when individuals have the feeling of being effective in their actions, it triggers commitment intentions. Expressive freedom represents the second strongest effect. Thus, services that facilitate the experience of being able to freely express oneself are effective in retaining a loyal user base. Although social comparison has the weakest main effect, it effectively boosts the commitment-enhancing effect of self-development when both experiences occur at the same time. This suggests that comparing own performance to others helps users to feel even more effective in their behavior. It is critical to consider that social comparison and expressive freedom are no silver bullets as they negatively interact with each other. Thus, this interplay nullifies the positive main effect of social comparison. However, affording experiences of social connectedness seems to be the more conservative option, as there is no negative interaction with other experiences and it has a positive main effect on customer commitment. The findings also show that user-specific factors like gender and technology experiences have an impact on commitment. Thus, the effect of gamified services on customer commitment might vary between customer segments.

5.1. Research implications

The findings are relevant for service research in general and for business research concerned with gamification in marketing in particular. First, drawing on S-D logic, we take on an experience-oriented perspective and suggest that gameful experiences arise from a co-creation process between the service provider and the user (Hammedi et al., 2017; Huotari & Hamari, 2017). Our findings provide empirical evidence for the necessity of gamification researchers for taking on a more user-centric perspective and shifting away from examining game elements and instead focusing on gameful experiences.

Second, our findings confirm the existence of four generic dimensions of gameful experiences in the context of gamified services (Wolf et al., 2018). Thus, our research complements previous research that has elaborated on the role of playful experiences during gamified services usage (e.g., Hamari & Koivisto, 2015a). We show that, next to playful experiences, gameful experiences need to be considered to account for constituting pillars of the commitment-enhancing effect of gamification. This effect stems from striving toward goals while adhering to a structured set of rules and competing with others instead of a form of exploratory and free form of play.

5.2. Managerial implications

Broadly speaking, our findings justify service providers' increasing investments in gamification to enhance services. Gamification helps to retain customers by enhancing commitment. However, our results also demonstrate that service gamification can have undesired consequences if it affords the "wrong" combination of gameful experiences. We stress the point that gamification is an experience-centered approach and we want to encourage service providers to shift their focus away from thinking only in terms of game elements when designing gamified services. Instead, service providers should concentrate on facilitating compelling co-created gamified experiences while considering their interplay.

5.3. Limitations and avenues for future research

This research has some limitations that offer fruitful avenues for future research. As gameful experiences are highly subjective in nature, future research should focus on establishing a thorough

mapping of gameful experiences and game elements, to provide precise managerial guidance. Moreover, future research could tap into related, but distinct, service contexts, such as social media platforms, to challenge the generalizability of our results. Further, there could be situational and personality differences in user preferences like user competitiveness or user orientation, which could impact the relationship of gameful experiences and user behavior.

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