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Effects of Gamification on Customer Engagement in Online Communities

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Summary

Despite the increasing use of gamification mechanics to engage customers in these communities, the risks of such use for customers' well-being remain unclear. To address this gap, this research examines the potential negative effects of gamification on customer engagement in online communities. Based on a field experiment, the impacts of multiple gamification mechanics on customer intentions to further contribute to a community are analyzed. We show that gamification practices may engender a sense of unfairness, especially among community newcomers who believe that their submissions will be treated differently from the submissions of members who are highly engaged in the community. This research contributes to the extant literature by providing an understanding of the extent to which gamification may backfire in online communities and negatively impact members' well-being.

Keywords : Gamification, community, fairness, engagement

JEL Classification: D12, D6

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EFFECTS OF GAMIFICATION ON CUSTOMER ENGAGEMENT IN ONLINE COMMUNITIES

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Introduction

The increasing popularity of online communities and social media has revolutionized how companies and customers interact (Singh & Sonnenburg, 2012; Johnson & Lowe, 2015). Members of online communities are not merely participants who simply share information with peers or post comments in threads; they often actively contribute to managerial activities and co-create value by influencing the well-being of firms and customers (Mačiulienė & Skarzauskiene, 2016; Benoit, Bilstein, Hogreve & Stichmann, 2016). Through online communities, managers can gain valuable insights for strategic decision making (Kumar et al., 2010). Customers may derive well-being from their interactions with a community as a result of support and socialization with peers (Algesheimer, Dholakia & Hermann, 2005).

In that respect, customers who are engaged with a community demonstrate a higher intention to further contribute to the community (Kumar et al., 2010; Brodie, Ilic, Juric & Hollebeek, 2013, Pansari & Kumar, 2017; Leclercq, Poncin & Hammedi, 2017). Generating engagement in the community is therefore considered a key challenge for practitioners aiming to ensure long-lasting participation (Dholakia, Bagozzi & Pearo, 2004; Brodie et al., 2014; Relling, Schnittka, Sattler & Johnen, 2016). However, whereas previous research indicates that customer engagement can be fostered by attractive interactive platforms (Breidbach, Kolb & Srinivasan, 2013; Ramaswamy & Ozcan, 2016), the literature consistently considers how these platforms should be designed to manage and maintain engagement as an area in need of further investigation (Breidbach, Kolb & Srinivasan, 2013; Ostrom et al., 2015). The Marketing Science Institute emphasizes this important gap as one of the top-tier research priorities for the period 2016-2018.

Among the myriad of mechanisms that can be implemented to design engaging platforms, managers and researchers have called for the use of gamification (Robson et al., 2014; Harwood & Garry, 2015). Gamification, the "use of game mechanics in non-game contexts" (Deterding, Dixon, Khaled & Nacke, 2011: p. 3), has recently gained attention from practitioners. In gamification, practitioners tend to apply lessons from the gaming domain to transform customers' routines into an enjoyable game-like experience, thereby strengthening customer engagement (Zichermann & Cunningham, 2011; Robson et al., 2014). Gamification has found applications in multiple domains, including intra-organizational management (Farzan & Brusilovsky, 2011), education (Landers, 2014), mobile media (Hofacker et al., 2016), innovation (Müller-Stewens, Schlager, Häubl & Herrmann, 2017), e-commerce (Insley & Nunan, 2014) and healthcare (Hammedi, Leclercq & Van Riel, 2017).

Despite the broad use of gamification and projections that such mechanics will become increasingly adopted (MarketsAndMarkets, 2016), it is still unclear how gamification

mechanics should be implemented to create, maintain, and manage customer engagement while minimizing potential risks (Lucassen and Jansen, 2014; Harwood & Garry, 2015). More research is needed to better understand gamification and to develop efficient practices, especially in online contexts, which increasingly reveal predominant social aspects (Hofacker et al., 2016; Huotari & Hamari, 2017). To address these important gaps, this research examines the impact of gamification on customers' engagement in an online community; specifically, it seeks to investigate the impacts of gamification on customers' level of engagement in an online community.

Therefore, this research examines multiple forms of contests that are widely used in online communities – selection by a jury, election by the community and random draws. Therefore, a series of hypotheses were developed and tested. Whereas existing studies exclusively report the positive outcomes of gamification in terms of experience and engagement (Hofhacker et al., 2016; Müller-Stewens et al., 2017), this research contributes to the literature by providing an understanding of the extent to which gamification may backfire in online communities and reduce members' well-being. Paradoxically, even though communities assume that members collaborate with one another (Brodie et al., 2013), we show that the introduction of gamification mechanics such as election by peers may negatively affect customers' experience and their intention to further engage with the community. We show that gamification practices including social mechanisms may engender a sense of unfairness, especially for community newcomers who consider that their submissions will not be treated equally to those provided by members who are highly engaged within the community. This sense of unfairness induced by gamification may reduce customers' well-being and lead to community dilution by discouraging members from contributing further. This research calls on managers to revise their current practices related to gamification mechanics and provides them with guidelines to properly implement these mechanics in online community settings.

In the following section, we survey relevant literature streams to develop a series of hypotheses. Then, we test these hypotheses. Finally, we discuss our results and outline both managerial implications and future research opportunities.

1. Theoretical Framework

Integrating the multiple ways that customers may influence firms and peers in addition to making purchases, the customer engagement concept has recently received considerable attention from managers and scholars as an imperative strategy for companies (Kumar & Pansari, 2016). Customer engagement describes the relationship a customer may develop with a focal object such as an activity, a community, a brand or even a process (Brodie et al., 2011). Engaging customers has been emphasized as a promising strategy to foster companies' sales

growth and profitability (Bijmolt et al., 2010; Kumar & Pansari, 2016). Engaged customers demonstrate a higher level of trust, loyalty, positive emotions and satisfaction, all of which lead them to further interact with the focal object (van Doorn et al., 2010; Jaakkola & Alexander, 2014). Additionally, engaged customers are more willing to help each other, jointly develop solutions and share information (Brodie et al., 2013).

In the digital context, customer engagement offers a fruitful framework to understand how customers and companies interact and exchange resources to co-create value with new technologies (Breidbach et al., 2013; Breidbach et al., 2014). Among the various online platforms that may be used to engage customers and co-create value, online communities offer a particularly interesting context because they enable members to develop social capital, such as reciprocity and social trust, and consequently generate value for all members (Algesheimer et al., 2005; Rihova, Buhalis, Moital, & Gouthro, 2013).

Customer engagement with the community is customers' investments in the social bonds they develop with other community members. It includes multiple acts voluntarily undertaken by customers to positively influence the community, such as sharing information, learning together, helping each other and jointly developing solutions (Brodie et al., 2013). Through engagement with the community, customers create value and well-being both for themselves and for the entire community (Algesheimer et al., 2005). Customers who are engaged in a community tend to initiate long-term interactions with other members (Brodie et al., 2013; Harmeling et al., 2017; Leclercq et al., 2017). However, creating and maintaining customer engagement in a community requires companies not only to provide members with resources enabling them to reach their personal goals but also to manage relationships among community members (Relling et al., 2016). Conversely, customer disengagement from the community not only deprives the group of future contributions but also progressively disintegrates the community by diluting the social capital that is a key driver of community member engagement (Dholakia et al., 2004).

Gamification has been revealed as a highly successful and popular practice for managers (Werbach and Hunter, 2012). It was initially defined as "the introduction of game mechanics and elements (rather than full-fledged games) to design non-game contexts" (Deterding et al., 2011: p. 5). According to this widely adopted definition, gamification consists of game-like mechanics, objectives and structures imposed by designers to influence customers' behaviors (Werbach & Hunter, 2012; Zichermann & Linder, 2013). However, based on recent developments in the literature in marketing and services that are increasingly centered on customers' experience, gamification is instead considered "a process of enhancing a service with affordances for gameful experience to support customers' overall value creation" (Huotari & Hamari, 2017: p. 25). This approach emphasizes the experience that gamification attempts to provide and notes that gamification does not always result from concrete elements imposed

by managers but rather emerges from customers' experience (Insley & Nunan, 2014). Integrating these two views, the key challenge of gamification resides in companies' ability to enhance customers' experience and engagement by providing them with opportunities to develop game-like experiences.

While gamification mechanics are imposed by designers, the impacts of these mechanics on customer experience and engagement remain difficult to predict. Consequently, the key competitive advantage for designers lies in their ability to develop mechanics that generate the intended effects (Robson et al., 2015). However, the gamification literature still lacks valid research and best practices to properly develop and manage gamification mechanics (Werbach & Hunter, 2012; Hamari et al., 2014; Lucassen & Jansen, 2014). Although gamification has been reported by Harwood and Gary (2015) and Berger et al. (2017) as a powerful way to engage actors, the literature on this burgeoning concept remains conceptual and lacks empirical inquiry (Hamari, Koivisto & Sarsa, 2014).

A wide range of gamification mechanics may be transposed from games to gamified contexts. Among gamification mechanics, various types of challenges have strongly attracted scholars and practitioners' interest (Harwood & Garry, 2015). A challenge is described as an initiative requiring participants to achieve a task by overcoming specific obstacles. However, difficulty levels make challenge completion and the reception of the related rewards uncertain. Malone (1981) emphasizes that this level of uncertainty makes challenges intrinsically motivating. Therefore, by taking up challenges, participants progressively learn how to master tasks and overcome obstacles (Landers, 2014; Hanus, 2015). This sense of accomplishment and mastering generates fun experiences, which increases the intention to further engage (Koster, 2013; Hammedi, Leclercq & Van Riel, 2017).

H1. Gamification impacts customers' intention to further engage by affecting their experience.

Currently, multiple forms of challenges exist, and they vary according to the process used to identify winners. Winners may be selected by an external jury, elected by peers or even randomly drawn. All these mechanics share the characteristic of inducing uncertainty, as participants do not know whether they will win or lose. This uncertainty generates fun and challenging experiences and leads to engagement (Malone, 1981; Koster, 2013). Uncertainty may be induced by firms or socially induced. Gamification – including uncertainty induced by firms – comprises the rules imposed by designers that provide them complete control over the designation of the contest winner. By contrast, socially induced uncertainty included in gamified settings is the influence of peers' activities on the designation of winners. Both types of uncertainty may exist in a gamified process. For instance, in a contest in which the winners are selected by an external jury, the uncertainty related to gamification mechanics is partly induced by the firms and other participants. Indeed, participants are uncertain of their success

because winning depends on both a jury's decision and the performance of the other participants.

Because gamification includes rewards for specific behaviors, it implies that customers should consider the balance between their investments and potential incentives, comparing their situations with others within social exchange relationships (Adams, 1963; Ahrens, Coyles & Strahilevitz, 2013). This sense of fairness is especially critical in the context of online communities, where customers continually evaluate what they receive according to their contributions to the community (Algesheimer et al., 2005). In that respect, gamification mechanics that infer social uncertainty may lead to feelings of inequity, as participants may consider that others were privileged and therefore that they were not treated equally (Morton, 1987). This situation may have a negative impact on customers' experience and resulting intention to further engage in the community. By contrast, participating in a gamified activity in which uncertainty is induced by firms implies that all participations are threatened similarly. Consequently, gamification in which uncertainty is induced by firms may have a positive impact on customers' experience and resulting engagement in the community. Accordingly, we formulate the following two hypotheses:

H2. Gamification mechanics, including socially induced uncertainty, have a negative impact on customers' experience and their resulting level of engagement in the community.

H3. Gamification mechanics, including uncertainty induced by firms, have a positive impact on customers' experience and their resulting level of engagement in the community.

Furthermore, because customer engagement is a dynamic and iterative process, customers' prior level of engagement may influence their experience (Brodie et al., 2013). Accordingly, Leclercq, Poncin and Hammedi (2017) underline that the prior level of engagement in the community affects customers' experience in a gamified context and consequently influences their intention to further engage in interactions with peers. Indeed, customers' prior level of engagement in the community may moderate the negative effects of unfairness because customers who are highly engaged in the community might feel privileged in gamified contexts in which uncertainty is socially induced. Accordingly, we formulate the following hypothesis:

H4. Customers' prior level of engagement in the community moderates the negative impact of gamification driven by socially induced uncertainty on customers' experience and intention to further engage in the community.

2. Field experiment

To test our hypotheses, a field experiment was carried out, aiming to assess the effect of gamification on customers' intentions to further engage in the community and the moderating impact of customers' prior level of engagement in the community.

Design and procedure: This field study was conducted in collaboration with the online community under study, So Girly. One week before Valentines' Day, we launched on the community a contest inviting members to publish a picture representing "Love". Each member who took part in the challenge was randomly assigned to one of the four conditions. Through these conditions, we manipulated the level of controlled and social uncertainty induced by gamification. While a first condition suggested that the winner of the contest would be randomly drawn (a high level of uncertainty induced by firms and a low level of social uncertainty), another condition indicated that the winner would be selected by the other members of the community (a low level of uncertainty induced by firms and a high level of social uncertainty). The third condition suggested that the winner would be selected by an external jury panel (a high level of uncertainty induced by firms and a high level of social uncertainty). In these three conditions, after participants uploaded their pictures, they were invited to complete a questionnaire. The last condition included a control group in which participants were asked to complete a questionnaire before being informed of the instructions.

Measures: Immediately after submitting their ideas, participants accessed the survey. Using a questionnaire, we operationalized the key study constructs – customer experience and customer engagement with the community – using established multi-item scales. All the items used a 5-point Likert scale (1 = "strongly disagree," 5 = "strongly agree"). The used scales explain more than 60% of the variance and achieve a Cronbach's alpha value greater than .7.

Customer experience was measured with a 19-item scale developed by Verleye (2015). This measure captures the four dimensions: social (5 items; $\alpha = .916$), pragmatic (6 items; $\alpha = .886$), cognitive (5 items; $\alpha = .849$), and hedonic (3 items; $\alpha = .957$). Customer engagement with the community was measured using a four-item Likert scale ($\alpha = .732$) developed by Algesheimer, Dholakia, and Herrmann (2005). The intention to further engage in the community was measured with an ad hoc item, "*I would like to further contribute to the community*".

Findings: Based on this field experiment, 237 complete questionnaires were collected ($N_{Randomly_draw}= 58$; $N_{External_jury}= 57$; $N_{Community_election}= 51$; $N_{Control}= 67$). The participants' mean age was 23 years, and all were female. No significant difference was demonstrated among the four conditions in terms of seniority in the community. In terms of manipulation checks, respondents assigned to one of the three types of contests reported a significantly greater inclination to participate in the contest than the control group ($p < .05$). Data analyses were

conducted using Preacher and Hayes (2008)'s macro process (Model 9, bootstrapped samples= 5000). A moderated mediation model was tested to assess the impact of gamification in which uncertainty is induced by firms and/or induced by social aspects and the moderating impact of customers' level of engagement in the community. Appendix 1 details these results.

In a regression using customer experience as the dependent variable, the main effect of gamification inducing controlled uncertainty is significant and positive ($\beta = .22$; $t = 2.54$; $p < .01$). The main effect of gamification inducing social uncertainty is significant but negative ($\beta = -.91$; $t = -3.60$; $p < .000$). These main effects confirm H2 and H3. No significant moderating effects were reported regarding the implementation of gamification mechanics combining social and controlled uncertainty. The moderating effect of customers' prior levels of community engagement on the relationship between gamification inducing social uncertainty and customer experience was significant and positive ($\beta = .22$; $t = 2.46$; $p < .05$), confirming H4. The relationships between customers' experience and their intention to further engage in the community is significant and positive ($\beta = .84$; $t = 9.37$; $p < .000$). The direct impact of social gamification on customers' intention to further engage in the community was non-significant ($\beta = .05$; n.s.), confirming H1.

These findings indicate an indirect mediation when participants participate in a gamified process in which uncertainty is socially induced (Zhao et al. 2010). Such gamification mechanics negatively affect customers' experience and resulting intentions to further engage in the community. However, this effect varies according to customers' level of engagement with the community. Indeed, as customers are less engaged in the community, gamification in which uncertainty is socially induced is more likely to engender a sense of unfairness because they may believe that members who are already engaged in the community are privileged in the contest. Therefore, equity within the community is not ensured, and members' well-being is reduced.

3. Conclusion

In increasingly competitive environments, providing well-being to customers by engaging them in online communities is a highly challenging task for companies. Through a field experiment, this research responds to calls by Breidbach, Kolb, and Srinivasan (2013) and Ostrom et al. (2015) to offer a better understanding of how gamification mechanics can be used to create, boost, and maintain customer engagement, which is a widely targeted objective for marketing managers. Furthermore, customers in a community tend to initiate long-lasting interactions and resource exchanges, which foster the value co-creation process among participants and consequently generate customers' well-being (Brodie et al., 2013; Storbacka et al., 2016). This study also responds to the recent call by Harwood and Garry (2015) to question the effectiveness of gamification, identify its limits, and provide guidelines for how

to implement it properly and address increasingly common social contexts (Hamari et al., 2014; Lucassen & Jansen, 2014).

We empirically test the impacts of gamification mechanics on customers' experience and intention to further engage in a community. We contribute to the marketing and service literature by showing the risks related to gamification, especially in social contexts such as online communities (Harwood & Garry, 2015). Indeed, by generating a sense of unfairness, gamification may negatively impact customers' experience and intention to further contribute. This feeling is particularly present when gamification mechanics include social aspects. Newcomers who are weakly engaged in the community consider the other members of the community to be privileged in the contest. This sense of unfairness may lead these newcomers to leave the community.

These results challenge current managerial practices. Many online communities use contests with peer election of winners. We demonstrate that these gamification mechanics may generate a sense of unfairness and consequently reduce members' well-being and discourage them from further contributing, leading to the progressive dilution of the community. Accordingly, we call practitioners to revise the gamification mechanics they use in order to foster a sense of fairness, especially for newcomers. For example, the findings suggest that practitioners should use contests with an external jury or even random draws with newcomers because these mechanics ensure a sense of fairness and should introduce gamification with socially induced uncertainty (e.g., election by peers) only for customers who are more engaged with the community.

Despite our rigorous approach, several limitations to our work persist. Because our study is one of the first empirical investigations of gamification mechanics, further research is needed to ensure the generalizability of our findings and to analyze other gamification practices, such as badge systems, 3D environments, and playful designs, in contexts such as healthcare, e-commerce or even intra-organizational management. Furthermore, this research emphasizes how gamification mechanics should be implemented to generate well-being and engage customers. Further research should continue this investigation of gamification as an opportunity to create customer well-being by providing customers with a fun experience. In that respect, gamification should be studied in contexts in which customers are vulnerable, such as healthcare. Accordingly, gamification may be considered a tool to develop new skills and improve abilities and as a source of fun and well-being. Finally, we identify the sense of fairness as a key aspect of gamification's benefits for customers' experience and intention to further engage in the community, and therefore, further academic effort should be dedicated to identifying the strategies that can be used to keep the gamified activity engaging, even in social contexts. We strongly recommend further investigation of the suggested topics to gain a better

understanding of the emergent concept of gamification; these continued insights will have applications in various management contexts for both academic and managerial purposes.

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