

Understanding customer brand engagement in user-initiated online brand communities: antecedents and consequences

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Structured abstract

Purpose: This study provides a better understanding of Customer Brand Engagement (CBE), proposing and empirically testing a model of antecedents and consequences of CBE for user-initiated Online Brand Communities (OBCs).

Design/methodology/approach: The model is tested using a sample of 584 participants in two relevant OBCs created and managed by brand fans. Specifically, data were collected from two communities in the photography products category: Nikonistas and Canonistas.

Findings: The results indicate that community and brand identification positively and significantly influence CBE. Furthermore, the supporting role of OBCs' moderators facilitates CBE and moderates the influence of community identification on CBE. Regarding the outcomes of CBE, the results show that higher levels of engagement are positively, directly and significantly associated with favorable intentions towards the brand and the community. These effects are mediated by brand affective commitment.

Research limitations/implications: The study has been conducted in two Spanish OBCs of two specific high-involvement products category, it is cross-sectional and focuses on a limited number of antecedents and consequences.

Practical implications: Evidence from this research supports and emphasizes the potential that these platforms have for brand management, so that firms' resources could be best allocated on those elements which lead to superior customer brand engagement.

Originality/value: The study endorses the role of CBE in fostering brand and community-related favorable outcomes in the context of user-initiated OBCs. It shed lights on the potential that these online platforms have for brands and on the role that brand management should play in digital contexts which are outside the direct control of the company.

1. Introduction

In recent years, companies have been investing marketing budget in Online Brand Communities (OBCs) with the purpose of initiating and strengthening relationships with their customers, create content and stimulate brand engagement within these social platforms (Baldus et al., 2015). In particular, with the development of their own online platforms, companies engage customers with their brands and with other consumers, creating virtual settings that facilitate digital communications (Gummerus et al., 2012; Verhagen et al., 2015). A number of studies (e.g. Bijmolt et al. 2010; Cheung et al., 2015; de Vries and Carlson, 2014; Moliner et al., 2018; Yang et al., 2016) acknowledge that a higher level of customer brand engagement (CBE) enhances organizational performance indicators.

Within this context, an emergent body of literature focuses on customer engagement as a concept that integrates a plethora of non-transactional behaviors such as value co-creation, positive word of mouth, referral, brand advocacy, supporting and assistance of other members, etc. that are characteristic of virtual online communities (Liang et al., 2013; Verhagen et al., 2015). Specifically, recent approaches to the customer engagement concept in online contexts explicitly account for consumers' interactive dynamics with the brand (Brodie et al., 2011; Pongpaew et al., 2017) that

occur in virtual environments, such as social media settings, discussion boards or brand communities.

Despite recent advancements, engagement remains a complex and dynamic concept that is currently capturing a great deal of attention in the academic community. Still, much of the existing CBE academic research is limited in scope and design, some relationships have not been fully considered and the nomological network of the construct has been defined as embryonic and mostly conceptual (Carvalho and Fernandes, 2018). Actually, empirical research on customer engagement has lagged behind practitioners' interest (Hollebeek et al., 2014) and systematic research is still lacking (France et al., 2016). This gap is accentuated in the context of user-initiated online social platforms, where limited knowledge exists on some particular elements, such as the positive influence of member-generated information on the dimensions of trust (Porter et al., 2013), or the potential moderating effects of the antecedents of customer engagement and the mediating relationships of its positive outcomes (Kumar and Nayak, 2019). Previous research has predominantly focused on exploring consumers' participation in OBCs that are under the direct control of brands (Halaszovich and Nel, 2017; Marchi et al., 2011; Martínez-López et al., 2017; Qiao et al., 2019; Wu et al., 2018; etc.). However, a need exists to investigate consumer engagement in other online ecosystems that are beyond the control of the company. For example, extant literature points out that little is known about the social and psychological processes and personal characteristics of engagement behaviors that motivate consumers to participate in user-initiated OBCs. These OBCs encompass experiences, queries and answers, and news focused on consumers' interest about the brand, through which the users also develop relationships with each other (Paschen et al., 2017). Users tend to attribute intrinsic motives of altruism to user-initiated OBCs and have more confidence in other members' opinions since there is no extrinsic motive of profit maximization in the network (Lee et al., 2011). While firm-hosted OBCs are largely

commercial and are created around the brand, consumer-initiated OBCs make consumers central to the community (Li et al., 2019). Previous research suggests that, in user-initiated OBCs, users are heterogeneous (Liao et al., 2019; Özbolük and Dursun, 2017), they are not only looking for brand-related activities and information, but also for other type of social activities and interactions (Bagozzi and Dholakia, 2002). In addition, in contrast to company-hosted and managed online virtual spaces, user-initiated digital environments are voluntarily set up and managed by a user or group of users who take control of the OBC (Jang et al., 2008). Therefore, consumers see these virtual platforms as highly reliable sources of information where individuals have relative freedom to criticize or praise a brand and firms have limited control on the appearance of potentially negative information.

Previous studies also suggest that opportunities exist for brands to promote engagement and to obtain favorable brand-related outcomes, both in company-hosted and user-initiated OBCs (Hepola et al., 2017; Raïes et al., 2015; Vivek et al., 2012). For example, in the hospitality sector, managers can interact with satisfied and dissatisfied customers in Tripadvisor by addressing their comments on the platform. Alpine electronics sponsors user-initiated car communities managing sub-forums where products are advertised and presented, thus establishing a direct communication with customers. Similarly, Orange participates in GSMSpain.com, the largest online community of mobile users in Spain, with an online board that acts as an official customer service platform. In bimmerfest.com, the largest BMW discussion board worldwide, users can directly contact BMW dealers through the platform to raise questions about BMW cars' pricing, ordering, buying, financing, and leasing options. Even companies such as Amazon, HTC, Red Bull or Nordstrom actively participate in Reddit's forums and threads, a social network that adds more than 100 million unique visitors every month. Thus, while each type of OBC may have different purposes and motivations for customers to participate (Liu et al., 2019), it is widely accepted that establishing

a large and engaged community of users is a prerequisite for brands and online communities to succeed in the virtual environment (Jang et al., 2008; Meek et al., 2019). Hence, research focusing on understanding relationships existing in the antecedents and consequences of CBE in user-initiated OBCs will help brands, community and digital marketing managers to better allocate their resources in these platforms to achieve superior brand engagement.

To fulfill these gaps, this study aims to contribute to the understanding of CBE in user-initiated OBCs by proposing and testing a comprehensive model that integrates community's characteristics, social psychological processes and individuals' personal characteristics as antecedents of customer engagement. Specifically, this research focuses on how brand and community identification, as well as brand previous knowledge and moderators' support within the community, facilitate customer engagement with the OBC. In addition, the model also posits the existence of two moderating effects. First, both moderators' support and brand knowledge moderate the relationship between community identification and CBE. Second, brand knowledge moderates the relationship between brand identification and CBE. The integration of these variables, and the analysis of possible interactions between them, contributes to a more comprehensive understanding of how CBE is created in OBCs. While existing research considered these variables, few studies have simultaneously analyzed their impact in CBE and little is known on the possible interactions between them, especially in the context of user-initiated OBCs. As outcomes of CBE, this study explores how CBE positively influences consumers' favorable behavioral intentions towards the brand and the community itself. Specifically, it proposes that CBE influences brand loyalty intentions and community engagement intentions directly and indirectly through brand affective commitment. Brand affective commitment emerges as a critical element in OBCs since it is directly related to the feelings of a customer towards a brand, but that can also arise because of users' interactions and experiences within an OBC (Royo-Vela and Casamassima, 2011).

2. Theoretical Framework

2.1. Customer engagement

Engagement has been conceptualized considering multiple perspectives and across diverse academic disciplines, such as organizational behavior (Schaufeli and Bakker, 2004), educational psychology (Shernoff et al., 2014) or political sciences (Ekman and Amnå, 2012). The topic of customer engagement has also been gaining academic attention in the marketing discipline. According to Vivek et al. (2014), in the offline brand-customer relationships settings, engagement has been considered as a construct that reflects the quantity of relationships and connections that a customer has with a brand's offerings and activities. These authors posit that customer engagement also includes a social dimension characterized by the level of enjoyment experienced by the user when interacting with a brand their acquaintances are also involved with. As suggested by Hollebeek (2011a) in her review of engagement conceptualizations, engagement represents a motivational and context-dependent variable that it is originated in the interaction between the customer and the brand.

Most recent approaches to CBE state that it can be seen as: a psychological state that captures various consumers' interactive interactions with the brand (Brodie et al., 2011); an individual's motivational state towards a particular brand (van Doorn et al., 2010); and interactions of consumers with a brand or with other consumers of a brand which are not intrinsically transactional (Vivek et al., 2012). Whilst different definitions and ways of approaching the concept of engagement (i.e. brand engagement, consumer engagement, customer engagement or engagement behaviors) coexist in the marketing literature, previous research agrees on its multidimensional nature (Baldus et al., 2015; Hollebeek and Chen, 2014; Leckie et al., 2016; Mollen and Wilson, 2010; Schultz, 2017). As stated by Hollebeek et al. (2014), which is the definition adopted by this study, CBE refers to a consumer's brand-related activity that encapsulates

cognitive, affective and behavioral facets surrounding consumer-brand interactions. This conceptualization emphasizes the interactive experience that underlies the engagement concept and corresponds with its cognitive, emotional and behavioral nature. Firstly, the cognitive dimension captures a consumer's level of thought processing and attention to the brand in a specific consumer-brand interaction. Secondly, the emotional dimension relates to the consumer's degree of affection towards the brand. Hollebeek et al. (2014) suggest that this affection is positively balanced. Third, the behavioral dimension captures the level of energy, time, resources and effort that a customer may invest in that particular customer-brand interaction.

2.2. Customer brand engagement in virtual brand communities

Beyond the more traditional customer-brand interactions, CBE has been acquiring particular relevance in the context of online communities and social media. Online social platforms connect customers and potential customers, provide them with online user-generated content based on their personal experiences with a product or brand, allow them to participate in debates about the brand and enable peer-to-peer communications (van Laer et al., 2013). Brand-related customer engagement is therefore considered as pivotal in fostering effective social media activities (Schamari and Schaefer, 2015) and managing online customer interactions has become of paramount importance for brand and marketing managers in a context where customers are more empowered to express their ideas and opinions, while companies have less power to control those messages (Gensler et al., 2013). In line with that, Brodie et al. (2013) found, consistently with previous engagement definitions, that customer engagement in the context of online brand communities is reflected in a set of interactive and experiential processes that are based on individuals' engagement with a specific brand and/or with other members of such virtual platform. According to these authors, customer engagement in brand communities is key for companies to understand the customer's overall experience with the brand for a number of reasons. First,

customer-brand interactions frequently occur beyond offline environments in the form of different online platforms like chats, blogs, discussion boards or brands' social networks. Second, CBE is a motivational-driven multidimensional construct composed by different antecedents or motivations that drive customers to feel engaged (Balduš et al., 2015). These motivations are heterogeneous in nature and have frequently to do with helping others, hedonic or utilitarian rewards, self-expression, rewarding motivations, etc. Third, as previously indicated, engagement in a virtual community is also multidimensional and characterized by cognitive, affective and activation (or behavioral) dimensions that play an essential role in the customer-brand connection (Hollebeek et al., 2014).

2.3. Antecedent variables of customer brand engagement

2.3.1. Brand and community identification

The concepts of brand and community identification stem from social identity theory, which essentially explains that individuals have both a personal and a social identity (Tajfel and Turner, 1986). This social identity is rooted in demographic classifications or social and organizational ties. Thus, when an individual identifies with a social group (i.e. an OBC), he or she will define him or herself in terms of that entity he or she pertains to (Mael and Ashforth, 1992). In line with that, it is important to explore how social identity traits affect CBE in the context of user-initiated OBCs. Particularly, community identification and brand identification emerge in the literature as two critical constructs to explain individuals' participation within an OBC. First, regarding the role of community-based identification, social identity motivations are determined by the degree of altruistic motivations perceived by users in the OBC (Lee et al., 2011). Because user-initiated OBCs generally operate on voluntary bases, engagement tends to be more affected by some particular characteristics related to altruism, such as the role of moderators' support or the quality of the relationships with other members of the community (Jang et al., 2008). Thus, users tend to perceive more altruism in these social networks in comparison to company-initiated OBCs, which will lead

them to be more engaged in the community to reinforce their identification with the brand and the community. Second, regarding the role of brand identification, previous research indicates that the degree of self-congruence between the brand and the user determines his/her evaluations on the brand and participatory behaviors, especially in the context of firm-hosted OBCs (Gong, 2018; Marchi et al., 2011; Zhang et al., 2015), where the interaction with the company is more frequent and direct. Nevertheless, the effect of brand identification on CBE in the context of user-initiated OBCs remains unclear since, first, more negative comments towards the brand may appear since the company has no direct control over the OBC and, second, these networks are more community-oriented than brand-centered OBCs.

Community identification has been the focus of previous research in explaining participation of users in different brand communities (Algesheimer et al., 2005; Bagozzi and Dholakia, 2002; Jin and Huang, 2017; Martínez-López et al., 2017). This variable identifies the strength in the relationship between the user and the OBC through which he or she perceives himself or herself as a member (Algesheimer et al., 2005). Therefore, it encompasses a shared or collective identity that involves cognitive and affective components. Literature on community identification indicates that the stronger is the level of identification of a member of a community with other members of such social group, the higher the level of engagement with the community (Jin and Huang, 2017; Liu et al., 2019). Muñoz and Schau (2005) argue that community identification explains members' motivations to interact with other users of the community, and Yoshida et al. (2018) recently found that online brand community identification has a positive influence on brand-related social media engagement. In line with that, Zhao et al. (2012) point out that higher levels of perceived sense of belonging explain typical engagement-related behaviors such as knowledge acquisition and sharing in the context of a Chinese virtual forum. More recently, Martínez-López et al. (2017) show that, in different brand communities across diverse industries and sectors, identification with the

community increases customers' engagement behaviors. Given the altruistic motives of user-initiated OBCs, community identification will be a critical driver of CBE because individuals expect to form meaningful relationships with other members in the community. Therefore, it is expected that, in user-initiated OBCs, identification with the community will increase CBE.

H1: Community identification positively influences CBE within a user-initiated OBC.

At brand level, individuals are more likely to become identified with an organization or a brand, when it encapsulates the attributes they assign to define their own selves. Brand identification can be understood as a social construct that captures an individual's incorporation of the brand identity into the self-identity. Wirtz et al. (2013) argue that brand identification facilitates consumers' integration within the OBC. Empirical findings also pinpoint brand identification as an antecedent of consumers' willingness to participate in a social brand community (Chang et al., 2019). For example, in the context of car communities, Algesheimer et al. (2005) posit that customers' previous relationships with a car brand exert an influential role to the identification and engagement with the community. McAlexander et al. (2002) show that customers' integration within a brand community depends on his or her perceived relationships with that brand. More recently, looking at a similar construct, Kumar and Nayak (2019) argue that when customers perceive that the congruence between their personal values and those of the brand is high, they are more likely to experience stronger levels of engagement within a brand community. Other empirical studies considering various types of OBCs (Martínez-López et al., 2017; Yeh and Choi, 2011) find that strongly-identified users of a brand develop a stronger feeling of community towards the brand and other users of the brand. It has to be noted that most of these studies incorporate OBCs across different brands and sectors, use student samples or are specifically testing these relationships in company-hosted OBCs. As a consequence of the above discussion, it is proposed that, also in user-

initiated OBCs, the brand could be a source of identification that guides members' identification and engagement within the community:

H2: Brand identification positively influences CBE within a user-initiated OBC.

H3: Brand identification positively influences users' level of community identification within a user-initiated OBC.

2.3.2. Support of the OBC's moderators

Prior research suggests that the role played by other community's users is important in terms of encouraging active participation in an OBC (Chu and Sung, 2015; Zhou, 2011), particularly in contexts where an individual is seeking interaction with other users (Merrilees, 2016), such as user-initiated OBCs. When participants perceive that other members' support contributes to fulfill their needs of information and affiliation, they tend to reciprocate these behaviors. Consequently, these participants will be more likely to invest more time, effort, or other cognitive resources in the OBC (Chan and Li, 2010). Reciprocity has also been recently acknowledged as one of the key relational dimensions in the generation of online brand community social capital (Meek et al., 2019). While the role of other members' support has been widely recognized in previous studies, the specific role of the OBC's moderators in fostering customer engagement has received limited attention. OBCs might have one or more administrators who act as moderators and are responsible for the creation and deletion of content. These individuals are motivated by their passion for the brand while little benefit could be perceived in doing so. Tsai and Pai (2012) recognize the role of the firms' moderators as critical in creating and fostering an appropriate atmosphere within a social community. Based on the norm of reciprocity, Wiertz and de Ruyter (2007) and Ahearne et al. (2005) argue that when managers of a social group are supportive and look out for other members' concerns, community's members sense a feeling of obligation towards the OBC and exhibit favorable engagement-related behaviors. This happens because perceived community support is

associated with users' perceptions on the fulfillment of their information, emotional and esteem needs, which will in turn foster these users' engagement within the OBC. Tsai and Pai (2012) also conclude that perceived support moderates the influence of identification on consumers' experience by eliciting perceptions of power. Specifically, the effect of identification in customers' experience is diminished by the perceived support in the community. That suggests that perceived support is more effective for customers who identify less with the community and more limited for those users who exhibit a high level of identification. Therefore, it can be argued that higher levels of moderators' support to the OBC members will facilitate members' engagement; and, that higher levels of moderators' support will decrease the influence of community identification in CBE. As a consequence of the above discussion, it is proposed that:

H4: The OBC moderators' perceived support within a user-initiated OBC positively influences CBE.

H5: The OBC moderators' perceived support within a user-initiated OBC moderates the influence of community identification in CBE.

Specifically, the higher the level of support, the weakest the positive influence of community identification in CBE.

2.3.3. Brand knowledge

Consumers' previous brand knowledge is also expected to explain CBE (Merrilees, 2016) in user-initiated OBCs. Members that are more knowledgeable about the brand will tend to be more immersed in the OBC and to generate helpful content for other users of the community. Because of their experience in using or interacting with the brand or its products, these users are more willing to be engaged in the OBC. Highly knowledgeable users will be more prone to disseminate their knowledge and to interact with other users to fulfill their needs of achievement, power and affiliation within the community (Wu and Sukoco, 2010). Extant research on the connection

between brand awareness and customer engagement is, however, limited and provides conflicting outcomes. For example, Shih et al. (2010) show that lead users' participation within the Microsoft's brand community is characterized by higher levels of brand familiarity. Similarly, Constant et al. (1996) argue that more experienced members will be more willing to generate relevant and more practical content for others. Marchi et al. (2011) posit that, in the context of company-initiated OBCs, users with higher levels of product knowledge are more likely to be engaged in innovative behaviors towards the company for high involvement products. On the contrary, Füller et al. (2008) point out that brand knowledge is not a significant antecedent of consumers' willingness to spread their brand knowledge in OBCs. These authors note that more experienced users are not automatically more open to share and disseminate their knowledge about the brand in specific open innovation platforms set up by the company. Despite some controversial results, it is expected that, in the context of user-initiated OBCs, previous knowledge with the brand and its products will elicit CBE. In this type of communities characterized by high levels of altruism and voluntary behaviors, knowledgeable members will be more likely to adopt leadership roles within the community and therefore to be more engaged. These experienced consumers will be cognitively better equipped to deal with large amounts of brand and product information and will be more confident to share their knowledge with other users (Wirtz et al., 2013). Therefore, users having more technical knowledge on the products will be more likely to share and disseminate it within the community, thus increasing the level of engagement in the OBC. Therefore, it is hypothesized that:

H6: Brand knowledge positively influences CBE within a user-initiated OBC.

Brand knowledge can also moderate the influence of identification on CBE. From a managerial perspective, it is relevant to ascertain if consumers' personal background, such as familiarity with the brand, affects the intensity of the influence of identification on the OBC's members' levels of engagement. Consistently with that, in addition to the direct effect, Algesheimer

et al. (2005) posit that knowledgeable members of a brand community are more influenced by the community because are more interested and have more experience with the brand and its products. These authors argue that the influence of consumer's brand relationships and of community identification on customer engagement was moderated by their brand knowledge. More experienced customers will be more engaged with the brand community by taking leadership roles within the social platform (Schouten and McAlexander, 1995). On the contrary, less experienced brand users will be less affected by the brand community since they will be in a stage of forming connections with the community and will tend to be less involved within the OBC. Previous research suggests that the effect of computer-mediated communications on customers' engagement may vary among members with different levels of brand knowledge (Ko et al., 2019). This happens because users' ability of using relevant skills fosters their willingness to share their knowledge in online social ecosystems where they interact, share their experiences with the brand, engage in conversations to solve problems or acquire product-relevant information. Similarly, since brand identification reflects a user's degree of integration of the brand identity into his/her self-identity, its influence on CBE may be affected by his/her perception of the amount of information about the product that he/she stores in his/her memory. Highly knowledgeable users may be more willing to intensively engage in the OBC to fulfill their desire to be acknowledged and reinforce their self-identity as an opinion leader within the OBC (McWilliam, 2000). Thus, brand knowledge will strengthen the effect of brand identification on CBE, because it reinforces the user's perception of legitimacy among the community members as it represents an opportunity to be more immersed within the community's life (Marchi et al., 2011). In line with that, it is proposed that brand and community identification may have a stronger influence on CBE since more knowledgeable members are more interested in the brand and have previous experience with the company's products and services:

H7: Brand knowledge moderates the influence of brand and community identification on CBE within a user-initiated OBC. Specifically:

H7a: The higher the level of brand knowledge within a user-initiated OBC, the strongest the positive effect of community identification in CBE.

H7b: The higher the level of brand knowledge within a user-initiated OBC, the strongest the positive effect of brand identification in CBE.

2.4. Consequences of customer brand engagement

2.4.1. Brand loyalty intentions

Brand loyalty intentions have been broadly defined and widely explored in relationship marketing. Vivek et al. (2012) argue that the cognitive, affective and behavioral components of engagement refer to an experience and not to a transactional exchange. Thus, a highly engaged individual in an OBC may build a strong connection with the company or brand he or she associates with. This sense of connection fosters the likelihood of a positive behavioral response towards the brand in the form of transactional behaviors. Hence, intra-community engagement can contribute to sustained relationships with the brand (Dessart et al., 2015) by, for example, increasing sales (Cheung et al., 2015). CBE can consequently enhance customers' brand consumption experience, through the online sharing of their experiences, thus increasing brand-loyalty intentions. Marketing researchers (Brodie et al. 2011; Hollebeek 2011a; Leckie et al., 2016; So et al., 2016) argue that engagement may enhance brand loyalty through a longstanding psychological connection associated with interactive brand experiences beyond purchase. Hollebeek et al. (2014) posit that when consumers show higher levels of participation and affective engagement within an online social community, they tend to develop stronger brand usage intentions. Woisetschläger et al. (2008) explain that the more interactive is a customer in an OBC, the better is the brand perception, which in turn can stimulate brand loyalty. Using attachment theory, Jahn and Kunz (2014) show that

OBCs contribute to reduce separation between the brand and the customers. These authors argue that when customers are more immersed in an OBC, brand attachment increases as a result of value-creation in the community, thus increasing loyalty towards the brand. While there is general consensus on the positive outcomes derived from CBE, some studies also offer interesting conflicting results. For example, Leckie et al. (2016) find that, while activation and affection are positively associated with brand loyalty in the context of mobile phones services users, higher levels of cognitive engagement may be detrimental for brand loyalty intentions. To that extent, Hollebeek (2011b) argues that CBE and brand loyalty can have a non-linear relationship. Thus, the effect of cognitive brand engagement on brand loyalty can reach an optimal point when higher levels of cognitive efforts arise, but an excess of cognitive engagement may lead customers to tedium, fatigue or burnout (Algharabat, 2019; Leckie et al., 2016). A recent study by Dessart et al. (2019) suggest that cognitive, affective and behavioral dimensions of CBE play a different role in shaping brand loyalty. According to these authors, that happens due to the existence of different latent segments within an OBC, which have heterogeneous profiles in terms of emotional, cognitive and active engagement. Given existing conflicting outcomes in the literature and in different contexts, it is important to test the influence of CBE on brand loyalty intentions in the context of user-initiated OBCs. In line with the above discussion, it is expected that higher levels of CBE lead to more favorable brand loyalty intentions:

H8: Customer Brand Engagement within a user-initiated OBC positively influences customers' brand loyalty intentions.

2.4.2. *Community engagement intentions*

Verhagen et al. (2015) consider Community Engagement Intentions (CEIs) in the context of social platforms where customers' intentions towards a brand or a company go beyond transactional behaviors (Kumar et al., 2010; Vivek et al., 2012). These authors suggest that CEIs go beyond the

mere purpose of participating or the frequency of participation in the OBC, since this concept also involves other interactions that may happen outside the platform or with other stakeholders apart from the OBC's users. While Algesheimer et al. (2005) differentiate membership, recommendation and participation behaviors, Verhagen et al. (2015) create the holistic concept of CEIs referring to a plethora of non-transactional behaviors, such as customer retention, referral/word-of-mouth (WOM), supporting other customers, and co-creation. Previous studies point out that little research exists on how user-initiated and managed OBCs are different from company-hosted communities in terms of the social psychological processes that motivate consumers to perform CEIs (Lee et al., 2011).

It should also be noted that, while customer brand engagement refers to an actual and current psychological state reflected in cognitive, affective and behavioral states, CEIs refer to customers' willingness to perform diverse non-transactional behaviors with other members of the community (i.e. other customers or representatives of the organization) that creates value for the company in the context of the online community (Verhagen et al., 2015). Thus, this research differentiates between customer engagement as a present psychological state and the behavioral favorable intentions that derive from that state.

Previous studies suggest that engagement states positively influence favorable engagement behaviors' manifestations typical of CEIs. For example, Algesheimer et al. (2005) posit that customers who are more actively engaged with a brand community also exhibit a higher willingness to remain members of the community, to recommend it to others and to exhibit higher levels of active participation. This result is coherent with Kim and Jung's (2007) study concluding that community loyalty and word of mouth are direct behavioral consequences of users' community engagement. Regarding word of mouth communications, a recent study by Wu et al. (2018) using a longitudinal dataset concludes that community engagement in a brand community increases CEIs

behaviors, such as the likelihood of generating post-purchase comments or the likelihood of posting positive online reviews. Wirtz et al. (2013) also point out that a stronger community engagement may lead to a more intense sense of membership continuity and to external community recommendation intentions. Similarly, Vivek et al. (2012) argue that customer engagement promotes brand community involvement which, in turn, increases customers' intentions to keep on participating in the community. Recently, Martínez-López et al. (2017) posit that students experiencing higher levels of engagement within a social media OBC, more frequently participate in the activities of such online community. Nevertheless, this study only test the influence of CBE on users' frequency of participation, suggesting that future research should explore other potential outcomes of CBE in OBCs, such as predisposition to coproduce with a brand, brand loyalty and positive WOM. Therefore, in line with previous research, it is reasonable to expect that customers who are more engaged with the OBC will be more likely to exhibit favorable engagement intentions towards the OBC. Thus, it is proposed that:

H9: Customer Brand Engagement within a user-initiated OBC positively influences community engagement intentions.

2.4.3. The mediating role of brand affective commitment

The association between different manifestations of perceived relationship quality, brand behavioral intentions and customer engagement has also been discussed by other academics (Dessart, 2017). However, these relationships have not yet received enough empirical support by previous studies or, sometimes, they show controversial results (Hollebeek, 2011a). This paper focuses on brand affective commitment as a mediating variable in the influence that CBE has on brand-behavioral and community-related intentions. Affective commitment is a psychological connection by which a customer wishes to remain in a relationship with a company or a brand. In contrast to brand loyalty intentions, that represent the customer's actual willingness to repurchase or

patronize a brand, affective commitment represents a more psychological attachment between the brand and the customer that is embedded in feelings of identification, loyalty and affiliation (Verhoef et al., 2002).

This study proposes that the influence of CBE on brand loyalty intentions and CEI is mediated by brand affective commitment. CBE in a brand community strengthens the customer's brand commitment since community members build stronger relations with the brand in comparison to less-engaged individuals (Claffey and Brady, 2019; Dessart, 2017; Kim et al., 2008). According to Raïes et al. (2015), enhanced engagement with the community's activities alone is neither sufficient nor mandatory to push brand loyalty intentions. These authors suggest that the combination between engagement and affective commitment will enhance behavioral brand loyalty of community members. Other researchers (Kim et al., 2008; Wirtz et al., 2013) also point out that active CBE is likely to reinforce brand loyalty through greater levels of brand commitment. More recently, Dessart (2017) argue that higher levels of brand engagement in social media environments enhance users' commitment towards the brand that, in turn, positively affected their loyalty towards such brand. According to Jang et al. (2008), when customers actively participate in an OBC and interact with other members, their brand experience and value perceptions about the community increase, leading to greater commitment with and loyalty to the brand and the community. Lim et al. (2015) suggest that, in the context of social TV, emotional engagement (related to the emotional feeling experienced by a viewer and reflected in online posting) is positively associated to affective commitment towards a TV channel. These authors also argue that emotional engagement indirectly influence brand loyalty intentions towards the social TV (i.e. patronage and watching intentions) through affective commitment. Similarly, Kumar and Nayak (2019) posit that customers' brand attachment, intended as the strength in the connection that exists between a person and a brand, mediates the influence of brand engagement in customers' brand purchase intentions. According to

Gustafsson et al. (2005), affective commitment can be associated to the emotional connection between the company and the customer, reflecting the perceived reciprocity in a relationship. Thus, it is expected that engagement within an OBC will strengthen the relationship between the consumer and the brand. Engagement within an OBC can be a process of self-expansion that will lead to higher levels of brand commitment, which in turn should enhance brand loyalty and community-related intentions. Therefore, it is proposed that:

H10: Customer brand affective commitment within a user-initiated OBC mediates the influence of CBE on the community engagement intentions.

H11: Customer brand affective commitment within a user-initiated OBC mediates the influence of CBE on the brand loyalty intentions.

The proposed model and the underlying hypotheses are summarized in Figure 1.

Figure 1 should be placed about here

3. Method

3.1. Data collection

A quantitative, hypotheses testing study, using Structural Equation Modelling (SEM), was deemed suitable to examine antecedents and consequences of customer engagement in user-initiated OBCs and to test hypotheses. Specifically, two user-initiated communities dedicated to photography - Nikonistas and Canonistas OBCs – and their members were selected for this research for a number of reasons. First, photography products represent an excellent example of brands with high reputation within a sector where consumers are highly involved and likely to participate in social interactions by exchanging experiences, showing their pictures in the OBC, giving advice, etc. Second, the sector is dominated by two main brands with loyal fans willing to take a firm stand in the social media. Third, photography fans tend to have in-depth knowledge of the products and are willing to share their experiences and stories with less-skilled members. Fourth, the study's

constructs have been previously identified in this type of context. These Nikonistas and Canonistas OBCs were created by supporters of these photography brands and are managed by volunteers who share their passion for these companies and the world of photography in general. Canonistas and Nikonistas are the reference OBCs for the world's top photography brands Canon and Nikon in the Spanish market. At the time this study was conducted, Canonistas had 172,467 active users and Nikonistas had 220,802 users in the community. Nikonistas had a team of moderators composed by 16 members and Canonistas had 15. After contacting moderators of both communities, explaining the nature of the study and obtaining their permission, an online survey was posted in both OBCs to collect data from their members. Four weeks after, 602 questionnaires had been completed, of which 584 questionnaires were deemed usable, with 48% of the respondents being Canonistas users and 52% Nikonistas. 56% of them were male, more than 60% of them had degree studies and almost 39% of them declared to have an income above the national Spanish average. 95% of the respondents were Spanish, while a 5% were from other Spanish-speaking countries such as Argentina or Mexico.

3.2. Variables measurement

The questionnaire was developed based on existing literature. CBE was conceptualized as a multidimensional reflective construct composed by the cognitive-processing, affective and activation factors. Three items were respectively used to measure the cognitive and the activation factors and four covered the affective dimensions (Hollebeek et al., 2014). Three items from Tuškej et al. (2013) were used for measuring brand identification. This measure is unidimensional and reflects the degree of personal and social identification with the brand and other consumers of the brand. The three community identification items measured to what extent the users relate to the online community itself and to other members of the OBC (Verhagen et al., 2015). The items proposed by Tsai and Pai (2012) reflected the support provided by the community moderators.

These three items measured participants' perceptions about the supporting role of the administrators of the OBC. To measure affective brand commitment, this study employed the scale proposed by Dennis et al. (2016). This scale captures the users' belief that their relationship with the brand is important enough to dedicate maximum time and efforts to preserve it. Brand loyalty intentions were measured with three items from Yoo and Donthu (2002) that reflect users' willingness to be loyal to the focal brand when purchasing products from the photography product category. Finally, community engagement intentions scale covers five items from Verhagen et al. (2015). This scale captures users' willingness to execute diverse non-transactional behaviors with other users and non-users of the OBC, and with representatives of the organization, which eventually generate value for the organization. The items were valued by means of a seven-point Likert scale. The study's appendix shows the measurement scales.

4. Results

To verify this study's hypotheses, the model was estimated with Partial Least Squares (PLS); specifically, the software SmartPLS 3.2 was employed. In comparison to covariance-based structural equation modelling (SEM), PLS has less identification issues and lower restrictions in terms of sample size, residual distribution and data properties (Gefen et al., 2011; Hair et al., 2019). PLS is widely applied across social sciences disciplines and one of its main advantages is the fact that it allows researchers to estimate complex models, which include manifest and latent variables and multiple structural paths. It should be noted that PLS is a causal-predictive approach and it therefore prioritizes prediction in the estimation of structural models to provide causal explanations among the variables under study (Hair et al., 2019). Given its predictive approach, PLS is considered to be appropriate in contexts of high complexity, but limited theoretical development. Thus, PLS is best used for exploratory purposes and to examine phenomena which are at early stages in terms of theoretical underpinning (Roldán and Sánchez-Franco, 2012). Furthermore, PLS methodology has a

high degree of statistical power, compared to traditional covariance-based methods, which makes this methodology convenient for exploratory research (Hair et al., 2019).

The PLS methodology requires, like traditional SEM, the assessment of both the measurement and the structural models. The measurement model allows researchers to warranty the reliability and validity of the different latent variables included in the model. The structural model serves to test the structural paths and verify the model's hypotheses.

4.1. Measurement model assessment

CBE is conceived in this study as a second-order construct reflected in the cognitive (COG), affective (AFF) and activation (ACT) first-order dimensions. Hence, a two-stages approach was implemented as suggested by Wetzels et al. (2009) for the estimation of the second-order construct. In the preliminary first-order estimation stage, all first-order constructs had to be included in the model as if all the first-order dimensions of the superior construct were latent variables in the model. The estimation of this first-order model yields the latent variable scores that, in the second stage, would be used for estimating the multidimensional construct of CBE.

The first-order model was examined according to the items' individual reliability and the constructs composite reliability, convergent and discriminant validity. In this stage, the assessment of the CBE dimensions received particular attention. The outer loadings of all the three dimensions of CBE were above the critical threshold of 0.70 (Carmines and Zeller, 1979). Besides, all the first-order constructs were internally consistent and valid and they were sufficiently different to guarantee the model's discriminant validity. To verify discriminant validity Fornell and Larcker's criterion (1981) and Heterotrait-Monotrait ratios between the constructs (Henseler et al., 2015) were examined. Regarding the CBE dimensions, support for the convergent validity of the measures was found as all values for the Average Variance Extracted (AVE) exceeded the 0.50 threshold. In addition, all composite reliability scores were above the recommended value of 0.70. Furthermore,

they did not present discriminant validity problems. Finally, as the empirical study employed self-reported data, the measurement model was also examined for potential common method bias. An exploratory factor analysis (principle components analysis) with all manifest variables was carried out, using Harman's single factor test (Podsakoff et al., 2003). The amount of variance of the largest factor did not exceed 50%, thus suggesting that data collected did not present common method bias. In addition, multicollinearity was evaluated in order to discard potential bias in the study typical of self-reported data. Specifically, following Kock's (2015) procedure, a full collinearity test was performed. Basically, this procedure suggests that when the variance inflation factors (VIFs) scores exceed the value of 3.3 there could be a problem of collinearity. Problems of collinearity in structural equation modelling maybe interpreted also as symptoms of common method bias. The estimations in both the first and second-order models revealed that VIF values ranged from 1.038 to 2.363, thus suggesting again that this study did not present common method bias problems.

After obtaining the latent variable scores used to estimate the second-order constructs, the final measurement model was verified. Table 1 includes the results of the second-stage estimation. All the outer loadings suggest the existence of individual reliability and the latent variable composite reliability, while AVE indicators guarantee the existence of internal consistency and convergent validity. Potential problems related to discriminant validity were excluded after examining the HTMT ratios and the comparison between the squared roots of the AVE values with the constructs' correlations (Table 2).

Table 1 should be placed about here

Table 2 should be placed about here

4.2. Structural model assessment

PLS assesses the significance of the model's parameters by means of a bootstrapping routine (Hair et al., 2011). Specifically, this model was tested with 8,000 subsamples. The model has

enough predictive power since the determination coefficients (R^2) of the endogenous constructs were notably above 10% (Table 3). Also, the predictive accuracy of the model was verified since the Stone-Geisser test resulted in positive Q^2 values for all the different endogenous constructs of the model. Given the fact that these Q^2 values are higher than 0.25 and lower than 0.5, these can be interpreted as a medium predictive relevance for all the dependent constructs (Hair et al., 2019). The moderating effects were calculated by creating interaction terms and employing the two-stage approach as suggested by Henseler and Chin (2010). This approach is preferable when the research is primarily concerned with the significance and explanation of interaction effects in situations where the study includes many observations, variables and indicators.

Table 3 should be placed about here

The interpretation of the sign and statistical significance of the structural parameters of the model revealed that both community ($\beta=0.426$; $t=8.194$) and brand identification ($\beta=0.286$; $t=5.938$) positively and significantly influence CBE, thus accepting hypotheses 1 and 2. Furthermore, brand identification positively affects community identification ($\beta=0.676$; $t=22.387$), thus suggesting that customers that are more aligned with the brand's values will be more likely to also feel connected with other members of the OBC. This result supports hypothesis 3. The supporting role of moderators in the community facilitates CBE ($\beta=0.094$; $t=3.137$), confirming hypothesis 4. As hypothesized, support moderates the influence of community identification on CBE, validating hypothesis 5 ($\beta=-0.115$; $t=3.094$). The negative interaction suggests that the higher the level of perceived support, the weaker is the relationship between community identification and CBE. In contrast to original expectations, brand knowledge does not significantly impact CBE ($\beta=0.079$; $t=1.796$), thus rejecting hypothesis 6. In addition, while significant, the moderating influence of brand knowledge over the identification-engagement relation is negative. This suggests that the influence of brand ($\beta=-0.127$; $t=5.808$) and community identification ($\beta=-0.138$; $t=5.844$) is

weaker for highly experienced users of the brand and stronger for less knowledgeable customers.

Consequently, hypotheses 7a and 7b are rejected.

Regarding the outcomes of CBE, the results show that higher levels of engagement are positively, directly and significantly associated with favorable intentions towards the brand ($\beta=0.385$; $t=6.870$) and the community ($\beta=0.403$; $t=8.129$). The findings also reveal that CBE significantly influences brand affective commitment ($\beta=0.379$; $t=7.339$), and that this variable explains intentions towards the brand ($\beta=0.360$; $t=6.433$) and the community ($\beta=0.433$; $t=8.257$). The indirect effects of affective brand engagement on brand loyalty intentions ($\beta=0.137$; $t=5.127$) and community intentions ($\beta=0.164$; $t=5.764$) are also significant, which lead to support hypotheses 8-11. Finally, since the direct effects of CBE on behavioral intentions are significant, it can be argued that affective brand commitment partially mediates such relationships.

5. Discussion and implications

5.1. Theoretical implications

This study contributes to a better understanding of customer brand engagement (CBE) by proposing a new model, investigating its antecedents and consequences in the context of online brand communities (OBCs) created and managed by users. Specifically, this research introduces brand and community identification, brand knowledge and the platform's moderators' support as antecedents of CBE and analyzes the positive impact of CBE, both for the brand and the community itself. The research model explains 56.3% of variance in customer brand engagement in user-initiated OBCs, and more than 45% of the variance of the outcomes examined. Overall, results support previous findings in similar contexts, but also raise new questions concerning the role of engagement in OBCs that are not directly controlled by the organization. In addition, this study contributes to the user-initiated OBCs literature by demonstrating the moderating effects of brand knowledge and moderators' support.

This research has important implications for user-initiated OBCs literature and sheds light on the context of online social platforms. First, considering the role of community and brand identification, the results of the research point out that participants' level of identification with the brand and the community strongly influence customer brand engagement in the online community. The strong effect of community identification suggests that the strength of the relationship between the member and the community is paramount for the member to get immersed in the community, while customers' relationship with the brand is not so influential in directly promoting engagement. This effect is much stronger compared to results obtained in previous studies, contextualized in OBCs of different brands and industries (e.g. Martínez-López et al., 2017). The findings posit that brand identification leads to stronger levels of community identification which, subsequently, enhances brand engagement within the OBC. In other words, while community engagement stems from the perceived overlap between members and the community (Algesheimer et al., 2005), pre-existing brand identification precedes and contributes to their relationship with the community. Thus, a higher overlapping perception between the brand and the individual may lead customers to pursue interactions with other brand supporters who share similar interests in a user-initiated OBC. These findings confirm, also in the user-initiated OBCs context, the social identity theory perspective of customer-brand relationships, which suggests that customers engage in pro-brand behavior not only because they identify themselves with this brand (Bhattacharya and Sen, 2003), but also because they develop a psychological connection with the community members (Tajfel and Turner, 1986).

Second, this study proves that higher levels of perceived support from users who act as OBC's moderators facilitate customers' engagement within the online community. Contrary to previous research that found a strong impact of perceived community support on customers' evaluation and attitudes towards the community (Lin, 2006; Pai and Tsai, 2016; Sánchez-Franco et

al., 2012), this study shows a weak relationship between the specific support of moderators and customer engagement. A potential explanation for that could be that a member of this type of communities is holistically assessing the support of the community by neglecting the differences between those members who act as moderators and those who are not. Thus, the role of the moderators in promoting engagement can be limited to those situations whereby a member has a specific problem with the community's functioning or with other users. In addition to this weak, but significant effect, findings reveal that the relationship between community identification and CBE is negatively moderated by perceived moderators' support, which is a novel contribution of this study. Thus, the impact of community identification on customer engagement is stronger for members who perceive less support from the community's moderators than for those who perceive greater support. Furthermore, results could be indicating that, if members perceive that moderators are highly supportive, they may reciprocate this support and will exhibit favorable behaviors towards those specific members. Consequently, perceived moderators' support could contribute to fulfill members' socio-emotional needs. This, in turn, mitigates the effect of community identification on CBE. These results are comparable with the moderator effect of "perceived e-tailer support" found by Tsai and Pai (2012, p.116), who similarly looked at community identification, but in relation to consumer power and among customers of four online retailers in Taiwan.

Third, contrary to initial expectations and existing literature, previous brand knowledge does not directly affect CBE, making this as an additional contribution of the study. This suggests that being a brand expert and being considered as such by reference groups does not necessarily lead to CBE. This could also indicate that those users who perceive themselves as experts, or at least more knowledgeable, tend to be less engaged because they value less other users' contribution in the OBC (Adjei et al., 2010). On the other hand, users with a lower level of self-perceived brand

knowledge may engage more in user-initiated OBCs because they assume that more knowledgeable users could share their relevant information about products with them (Zaglia, 2013).

Fourth, another key contribution of the study refers to the moderating effect of brand knowledge on the relationship between brand identification and CBE and on the relationship between community identification and CBE. Although users with more brand knowledge tend to contribute to the OBC with novel and more practical information (Ko et al., 2019), novice and less experienced users, who strongly identify with the brand, are more likely to be engaged than experienced members. Similarly, less knowledgeable users tend to identify themselves more strongly with the community, leading to higher levels of CBE. In fact, being part of a user-initiated OBC provides them with a strong sense of belonging to the community, because of the quality of the information and relationships in the community and of opinion leaders' contribution (Jang et al., 2008). Finally, other studies suggest that less experienced customers tend to be less prepared to process technical information, hence being prepared to spend more time and cognitive resources within the OBC (Adjei et al., 2010), which consequently increases their level of engagement.

Fifth, concerning the potential effects of CBE for the community and the brand, and in line with previous research (Chan et al., 2014; So et al., 2016), results indicate that highly engaged users are also more willing to develop favorable brand loyalty intentions and community-related intentions. Accordingly, CBE in user-initiated OBCs fosters positive behaviors for the community such as favorable endorsement, desire to keep participating in the community, positive word-of-mouth, supportive relationships, etc. However, these findings are somewhat different to those of Leckie et al. (2016), who found a negative relationship between cognitive CBE and brand loyalty, as users had perceived feelings of fatigue or burnout.

Furthermore, findings from this study confirm that positive brand loyalty intentions may take place when the members of the brand community are intensively engaged in communities that

are not directly set up and managed by the brand. The strong influence of CBE on brand loyalty intentions provides a robust reason for brand managers to concentrate on online marketing actions likely to engage customers also in social platforms not set up nor managed by the company where members may not feel under the control of the organization.

A final novel contribution of the study is that brand affective commitment mediates the influence of CBE on community engagement intentions and brand loyalty intentions. Strong affective commitment is therefore also derived from higher levels of engagement in the OBC. Members show positive behaviors towards the brand and the community not only because they feel more engaged within the OBC, but also because OBCs improves the quality of the relationship between the user and the brand. In other words, when users perceive higher levels of engagement within the OBC, they develop affective commitment towards that specific brand. In sum, affective commitment generates a connection with the brand and members of the OBC, linking CBE with future brand loyalty intentions and community engagement intentions (Hsieh and Wei, 2017).

5.2. Managerial implications

This study contributes to customer brand engagement literature, pointing out to managers the relevance of user-initiated brand OBCs and the relationships existing among factors affecting and influencing CBE. It becomes clear that, although these communities are not set up and directly managed by companies, they represent a source of information and of brand engagement, which could ultimately lead to brand loyalty. Hence, companies should allocate time and resources to engage with user-initiated OBCs. By examining the antecedents and consequences of CBE in OBCs, this research confirms that customer brand engagement stimulates favorable brand and community-related behaviors within the online and the offline contexts. Understanding how to foster CBE in OBCs allows managers not only to seek an effective contribution to user-initiated

OBCs, but also to design social virtual spaces that eventually strengthen the customer-brand-community relationships.

Focusing on the community and its implications, the positive and strong effect of community identification on CBE suggests that users' engagement can be enhanced by increasing customers' feelings of belonging within the social platform. Thus, the creation of a sense of community and of connection among users is likely to facilitate CBE within the OBC which in turn will leverage future engagement intentions towards the OBC. As moderators are normally individuals who voluntarily take up a role of responsibility within the community because of their passion for the brand without receiving remuneration, it is important that they perform leadership roles within the OBC and set up actions to enable community identification. In order to achieve that, it is important that the design of the community enables interactive and supportive interfaces to ensure moderators and users can easily engage in conversations with other users, focusing on problem-solving, providing feedback or fostering discussions on relevant topics. The community should also create incentive mechanisms to stimulate users' supportive behaviors in the form of social, non-monetary or information rewards. Focusing on the negative moderating influence of moderators' support on the relationship between community identification and CBE, moderators should make an effort to particularly identify and support those members of the community who do not experience a high level of identification within the social platform. On the contrary, it seems that excessive levels of moderators' support could prevent highly-identified customers further engage within the OBC. Finally, CBE enhances brand commitment and customer engagement intentions towards the community. Higher levels of CBE are therefore key to the success of community engagement intentions. This relationship is also mediated by brand affective commitment. Community managers should therefore design digital environments that increase

current users' engagement, but at the same time that also attract customers of the brand who are not participating, facilitating newcomers' involvement in the social platform.

This study also provides useful insights for brand managers. Findings suggest that CBE is first related to brand identification and then to community identification with an OBC. From a practical standpoint, brand managers should focus on the creation of a psychological identification between the brand and the consumers, so that this identification could then lead consumers to immerse themselves in brand-related behaviors within a virtual social platform. Findings suggest that CBE in user-initiated OBCs are a source of brand commitment and loyalty. So, if that happens even in online environments where the brand has no control over the interactions that happen among the OBCs' users, brand managers should devote resources to monitor brand conversations in this type of OBCs, with the potential of obtaining reliable information about their customers' experiences with the brand. User-generated OBCs could therefore become a strategic tool for brand managers to profile customers according to their degree of brand and community identification, brand knowledge or CBE. That would help brands to better understand different profiles of customers participating in OBCs and design and develop more effective marketing strategies. Brand managers could also consider the possibility of intervening in a user-initiated OBC, as long as intrinsic motives of altruism and collaboration are not altered. If brands are able to work collaboratively with user-initiated OBCs without affecting users' perceptions of the OBC being community-centered (rather than brand centered), both communities and brands may benefit from CBE. These joint efforts in investing in community building initiatives and in knowledge exchange may result in more engaged customers and in new members joining the community further developing positive behaviors for the brand and user-initiated OBCs. On the contrary, if altruism-motives are distorted, community members may perceive the intervention of the brand in the OBC as merely profit-motivated, destroying the essence and the value of such platform. This may result

in a reduction of trust towards the OBC in situations where users perceive that the brand is adopting an invasive strategy within the community. Therefore, it is suggested that both brand and community managers have to carefully manage the presence of the brand within the OBC, so that users do not associate external marketers' efforts to participate in the OBC with extrinsic motives of profit exploitation (Lee et al., 2011).

5.3. Limitations and further research

This study provides some significant insights for academic research and for practitioners, proposing and testing a novel model on the antecedents and consequences of CBE in OBCs. Obviously, there are some limitations which represent opportunities for future academic research. First, the study has been conducted in two Spanish OBCs of two specific high-involvement product categories. While extant research points out that product involvement is a critical antecedent of CBE (Brandão, 2019; Dessart, 2017) more extensive research is needed to generalize the results to other high-involvement product categories and to other communities with different features in terms of size, rules, longevity, etc. Second, future research should be extended to other user-initiated communities in social networks such as Facebook or Instagram in order to further explore customer brand engagement in different contexts. Third, data collection in this study is cross-sectional and is essentially based on survey data. Although the questionnaire was meticulously designed and data were thoroughly statistically tested, inherent survey bias and subjectivity maybe an issue in these types of studies. Advanced longitudinal studies that relate CBE with more objective brand and community loyalty measures would allow researchers to demonstrate a more accurate effect of the consequences of engagement over time. Fourth, CBE conceptualization in this study is coherent with previous constructions that include affective, cognitive and behavioral dimensions. However, recent studies propose more comprehensive, multi-faceted and multi-dimensional approaches to CBE that are consistent with the three-dimensional perspective, but that conceive CBE as third-

order factor model composed of seven sub-dimensions (Dessart et al., 2016). The recognition of this variety of foci in CBE may contribute to shed light on the nature and complexity of the interactions that take place in OBCs between users, moderators and the brand itself. Fifth, this study focuses on exploring some consequences of CBE. Additional psychological or behavioral constructs, such as customer based-brand equity, citizenship behaviors, brand experience, cross buying o willingness to pay higher prices, could be examined in order to further extend the conceptualization of CBE.

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Table I Results of the final measurement model

Construct	Indicator	Outer loading	Composite reliability index (CRI)	Average variance extracted (AVE)
CBE Customer brand engagement	ACT	0.702*	0.875	0.703
	AFF	0.922*		
	COG	0.875*		
Brand identification	BID1	0.925*	0.916	0.785
	BID2	0.840*		
	BID3	0.890*		
CID Community identification	CID1	0.867*	0.922	0.799
	CID2	0.917*		
	CID3	0.897*		
BKN Brand knowledge	BKNI	0.923*	0.945	0.851
	BKN2	0.905*		
	BKN3	0.939*		
MOSU Moderators' support	MOSU1	0.936*	0.953	0.871
	MOSU2	0.913*		
	MOSU3	0.952*		
BAFC Brand affective commitment	BAFC1	0.872*	0.951	0.794
	BAFC2	0.917*		
	BAFC3	0.899*		
	BAFC4	0.861*		
	BAFC5	0.905*		
BLOY Brand loyalty intentions	BLOY1	0.861*	0.882	0.715
	BLOY2	0.884*		
	BLOY3	0.788*		
CEI Community engagement intentions	CEI1	0.908*	0.941	0.763
	CEI2	0.887*		
	CEI3	0.839*		
	CEI4	0.838*		
	CEI5	0.892*		

Note: * = $p < 0.01$

Table II Discriminant validity of the final measurement model

Construct	1	2	3	4	5	6	7	8
1. CBE	0.838	0.743	0.818	0.488	0.502	0.755	0.725	0.769
2. BID	0.666	0.886	0.833	0.403	0.402	0.786	0.614	0.656
3. CID	0.719	0.767	0.894	0.551	0.495	0.826	0.707	0.795
4. BKN	0.470	0.425	0.538	0.923	0.501	0.474	0.498	0.500
5. MOSU	0.438	0.393	0.467	0.495	0.934	0.479	0.556	0.515
6. BAFC	0.710	0.749	0.839	0.494	0.464	0.891	0.640	0.719
7. BLOY	0.641	0.593	0.659	0.489	0.505	0.634	0.845	0.720
8. CEI	0.710	0.643	0.744	0.512	0.486	0.719	0.698	0.873

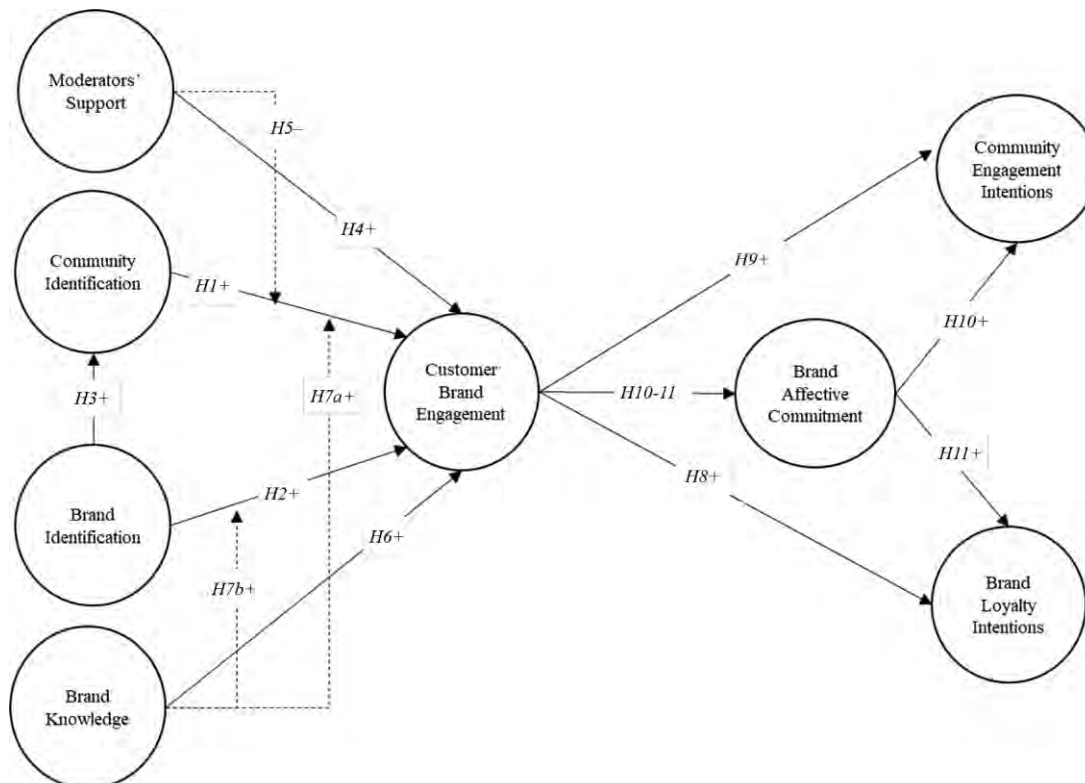
Notes: Diagonal figures are the squared root of the AVE values. Values that are below the diagonal represent the latent variables' correlations. Values above the diagonal are the HTMT estimated correlations. See Table I

Table III Results of the structural model

Hypothesis	<i>b</i>	<i>t</i> -value
H1) Community identification fi CBE	0.426	8.194*
H2) Brand identification fi CBE	0.286	5.938*
H3) Brand identification fi Community identification	0.676	22.387*
H4) Moderators' support fi CBE	0.094	3.137**
H5) Moderators' support x Community identification fi CBE	-0.115	3.094**
H6) Brand knowledge fi CBE	0.079	1.796
H7a) Brand knowledge x Community identification fi CBE	-0.127	5.808*
H7b) Brand knowledge x Brand identification fi CBE	-0.138	5.844*
H8) CBE fi Brand loyalty intentions	0.385	6.870*
H9) CBE fi Community engagement intentions	0.403	8.129*
H10) CBE fi Brand affective commitment fi Brand loyalty intentions	0.137	5.127*
H11) CBE fi Brand affective commitment fi Community engagement intentions	0.164	5.764*

R^2 (CBE) = 0.563; R^2 (CID) = 0.641; R^2 (BAFC) = 0.656; R^2 (BLOY) = 0.475; R^2 (CEI) = 0.596
 Q^2 (CBE) = 0.360; Q^2 (CID) = 0.472; Q^2 (BAFC) = 0.478; Q^2 (BLOY) = 0.303; Q^2 (CEI) = 0.418
 Notes: See Table I. Notes: * = $p < 0.001$; ** = $p < 0.01$

Figure 1 Antecedents and consequences of CBE in user-initiated OBCs



Note: Dotted lines indicate moderating effects