Unveiling heterogeneous engagement-based loyalty in brand communities

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Structured abstract

Purpose: Although recent research appreciates that consumers increasingly interact with brands in brand communities and that brand engagement is an important and complex phenomenon in brand communities, little is known on the nature of individuals' brand engagement in brand communities. This study aims to: (a) identify brand community members' segments in terms of their brand engagement within the community (b) help us understand if these segments employ a different approach in the development of brand loyalty and (c) develop mechanisms that can be used to identify members of these segments.

Design/methodology/approach: The paper adopts a quantitative approach and uses a total of 970 responses from members of Facebook brand pages in three popular languages on Facebook (English, French and Spanish). Data are analysed with structural equation modelling, integrating FIMIX-PLS and POS-PLS.

Findings: The results reveal that cognitive, affective and behavioural engagement dimensions play a different role in driving brand loyalty. Three different segments of engaged consumers exist (emotional engagers, thinkers and active engagers). Variables related to the perceived value of the brand community provide initial explanations as to the differences of the consumer groups.

Research limitations: The data were collected from a specific type of brand communities (Facebook-based, company-managed brand communities) and is self-reported.

Practical implications: This work demonstrates the heterogeneity of brand community members in terms of their brand engagement profile and the effect of this profile on the formation of behavioural brand loyalty. Suggestions on identifying members of these segments based on the value that they get from the community are offered.

Originality/value: This work extends the brand engagement and brand community literature. It is the first work that provides this nature of actionable suggestions to the teams supporting brands with brand communities.

Keywords: Brand Communities, Brand Engagement, Brand Community Members, Brand Loyalty, Social Media

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Introduction

The brand management landscape has evolved tremendously in the last few years, changing the way brands aim to develop long-term positive and repeat behaviour in the marketplace. Amongst the most notable changes is increased consumer empowerment, extensively supported by technological changes, which allow consumers to form brand communities and engage with each other, and with brands (Veloutsou and Guzmán, 2017). Studies show that brand engagement is a key indicator of consumer empowerment, a significant variable in explaining brand loyalty (Dwivedi, 2015; Hollebeek, 2011; Hollebeek *et al*., 2014), and that brand communities are excellent contexts to encourage loyalty among members (Brodie *et al.,* 2013; Dessart, 2017). To provide more touchpoints of interaction with and amongst consumers, managers of top brands develop a number of tactics aiming to increase levels of engagement amongst followers in their social media brand pages (Ashley and Tuten, 2015; Pongpaew et al., 2017), while academics also provide advice on how this can be achieved (Tafesee, 2016). Given the high costs of acquiring new customers in highly competitive markets, brand loyalty is the ultimate objective for brand managers (Grönroos, 2007). A number of significant gaps, however, remain in our understanding of the relationship between brand engagement, its different dimensions, and loyalty (Hollebeek, 2011), especially in online brand communities, and, when it does, if all community members exhibit the same patterns of engagement-based loyalty (Hodis *et al.,* 2015; Pongpaew et al., 2017; Rahman *et al.*, 2018).

Brand communities consist of highly involved individuals who come together because of their common positive or negative passion for a brand. These individuals are likeminded and their connection comes from their interest in the brand (Abrantes *et al.*, 2013; Dessart *et al.,* 2015; Dholakia *et al.*, 2004; Relling *et al.*, 2016). Early research suggests that brand communities are somewhat homogeneous groups of people who develop a common understanding and collective identity expressed through a shared consciousness, rituals and traditions (McAlexander *et al.*, 2002; Muniz and O'Guinn, 2001). Despite the existence of studies conducted on community participation in terms of practices employed by the brand community members (Schau et al., 2009; Hollebeek et al., 2017) and sub-groups of participants formed within brand communities (Ouwersloot and Odekerken-Schröder, 2008; Gong, 2018), the theoretical and conceptual framework for user classification in terms of their positive and supportive engagement with the focal object of the community remains undefined (Malinen, 2015). Researchers are also questioning how the structure of brand community membership may influence firms in the support of brand-related outcomes (Ouwersloot and Odekerken-Schröder, 2008).

While brand engagement is a complex phenomenon subject to numerous conceptualisations (see section Brand Engagement and Brand Loyalty), this study adopts the view that it encompasses several dimensions including affective, behavioural and cognitive engagement (Bowden *et al.*, 2017; Dessart et *al.*, 2015; 2016; Hollebeek, Glynn and Brodie, 2014), which is particularly relevant in networked environments such as brand communities (Hollebeek and Kumar, 2016). Brand engagement is defined following Hollebeek (2011, p.555) and later Hollebeek and Chen (2014), as a consumer's *"cognitive, emotional and behavioural investment in specific brand interactions",* thus

representing an active and volitional construct (Hollebeek, 2011; Hollebeek and Kumar, 2016). Engagement can be positively or negatively valenced, but the present study focusses on positively valenced engagement (Hollebeek and Kumar, 2016).

While managers often assimilate behavioural engagement with overall engagement (Facebook for instance provides metrics of engagement based on the number of "likes", "shares" and "comments" on a post), this view remains very analytical and based solely on visible behaviours. This study posits that, within brand communities, different types of engaged consumers can exist, depending on whether they exhibit more emotional, cognitive or behavioural aspects of engagement (Dessart et al., 2015). The difficulty is to detect all these different types of engaged consumers, as emotions and cognition are hardly traceable through basic platform analytics. Since about ninety percent of all members of a group online will not exhibit any visible behaviour (van Mierlo, 2014), it is important to consider the whole range of engagement dimensions to represent all types of engaged consumers.

The recognition of different types of engaged consumers becomes even more important when we consider the potential benefits of engagement for the brand, as engagement does not exist in a vaccuum. If people may engage differently, it becomes important to understand whether and how these differences may affect the formation and level of positive brand outcomes. Specifically, recent work appreciates the need to better understand the influence of brand engagement and its specific dimensions on brand loyalty (Dwivedi, 2015; Sashi, 2012). In other words, is a person who exhibits primarily emotions toward a brand as likely to be highly engaged as a person who has strong behavioural, or cognitive engagement for the brand?

While studies suggest that engagement dimensions might play a differential role in impacting brand outcomes (Hollebeek et al., 2014; Dessart, 2017) and that consumers can be grouped in terms of their overall engagement with the brand and level of loyalty (Hollebeek, 2011), there is little understanding of the causal link between types of engaged consumers and loyalty to the brand. To better understand the engagement-loyalty relationship in the context of brand communities, one must consider that various types of engaged consumers exist, not only in terms of limited or extensive overall engagement (Pongpaew et al., 2017), but taking into account the various aspects of engagement.

In this context, the aim of the paper is to understand whether the effects of brand engagement dimensions on brand loyalty stem uniformly from a single homogenous brand community population, or if there are identifiable consumer segments based on their engagement profile. To achieve this aim, it first seeks to verify the impact of brand engagement on brand loyalty and contemplates the complexity of the phenomenon by examining the impact of the three dimensions of brand engagement on loyalty. Second, it aims to determine if these effects of brand engagement dimensions on loyalty are consistent with stemming from a single homogenous population, or if latent segments could exist, the effect of engagement dimensions on loyalty being different for each one of those segments. In other words, the purpose of this study is to verify the impact of engagement on loyalty and to unveil latent segments of consumers where the effect of brand engagement dimensions on loyalty could be different. Further than identifying different brand community members' segments, the study also explores the variables that could explain these differences in engagement patterns. Given that existing research has not identified brand community members using as criteria the brand engagement dimensions and loyalty and that the variables that could explain the differences amongst

the identified segments are also unknown, this study aims to help our theoretical understanding of the phenomenon and tests propositions built on constructs, rather than hypotheses that test relationships between specific variables (Bacharach, 1989).

The paper first unfolds the concept of consumer brand engagement and the current state of research on its link with brand loyalty. It then explicates the development of the thinking on brand community members' profile and participation and introduces the need to approach the brand community members as people who have common characteristics, but also some heterogeneity. It then details the research focus, the propositions and the methodological choices. After presentation of the results, it discusses the results, appreciating limitations and providing avenues for future research.

Brand Engagement and Brand Loyalty

When conceptualising engagement, it is important to first delineate its constitutional elements, i.e. its subject, object, valence and context (Brodie et al., 2011; Hollebeek and Chen, 2014; Bowden et al., 2017). This paper focuses on the context of brand communities (Dessart et al., 2015), known to facilitate individual members' engagement with the brand (Veloutsou and Guzmán, 2017). In this context, the paper concentrates on positive engagement of consumers with a brand, referred to as brand engagement (e.g. Hollebeek et al., 2014), brands being the most cited engagement object in the literature (Chandler and Lush, 2015). The subject of engagement is the consumer, in this case the members of the brand community (Dessart et al., 2015).

A number of different views and conceptual frames have been taken to define engagement, which have been recently summarised by Dessart et al (2016), Hollebeek et al. (2016) or Pansari and Kumar (2017). Engagement has been considered as a state (Brodie et al., 2011), a collection of experiences (Calder et al., 2009), and as sums of behavioural manifestations (van Doorn et al., 2010), that bring value to the firm (Pansari and Kumar, 2017). Recent scholarship however highlights that engagement reflects consumers' investment in interactions with an object (Hollebeek and Chen, 2014; Hollebeek et al., 2016). Considering the motivational and volitional nature of engagement (Hollebeek et al., 2016) and the fact that this paper focuses on interactive participation in brand communities, it adopts this view of engagement.

The understanding of brand engagement dimensions has evolved significantly in the last decade. Initial engagement work has viewed it as unidimensional (Sprott *et al.,* 2009). While some studies still take a purely behavioural approach to engagement (van Doorn et al., 2010; Kumar et al., 2010; Pansari and Kumar, 2017) which focuses on a vast array consumer of behaviours (e.g. participation in events and communities, word-of-mouth, purchase, repurchase, feedback, etc.), recent scholarship increasingly agrees that brand engagement is a complex, multidimensional phenomenon composed of affective, cognitive and behavioural components (Brodie *et al.,* 2011; Brodie *et al.*, 2013; Dessart *et al*., 2016; Hollebeek, 2011; Hollebeek *et al.*, 2014; Hollebeek and Chen, 2014; Bowden et al., 2017), where engagement activities are distinguished from purchase-related behaviours (Brodie *et al.*, 2013; Dessart *et al*., 2016; Hollebeek, 2011). Indeed, companies try to foster brand engagement in all these dimensions in their social media-based brand pages (Pongpaew et al, 2017).

Using Dessart et al.'s (2016) conceptualisation of the concept, the affective dimension of engagement refers to how much people enjoy and feel enthusiastic interacting with the brand. Individuals cognitively engaged with a brand pay deep attention and are absorbed in their interactions with it. In other words, they are so mentally engrossed that they cannot detach themselves from interactions with the brand. Behavioural engagement transposes in the form of active sharing with, learning from and endorsing the focal brand (Dessart *et al.*, 2016), which is considered by some as akin to word-of-mouth behavior (van Doorn et al., 2010), and denotes a level of activation (Hollebeek *et al.*, 2014). These three dimensions co-exist and research implies that highly engaged consumers demonstrate engagement in all three engagement components (Dessart, 2017).

One of the main objectives of engagement research is to understand how it can benefit brands (Wirtz *et al.*, 2013) and ultimately influence consumer retention in the form of brand loyalty (Hollebeek, 2011; Hollebeek *et al.*, 2014). Taking Odin et al.'s (2001) view, brand loyalty is defined as "*a repeat purchasing behaviour in conditions of strong sensitivity*" to the brand (p. 78), meaning that consumers attach great importance to the brand in question, rather than repurchasing it out of simple inertia. Therefore, loyalty stems from deep consumer-brand relationships (El-Manstlry and Harrison, 2013; Oliver, 1999) and is conceptually distinct from brand engagement, which does not involve a transactional dimension (Hollebeek, 2011). Rather, extant studies on the engagement-loyalty link show that brand engagement contributes to strengthening loyalty with deep psychological bonds (Dwivedi, 2015; Hollebeek *et al.*, 2014). Brand loyalty is thus considered to be an outcome of brand engagement (Hollebeek, 2011).

Engaged members of positive valence brand communities (as opposed to anti-brand communities) are normally positively predisposed towards the brand, as demonstrated by their choice to join the community and the active participation in it. These individuals accept and recognise bonds of membership with each other and the brand (Veloutsou and Moutinho, 2009) and, engage with them (Dessart *et al.*, 2015; 2016). The role of brand engagement for consumer retention has repeatedly been explored and conceptualised in brand community contexts (Bowden *et al.*, 2017; Brodie *et al.*, 2013; Hollebeek *et al.*, 2014; Wirtz *et al.*, 2013; Zheng *et al.,* 2015, Weiger et al., 2017). The ability of brand communities to foster vivid and interactive connections between the brand and community in a public setting (Zheng *et al.*, 2015), through repeated interactions (Brodie *et al.*, 2013) and active content creation (Christodoulides et al., 2012), seems to be one of the key reasons for the existence of these communities and positive brand outcomes such as brand loyalty (Christodoulides et al., 2012). Weiger et al. (2017) even show that different appeals used by community managers work to enhance brand equity through the mediating role of engagement intensity. Consequently, brand engagement, with all its constituting dimensions, plays an important role in sustaining brand loyalty in brand communities (Hollebeek, 2011; Brodie *et al.*, 2013; Wirtz *et al.*, 2013). However, most of this research does not take into account the different dimensions of engagement and more research that sheds light into the nature of brand engagement within the context of brand communities and the role of brand engagement in the formation of behavioural loyalty is required.

Segmenting Brand Community Members based on Engagement

Although most researchers agree that there are similarities amongst the participants of a brand community, studies examining the nature of the participation of individuals in that context appreciate that these members can be categorised into various sub-groups or segments (Appendix 1). Most of the existing classification of brand community members takes into account the overall engagement of the participants with the community and puts them into two broad categories, namely lurkers or active members/posters/elders (i.e. Bishop, 2007; Lai and Chen, 2014; Mousavi *et al.*, 2017; Schneider *et al.*, 2013; Sun *et al.*, 2014; Walker *et al.*, 2010). Other research uses more specific elements of engagement with various activities in brand communities and mostly uses two different characteristics to develop a 2x2 matrix that classifies brand community members into four categories, such as the level of self-centrality of the consumer activity and social ties to the brand community (Kozinets, 1999), the quality of social integration, attachment to the team and to the community (Fillis and Mackay, 2014) or the level of engagement and the intensity of resources invested (Pongsakornrungsilp, 2010), while conceptual work on consumer engagement also uses the level of engagement and loyalty to categorise consumers (Hollebeek, 2011). Hollebeek, Juric and Tang (2017) also propose, based on Schau et al. (2009), a practice-based segmentation of consumer engagement with each other in the community. Very little work suggests that brand community members can be grouped into more complex ways (Fournier and Lee, 2009). What is evident from this research, is that participating in a brand community is heterogeneous and can be further segmented.

Although brands are primarily interested in active member engagement with the brand, participation analysis often has a different focus. Both existing conceptual (Bishop, 2007; Fournier and Lee, 2009; Kozinets, 1999) and empirical (Pongsakornrungsilp, 2010) work identifies community members' segments on the basis of their engagement with the

community and the other community participants (Hollebeek et al., 2017), rather than engagement with the brand. Research notes the existence of less active members who take no or limited action, for example lurkers who do not visit the online community often (Pongpaew et. al., 2017) or visit the online communities but do not post on it (Bishop, 2007; Schneider *et al.*, 2013; Sun *et al.*, 2014; Walker *et al.*, 2010), reported in other studies as Brand Detached (Azar *et al.*, 2016), or Strangers and Arrivals (Pongsakornrungsilp, 2010). Other research suggests that brand community members can be segmented on the basis of their personal objectives, plans, values, beliefs, interests or profiles of the individuals (Bishop, 2007; Malinen, 2015; Gong, 2018), for example Heroes, Celebrities and Performers (Fournier and Lee, 2009). All these classifications of brand community members consider the level of engagement with certain activities within the community, but not the engagement with the brand itself.

In line with the research supporting that brand community participants engage in various practices (Schau et al., 2009; Hollebeek et al., 2017), there is some, but limited, research that suggests that there are brand community participant segments that are distinguishable using their engagement with the brand, their feelings and assessments of the brand or the brand-related benefits they get access to through the brand community as segments identifiers. This is often the case in product categories that consumers have very high interest about and involvement with, such as football (Fillis and Mackay, 2014) or electronics/computers (Özbölük and Dursun, 2017). Different segments of brand followers are also likely to exist in value co-creation between the brand and the consumers, for example individuals may act as providers or beneficiaries (Pongsakornrungsilp and Schroeder, 2011). Other research considers multiple factors including the characteristics of the community, the brand and the page, such as the

information and the rewards offered from the brand to the community members, but also considers other factors related to the medium that the community interaction materialises (Facebook) and the community members (Azar *et al*., 2016). Some studies only focus on the relationship that consumers develop with various relational elements and, in particular, the relationship with the company, the brand, the product category and other consumers in order to classify the brand community members into categories (Ouwersloot and Odekerken-Schröder, 2008). Nevertheless, none of this research considers the brand community members' affective, cognitive and behavioural engagement with the brand as aspects that can be used to segment these individuals. The second aim of the study is to identify brand community members on the basis of their engagement with the community and their behavioural outcomes.

Conceptual development

Given the multidimensionality of engagement, understanding the differential impact of each dimension of engagement on loyalty is of interest (Dessart *et al*., 2017), based on the understanding that "the relative importance of the cognitive, emotional, and behavioural community engagement dimensions may vary with the specific set of situational contingencies under which community engagement is observed, thus permitting differing levels of community engagement intensity and/or complexity to emerge" (Brodie *et al*., 2011, p 260). So far studies have considered engagement as a whole when investigating its impact on brand loyalty (Hollebeek, 2011), rather than considering its different constituents. It is surprising that the individual impact of each engagement dimension has never been detangled, as both loyalty and engagement literature suggest complexity in their interplay. Firstly, the loyalty literature shows that

loyalty itself is a multi-faceted concept, with cognitive, affective, conative and behavioural dimensions (Oliver, 1999), which might occur concurrently or in a sequential manner (El-Manstlry and Harrison, 2013). In brand communities, for instance, the sequence from attitudinal loyalty to behavioural loyalty is present (Marzocchi *et al.*, 2013). Brand loyalty literature also supports that loyalty can be achieved through different processes of either a cognitive, affective or conative nature (Gustafsson *et al.*, 2005) and the engagement literature concurs with this premise (Sashi, 2012). Specifically, brand loyalty might result from high affective brand commitment or calculative commitment (Bowden, 2009).

While there is general evidence that all dimensions of engagement might trigger brand loyalty (Pongpaew et al., 2017; Leckie et al, 2018), studies suggest that some might achieve this aim better than others (Hollebeek *et al.*, 2014) and that engagement dimensions may have various levels of importance (Schivinski *et al.*, 2016). In line with the loyalty literature (Chaudhuri and Holbrook, 2001; Gounaris and Stathakopoulos, 2004), recent engagement studies point in the direction of a stronger impact of affective and behavioural engagement on loyalty, compared to cognitive engagement (e.g. Dwivedi, 2015). While brand affection and activation exert a positive impact on brand usage intent, a consumer's cognitive processing fails to do so (Hollebeek *et al.*, 2014). Therefore, cognitive engagement seems to play a lesser part in fostering brand loyalty. However, because loyalty requires a fundamental element of cognition (Oliver, 1999), and that calculative commitment is known to foster loyalty in an engagement process (Bowden, 2009) we do not exclude it as a loyalty driver. The following proposition is thus posited:

P1 (a) Affective (b) Cognitive and (c) Behavioural brand engagement each have a positive impact on brand loyalty, but the impact of affective and behavioural engagement is stronger than that of cognitive engagement.

Existing work recognises that brand community members can belong to different segments or play various roles in the community (appendix 1). Both active and passive members of the brand community may express some kind of behavioural engagement with the community but of a very different nature in terms of expression and motives, since posters want to share information, while lurkers often want to receive information (Lai and Chen, 2014).

There are also clear differences primarily on the community engagement profile, but to date there is very limited knowledge of the nature of this brand engagement profile in terms of affective, cognitive and behavioural brand engagement. For example, Özbölük and Dursun, (2017) identify members with beginner status who seek information about the brand (Learners), members that participate in the community for longer and look for a forum to obtain answers to their questions and not feel alone (Pragmatists), members who spread information (Opinion Leaders), members with a stronger interest in the brand and weaker bonds with the community (Activists) and members with deep emotional connection with the brand (Evangelists). This is a typical example of the existing research on brand communities' participation behaviours, which mostly describes the differences in the motives (Bishop, 2007; Fournier and Lee, 2009; Malinen, 2015) or the behaviour of segments within the community (Bishop, 2007; Fournier and Lee, 2009; Kozinets, 1999; Pongsakornrungsilp, 2010), and not their behaviour towards the brand and the benefits that a brand can get from the identification of specific segments. In the best case,

managerial advice is given on how the members of these groups should be approached, but without any data supporting that the proposed tactics are, indeed, contributing to the materialisation of brand-specific results (Azar *et al.*, 2016).

The only study looking at different sub-groups and their behaviour suggests that posters and lurkers are willing to spread positive brand-related WoM from a process that derives from brand commitment in a similar manner, while posters are more likely to resist negative information from a process that derives from brand commitment than lurkers (Mousavi *et al.*, 2017). Existing research on the segments of brand community members does not provide any direction on how these differences can help managers to better support their brands and produce tangible benefits. However, researchers are asking for managerial tools that, given the different segments of brand community members, can help companies produce brand-related outcomes (Ouwersloot and Odekerken-Schröder, 2008). This study proposes that:

P2 Different segments can be identified among the brand community members, for whom the relationships between the brand engagement dimensions and brand loyalty can be significantly different.

Past research indicates that the demographic profile of the individuals that belong in different brand community sub-groups and the ways they access brand communities embedded in social media have more similarities than differences (Azar *et al.*, 2016; Mousavi *et al.*, 2017; Ouwersloot and Odekerken-Schröder, 2008). Similarly, the consumption characteristics cannot clearly and indisputably define community segments (Ouwersloot and Odekerken-Schröder, 2008). Brand community participants may join a

brand community and engage in it because of the value they expect they can get from this participation, including the information they can exchange with other users and the brand (Wiertz and de Ruyter, 2007), the level of entertainment, the expression of self-identity and the interaction with others that produces social value (Dholakia *et al.*, 2004; Azar et al., 2016). The perceived value each participant acquires from the community might be a reasonable reason to explain the nature of the engagement to the community. As a result, it is unclear which variables could help explain potential engagement effect differences in brand community segments. Therefore, it is proposed that:

P3 Demographic variables and perceived community value can explain the differences amongst the identified segments of brand community members.

Methodology

Context Data were collected on Facebook, which is, to date, the most popular social medium worldwide (Smart Insights, 2017), with 2.01 billion monthly active users as of June 2017 (Facebook, 2017). Facebook is a recognised tool for building brand relationships and engagement (Gummerus *et al.*, 2012; Solem and Pedersen, 2016), and known to increase consumer loyalty thanks to brand communities (Laroche *et al.*, 2013). Indeed, Facebook offers businesses the opportunity to create an official page for their brands, supporting a vast array of product, businesses and brand types.

The study targeted these official brand communities on Facebook (Zaglia, 2013), called Pages. Facebook Pages were categorised in this study building on Facebook's own classification, resulting in nine categories (see Table 1). Statistical representativeness of

the number of Facebook pages (over 30 million at the time of the study) was not attempted, but the researchers sought to cover as many product types as possible with the aforementioned categories, in order to extend the scope and validity of previous engagement studies, often targeting service brands (e.g., Jaakkola and Alexander, 2014). Data were collected from communities interacting in three different languages, English, Spanish and French, which are among the most extensively used on Facebook (Internet World Stats, 2017).

Measurement The questionnaire included multiple-choice, seven-point Likert scale questions capturing the two main constructs of interest, and brand engagement and loyalty, as well as several dimensions of perceived community value, as previous studies suggest that such variables can explain brand community participation (e.g., Azar *et al.*, 2016). Dessart *et al.* (2016) was used to capture consumer brand engagement and its three underlying dimensions (affective, cognitive and behavioural), which is validated as composed of seven sub-dimensions and known to capture adequately the multidimensionality of brand engagement (Dessart, 2017). Odin, *et al.* (2001) capture behavioural brand loyalty. Regarding the elements of perceived community value, Wiertz and de Ruyter (2007) measure informational value, Dholakia *et al.* (2004) adopt for entertainment value and self-identity and social value is adapted from Dholakia *et al.* (2004). The details of the items used in this study are provided in Appendix 2. Prior to collecting the data, the survey was pre-tested on a sample of 100 business students in English to validate the adequacy of the wording, sequence and content of the questions, as well as to check internal consistency, means, variances, inter-item correlations and factor structure. To secure accuracy in the translation, the questionnaire was translated to French and Spanish and back translated to English by experienced bilingual researchers.

An English native speaker researcher looked at the original version of the questionnaire and the back translated and compared the two versions to secure consistency (Brislin, 1980). There was no need for any adjustments in the instrument.

Sampling and sample characteristics The first sampling level targeted the brand Pages, asking Page administrators to post the link to the survey. This approach ensured that respondents were, indeed, members of the targeted communities and had prior Page experience. It also increased the source credibility of the post and built trust amongst respondents (Dessart, 2017). Over a period of six months, researchers contacted a total of 423 Page administrators; 151 posted the survey on their page, resulting in a posting rate of 35%. Once the link was posted, second-level sampling targeted Page members. When clicking on the link, respondents were redirected to the web-based questionnaire, either in French, English or Spanish. In the questionnaire, the respondents were asked to state the page they are part of, on which they clicked on the questionnaire link. The final sample is composed of 970 respondents, including 249 Spanish-speaking, 291 French-speaking and 430 English-speaking people, as well as 46% being female. Ages means ranged between 35 and 29 years old in the different populations. Regarding the brand categories, the most represented groups consisted of food and beverage (32%), travel (17%) and entertainment products; (13%) of respondents are paying customers of the brand they follow. The full detail of sample characteristics can be found in Table 1.

INSERT TABLE 1 HERE

Analysis The main objective of this paper is to determine if the effects of brand engagement dimensions on loyalty are consistent with stemming from a single

homogenous population or they could be masking different consumer segments in which the effect of brand engagement dimensions on loyalty could be significantly different to those obtained for the whole sample. As Hair *et al.* (2016) point out, most studies implicitly assume a single homogenous population (Jedidi *et al.*, 1997) which is usually an unrealistic assumption which can be a threat to the validity of the structural model results leading to incorrect conclusions (Becker *et al.*, 2013).

FIMIX-PLS as implemented in SmartPLS 3.0 (Ringle *et al.*, 2015) is the approach followed to unveil latent segments in brand engagement effects on loyalty. Introduced by Hahn *et al.* (2002) and extended by Sarstedt *et al.* (2011), FIMIX-PLS "assumes that the overall population is a mixture of group-specific density functions [and it] disentangles the overall mixture distributions and estimate parameters (e.g., the path coefficients) of each group in a regression framework" (Hair *et al.*, 2016; p.66). Two steps are followed in the process. Firstly, the standard PLS-SEM algorithm is run for the whole sample obtaining the scores of all the latent variables in the model. These scores are used by a set of mixture regressions which probabilistically classify the observations into groups and estimate the regression models explaining the dependent latent variables within each of the groups. More details of the FIMIX-PLS approach are provided by Ringle, *et al.* (2010), Hair *et al.* (2016) or Mathews *et al.* (2016).

FIMIX-PLS has been proved as very valuable to determine the number of segments, as it provides a range of statistical measures to take a decision on this topic, however it has known limitations to correctly identify the underlying segment structure as defined by group-specific path coefficients (Ringle *et al.*, 2013; Ringle *et al.,* 2014). To overcome these limitations Hair *et al.* (2017) propose prediction-oriented segmentation in PLS-

SEM (POS-SEM) to estimate specific models for each segment. As Hair *et al.* (2017; p.178) point out "rather than defining heterogeneity at a distributional level, PLS-POS gradually reallocates observations from one segment to others with the application of a goal criterion, which is the maximization of the explained variance provided by the segmentation solution".

Accordingly, the process followed in this paper involves applying the FIMIX-PLS procedure to determine the number of segments and POS-PLS to estimate segment-specific models. Segments will be described not only by the effect of each of the brand engagement dimensions on loyalty but also trying to find external variables that can explain the composition of the segments that explain the revealed behaviour.

Results

To estimate the model represented in figure 1, second order constructs were operationalized using the repeated indicators approach (Hair et al., 2017). Before testing the propositions, the psychometric properties of the measurement instrument were assessed. Table 2 indicators demonstrate the high internal consistency of the constructs. Composite reliability represents the shared variance among a set of observed variables measuring an underlying construct (Fornell & Larcker, 1981). Generally, a composite reliability of at least .70 is considered desirable (Bagozzi & Yi, 1988). This requirement is met for every factor. Average variance extracted (AVE) was also calculated for each construct, resulting in AVEs greater than .50 (Fornell & Larcker, 1981). As evidence of convergent validity, results indicate that all items are significantly ($p<.01$) related to their

hypothesized factors, and the size of all the standardized loadings are higher than .70 (Hair et al., 2012).

Evidence for discriminant validity of the measures (Table 3) was tested checking that the shared variance between pairs of constructs was always less than the corresponding AVE (Fornell & Larcker, 1981). The criterion proposed by Henseler et al. (2015) according to which the HTMT ratio should be lower than .90 was also applied. No special problems arise. On the basis of these criteria, the measures in the study provided sufficient evidence of reliability, convergent and discriminant validity. Kock (2015) and Kock and Lynn (2012) full collinearity assessment approach to detect common method bias in PLS-SEM showed no evidence of CMB in our model.

INSERT TABLE 2

INSERT TABLE 3

Table 4 shows the estimation of the structural part of the model which proves to have predictive relevance according to Stone (1974) and Geisser (1975) criterion (Q^2=0.179) obtained via blindfolding. Results confirm for the whole sample a significant influence of the affective (β=0.367; $p<0.01$) and behavioural (β=0.149; $p<0.01$) dimensions of brand engagement on loyalty while there is no evidence of a significant effect on this variable of cognitive brand engagement (β=0.033; $p>0.05$). This finding partly supports the first proposition.

INSERT TABLE 4 HERE

To determine the number of latent segments, FIMIX-PLS was run for alternating numbers of segments to unveil latent segments where the effect of brand engagement dimensions on loyalty could be different and the solutions compared in terms of statistical adequacy and interpretability (Henseler *et al.*, 2015; Sarstedt *et al.*, 2014). Computed likelihood information criteria are shown in table 5. Following Hair *et al.'s* (2016, 2017) recommendations, as AIC3 and BIC do not indicate the same number of segments, the majority rule has been applied and a three segment solution has been considered. Relative sample sizes prove that the sample size in each segment is high enough for a reliable estimation of the model in each of the segments.

INSERT TABLE 5 HERE

The FIMIX-PLS partition was considered the starting partition for PLS-POS to estimate specific models for each of the three segments. As the sample size is 970 cases, the higher number of iterations was fixed to 1940 (twice the number of observations as recommended by Hair *et al.*, 2017) and the search depth was equal to the number of observations. The results are shown in table 6. The first indicator of the relevance of the segments relies in the fact that the loyalty R^2 of each (0.718, 0.644 and 0.728) and the weighted average (0.689) significantly improves that obtained for the whole sample (0.252).

INSERT TABLE 6 HERE

Focusing on the differential effect of brand engagement dimensions on loyalty, **segment 1, labelled emotional engagers** (18.4% of the sample, the smallest segment unveiled) base their loyalty on the perception of an affective connection with the brand (β=0.759; $p<0.01$) while the other dimensions are negatively related to loyalty, they do not share, learn by asking or seeking information nor endorse the brand (behavioural engagement; β=-457; $p<0.01$) and neither brand absorbs their attention (cognitive engagement; β=-0.420; $p<0.01$). **Segment 2, labelled thinkers** has a completely different configuration (all the paths are significantly different to segment 1 according to Henseler *et al.* (2009) non parametric MGA test. The affective dimension does not contribute to increase loyalty (β=-0.168; $p<0.01$) and neither does the behavioural dimension (β=0.049; $p>0.05$). Consumers of this segment, that is the biggest (44.5% of the sample), base their loyalty on cognitive engagement (β=0.874; $p<0.01$), that is, they do feel absorbed by the brand, forgetting everything around them and concentrating their processing attention on it. **Segment 3, labelled active engagers** (37.1% of the sample) does not differ from segment 1 on the relevance of the affective dimension on improving loyalty (β=0.646; $p<0.01$) nor the effect of cognitive engagement destroying it (β=-0.699; $p<0.01$). The difference on segment 1 relies in the fact that not only affective but also behavioural engagement (β=0.604; $p<0.01$) improves loyalty. So, feeling enthusiastic and enjoying the brand reinforces creating loyalty by an active sharing of information, active learning by question asking and endorsing activity. Therefore, proposition 2 is supported as the effect of brand engagement dimensions on brand loyalty differ depending on the segment where this relationship is tested, showing a clear latent heterogeneity influence on the results.

Once segments with different effects of brand engagement on loyalty have been detected and the differential effect has been described, the last step in the segmentation process

must be trying to identify which variables can define the segments and explain their differential behaviour. Table 7 shows the cross tabulation of the segment individuals with different variables that could explain this differential effect. The results show no difference in the segment characteristics either in their sociodemographic configuration or in the use of social networks. Only the education level of segment 1 shows a significantly higher percentage of postgraduate members (51%; $\chi^2(6) = 14.369$; $p<0.05$).

INSERT TABLE 7 HERE

This lack of ability of the sociodemographic and networks using characteristics of the segments to explain segment differences in the effect of brand engagement on loyalty make us look for this explanatory variable in more complex variables. Perceived community value was considered to play an important role on brand engagement formation, and it refers to the perceived benefits that members get from community participation (Wiertz and de Ruyter, 2007). Perceived value derives from the expected benefits of community participation and is an antecedent of engagement (Gummerus *et al.*, 2012; Vivek *et al.*, 2012; Wirtz *et al.*, 2013). Perceived value is best explained through the uses and gratification theory (McQuail, 1983), and can be categorised in a number of ways for community members. This study focuses on the most prominent types of values according to the brand community literature: informational (Wiertz and de Ruyter, 2007), entertainment, self-identity and social value (Dholakia *et al.*, 2004) (see appendix 2 for detail).

To test if perceived community value can have any influence on the segment individuals belong to, a multinomial logistic regression has been performed using segment belonging

as the dependent variable and the four dimensions of perceived community value (informational, social, entertainment, self-identity) as independent variables (**table 7**). Addition of the predictors to a model that contained only the intercept significantly improved the fit between model and data (χ^2 (10) = 18.829; $p<0.05$; Nagelkerke R^2 = 0.022). Although the effect of perceived community value cannot be considered very strong, for those individuals in segment 2 in which the cognitive brand engagement was especially relevant to explain brand loyalty, informational value increases the odds of being assigned to this segment compared to affective segment 1 (B=0.184; Wald=8.015; $p<0.01$) while the entertainment value reduces this probability (B=-0.144; Wald=5.638; $p<0.05$). Informational value also increases the probability of belonging to segment 3 compared to affective segment 1 (B=0.146; Wald=4.025; $p<0.05$) the same happens with self-identity value (B=0.167 Wald=4.276; $p<0.05$). In support of proposition three, it is clear that perceived value is key in explaining belonging in the segments, while the demographic characteristics of the respondents are not of importance.

INSERT TABLE 8 HERE

Discussion, Managerial Implications

This work asked the question of whether the effects of brand engagement dimensions on brand loyalty stem uniformly from a single homogenous brand community population, or if different consumer segments exist. The analysis first tested the differential impact of engagement dimensions on loyalty, before exploring the possibility of different segments and investigating probable causes for these differences. The study moved away from

country- and context-specific findings and used data from many brand community users from communities where participants communicate in the three key languages used in the data collection platform (Facebook): English, Spanish and French.

Firstly, the findings show that, considering the population as a whole, each engagement dimension has, as expected, a different effect on brand loyalty, based on the whole sample of respondents. Propositions testing reveals that affective engagement is the strongest predictor of loyalty, followed by behavioural engagement. Interestingly, cognitive engagement did not have a significant effect on brand loyalty, supporting that repeat purchase would be largely influenced by affective and relational factors; this is in line with previous findings suggesting that cognition is not as potent in influencing repurchase (Hollebeek *et al.*, 2014). However, and most remarkably, the analysis unveiled latent segments of brand community members, proving that the engagement literature wrongly assumes a single homogenous population on the engagement-loyalty relationship, and that stopping at the previous test of relationships on the whole sample, while already noteworthy, is insufficient.

The data revealed the existence of three latent segments of engaged consumers. The first segment corresponds to what can be called **"emotional engagers"**. These community members rely on affective dimensions of engagement to derive brand loyalty. For them, being behaviourally and cognitively engaged would have a negative impact on their loyalty. This segment is carried away by their feelings of enjoyment in brand interactions, as well as enthusiasm for the brand (Dessart *et al.*, 2015). They do not spend cognitive effort in the relationship, nor take action toward the brand on the community, much like lurkers (Lai and Chen, 2014; Mousavi *et al.*, 2017), it is all about what they feel for the

brand. The second segment is the **"thinkers"** who are heavily influenced by cognitive engagement, i.e., attention and absorption in their repurchase decisions (Azar *et al.*, 2016). Affect and behaviours do not drive brand outcomes for them, suggesting that it is exclusive through their mental processes (thinking about the brand, paying attention and staying engrossed in their interactions with it) that they come to develop loyalty. The third segment of community members are **"active engagers**", since the strongest predictor of loyalty for them is active behaviour and members with this profile have been identified in previous research (Azar *et al.*, 2016; Fillis and Mackay, 2014). Sharing, learning from the brand and supporting it is the main reason for developing loyalty. While affect is also a predictor of loyalty for them, cognitive engagement is negatively linked to loyalty. These people thus need to feel close to the brand as well as be actively participating in the community to develop repurchase behaviour, but they do this without being mentally engrossed in their actions: they are in the moment and can switch to another activity quickly.

These findings not only prove that different segments of engaged consumers in brand communities exist and can be identified not simply via abstract behaviour (Fillis and Mackay, 2014; Özbölük and Dursun, 2017; Pongsakornrungsilp, 2010; Pongsakornrungsilp and Schroeder, 2011; Walker et al., 2010), simple behaviour (Lai and Chen, 2014; Mousavi *et al.*, 2017) or more concrete quantitative identifiers (Azar *et al.*, 2016; Ouwersloot and Odekerken-Schröder, 2008), but also in differences in regard to the way engagement causally affects brand loyalty. This is consistent with previous research stressing that one cannot, therefore, assume population homogeneity in loyalty formation within the brand community (Özbölük and Dursun, 2017) and provide tools to build long term behavioural loyalty. Brand community strategists need to recognise the

diversity of their members and devise engagement programmes that take into account these discrepancies. If all members of a community need to be nurtured and catered for, brands should ensure that they provide vivid media content that triggers emotions, as above half of all members rely on affect to build loyalty. They, however, need to be cautious in manipulating emotional appeal from content, as it can have adverse effects for the biggest engagement group, the thinkers. The findings bring depth to initial work on content strategies used to build engagement, which suggest that emotional appeals might not, so far, have been used in an optimum way (Ashley and Tuten, 2015). Managers also need to understand that, as evidenced in prior research, those who engage behaviourally only represent a fraction of the population on social media (Mousavi *et al.*, 2017). It should therefore not be expected that all members respond the same way to brand efforts, or respond at all, since behavioural engagement is only instrumental to approximately one third of the population. This concurs with the notion that community members can often be lurkers but, as previous research also appreciates (Walker *et al.*, 2010), it does not mean that they are not engaged in less visible ways.

Other implications of the study regard the explanation of segment differences. While it seemed logical to consider sociodemographic variables and level of community participation to explain population heterogeneity, the findings of this study were consistent with the indications of previous studies (Azar *et al.*, 2016; Mousavi *et al.*, 2017; Ouwersloot and Odekerken-Schröder, 2008) and their impact was non-significant. Rather, the engagement-loyalty differences were partially explained by certain types of value provided by the community. Providing informational value, in particular, can help community managers to activate loyalty for the thinkers and behavioural engagers. While information can automatically impact the cognitive processing of thinkers and satisfy

them to engage, it appears that behavioural engagers require both informative value as well as self-identity benefits. Being able to "show off" intellectual capacity in the community thanks to interesting content might be a way for them to feel engaged with the brand and support repurchase. Last, entertaining content should not be used to attract cognitive engagement, as entertainment value is a determinant of belonging to the affective engagers rather than the thinkers. Managers can benefit from this understanding to better evaluate the impact of their community activities, understand the underlying strata of populations in their groups and what motivates them to, ultimately, achieve retention and repurchase.

Theoretical implications

This paper contributes to engagement scholarship in a number of ways. Overall, the findings provide a better understanding of the role of engagement in supporting brand outcomes, with a focus on brand loyalty. Rather than considering engagement as a whole as a loyalty driver (Dessart, 2017; Hollebeek, 2011; Vivek *et al.*, 2012), this research specifies individual roles to each engagement dimension in generating brand loyalty. While it may appear at first sight that the affective and behavioural dimensions are preponderant in explaining consumers' intent to repurchase (Hollebeek *et al.*, 2014), a segmented analysis of the population uncovers that the engagement-loyalty link is not monolithic and that all brand community members cannot uniformly fit into one causal model. This is a potent contribution as it reveals the specific role that each engagement dimension might play for different users and also contradicts studies supporting that for engagement to be impactful, all its dimensions need to be represented. Engagement

dimensionality achieves more than simply qualifying engagement, it also determines its relationship to other variables.

Second, this study supports our understanding of different engagement styles and profiles by proposing three segments of engagement that characterise brand community members. By doing so, the paper goes further than current studies on engagement profiles (e.g., Hodis *et al.*, 2015) which do not integrate engagement outcomes in their profiling. Past studies view engagement and participation in itself, rather than also considering its benefits. This study provides an innovative method to categorise brand community members based on their engagement-loyalty profiles. The segmentation supports the relative importance of each engagement dimension, as each takes a preponderant role in one segment, and each segment represents a substantial portion of the whole population that brand community managers need to cater for.

Lastly, the study expands current approaches to brand community participation classification. It clearly supports the recent research that appreciates that brand communities do not have the homogeneity that was originally believed to be their primary characteristic. While past research mainly focused on interactivity and engagement with the community (e.g., Bishop, 2007; Fournier and Lee, 2009; Pongsakornrungsilp, 2010), this study focuses on how members engage with the brand. This approach is more relevant to practicing managers who focus on the performance of brands and measure engagement with brands.

While the paper brings a number of contributions, it is not without limitations too. First, the study uses data from respondents who self-reported their behaviour in the brand

communities they participate. Although it is very difficult to collect real data that could allow the identification of segments, this remains a limitation of this work. The data were collected only from Facebook brand pages, which are brand communities managed by companies in one social network site. This choice introduces two limitations. Participant-managed brand communities could allow consumers to engage in different ways and could be another context to examine the findings of this study. Other platforms also may have different features that allow individuals to develop engagement of a different nature and, therefore, future research could focus on different contexts to verify the findings of this study. Additionally, brand community members might also be loyal before engaging in the community, which introduces a reverse-causality bias.

Futures studies should keep investigating the relative importance of engagement dimensions and different segments of engaged consumers. A first avenue would be to consider different contexts than brand communities. Since engagement is a context-specific concept (Brodie et al., 2011), there might be idiosyncrasies related to the brand community environment, and other online or offline ecosystems may support other configurations of dimension-based engagement profiles. Further insight could come from comparing different brand categories, such as hedonic versus utilitarian brand, to verify if different engagement segments are more represented depending on the brand type or not. Lastly, this study focuses only on positive engagement in brand communities largely supportive of brands: another possibility could be to focus on the engagement-loyalty link for negatively-valenced engagers and groups.

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Appendix 1. Segmentation of brand community members based on engagement

Authors, year	Research			Community			Criteria	Segments Identified	Segments identified on the basis of:					
									Consumer Brand/Activity Engagement			Community Engagement		
	Conceptual	Qualitative	Quantitative	Virtual	Conventional	Not specified			Affective	Cognitive	Behavioural	Affective	Cognitive	Behavioural
Kozinets, 1999	X			X			Social ties and community activities	Devotees, Insiders, Tourists, Minglers	Devotees, Insiders	Devotees, Insiders	Devotees, Insiders	Insiders, Miglers	Insiders, Miglers	Insiders, Miglers
Bishop, 2007	X			X			Community engagement	Lurkers, Elders				Elders	Elders	Elders
Ouwersloot and Odekerken-Schröder, 2008			X	X			Motivations to join	Enthusiasts, Users, Behind the scenes, Not-me's, Average, Socializers	Enthusiasts, Users, Behind the scenes, Average, Socializers			Enthusiasts, Users, Not-me's, Socializers		
Fournier and Lee, 2009	X					X	The community	Mentors, Learners, Back-ups, Partners, Storytellers, Historians, Heroes, Celebrities, Decision makers, Providers, Greeters, Guides, Catalysts, Performers, Supporters, Ambassadors, Accountants, Talent scouts				Learner, Partner, Storyteller, Historian, Provider, Greeter, Guide, Catalyst, Ambassador, Accountant, Talent scout	Mentors, Learners, Back-ups, Partners, Storytellers, Historians, Decision makers, Providers, Greeters, Guides, Catalysts, , Ambassador, Accountants, Talent scouts	Mentors, Learners, Back-ups, Partners, Storytellers, Historians, , Decision makers, Providers, Greeters, Guides, Catalysts
Pongsakornrungsilp, 2010		X		X			Community engagement and resources provided	Strangers, Residents, Arrivals, Players				Residents, Players	Residents, Players	Residents, Players
Walker et al., 2010		X		X			Degree of engagement	Lurkers, Posters						Posters
Hollebeek, 2011*	X						Degree of loyalty and engagement	Apathists, Activists, Exits, Variety Seekers	Apathists, Activists, Exits, Variety Seekers	Apathists, Activists, Exits, Variety Seekers	Apathists, Activists, Exits, Variety Seekers			

Pongsakornrungsilp and Schroeder, 2011		X		X			Roles in value co-creation	Providers, Beneficiaries	Providers, Beneficiaries	Providers, Beneficiaries	Providers			
Fillis and Mackay		X			X		Quality of social interaction and attachment to brand	Social Devotees, Committed Supporters, Casual Followers, Fans	Social Devotees, Committed Supporters, Casual Followers, Fans	Committed Supporters, Casual Followers, Fans	Social Devotees, Committed Supporters, Casual Followers, Fans	Social Devotees, Committed Supporters	Social Devotees, Committed Supporters	Social Devotees, Committed Supporters
Lai and Chen, 2014			X	X			Degree of overall engagement	Lurkers, Posters			Lurkers, Posters	Posters	Posters	Lurkers, Posters
Azar et al., 2016			X	X			Social influence, search for information, entertainment, Trust, rewards	Brand Detached, Brand Profiteers, Brand Companions, Brand Reliants	Brand Profiteers, Brand Companions, Brand Reliants	Brand Reliants	Brand Profiteers, Brand Companions, Brand Reliants			
Mousavi et al., 2017			X	X			Degree of overall engagement	Poster, Lurkers	Poster, Lurkers			Poster, Lurkers		
Özbölük and Dursun, 2017		X		X			Unspecified	Learners, Pragmatists, Opinion Leaders, Activists, Evangelists	Learners, Pragmatists, Opinion Leaders, Activists, Evangelists	Learners, Pragmatists, Opinion Leaders, Activists, Evangelists	Learners, Pragmatists, Opinion Leaders, Activists, Evangelists	Opinion Leaders	Pragmatists, Opinion Leaders	Learners, Pragmatists, Opinion Leaders
Pongpaew et al, 2017		X		X			Degree of overall engagement	Lurkers, Posters	Lurkers, Posters	Lurkers, Posters	Lurkers, Posters	Lurkers, Posters	Lurkers, Posters	Lurkers, Posters
Present study			X				Brand engagement dimensions	Emotional engagers, Thinkers and Active engagers	Emotional engagers	Thinkers	Active engagers			

* This work reports groups of consumers based on their engagement and loyalty not in the context of brand communities.

Appendix 2: Questionnaire items

Brand engagement
(Adopted Dessart et al., 2016)

Affective engagement
Enthusiasm
I feel enthusiastic about the brand
I am interested in anything about the brand
I find the brand interesting
Enjoyment
When interacting with the brand, I feel happy
I get pleasure from interacting with the brand
Interacting with the brand is like a treat for me

Cognitive engagement
Attention
I spend a lot of time thinking about the brand
I make time to think about the brand
Absorption
When interacting with the brand, I forget everything else around me
Time flies when I am interacting with the brand
When I am interacting with the brand, I get carried away
When interacting with the brand, it is difficult to detach myself

Behavioural engagement
Sharing
I share my ideas with the brand
I share interesting content with the brand
I help the brand
Learning
I ask the brand questions
I seek ideas or information from the brand
I seek help from the brand
Endorsing
I promote the brand
I try to get other interested in the brand
I actively defend the brand from its critics
I say positive things about the brand to other people

Behavioural brand loyalty
(Adopted Odin et al., 2001)
I am loyal to only one brand (the one I follow), when I buy this type of product
For my next purchase, I will buy this brand again
I always buy this brand
I usually buy this brand

Perceived community value

Informational (Adopted Wiertz and de Ruyter, 2007)
The information provided by the page is useful
The information provided by the page is valuable
The page is a great way to get answers to brand-related questions
Entertainment (Adopted Dholakia et al., 2004)
The group entertains me
The group allows me to relax
The group allows me to pass time when I am bored
Self-identity (Adopted Dholakia et al., 2004)
The group allows me to impress
The group makes me feel valuable
The group allows me to learn about myself and others
The group allows me to gain insight into myself
Social value (Adapted Dholakia et al., 2004)
The group allows me to meet like-minded people
The group allows me to stay in touch with like-minded people

Table 1. Sample demographics

Variable		English		Spanish		French		Total	
		N	%	N	%	N	%	N	%
Gender	Male	233	54	130	52	119	41	482	50
	Female	197	46	119	48	172	59	488	50
Education	Primary school	2	0	3	1	1	0	6	1
	Secondary school	48	11	63	25	48	16	159	16
	Undergraduate degree	172	40	141	57	94	32	407	42
	Postgraduate degree	208	48	42	17	148	51	398	41
Product category	Food and beverage	79	18	75	30	157	54	311	32
	Travel	152	35	10	4	2	1	164	17
	Entertainment	50	12	49	20	28	10	127	13
	Fashion and Beauty	50	12	19	8	52	18	121	12
	Durable goods	58	13	11	4	8	3	77	8
	Services	21	5	39	16	16	5	76	8
	Technology	11	3	14	6	16	5	41	4
	Retail	1	0	31	13	6	2	38	4
	Others	8	2	0	0	6	2	14	1
Age	Mean	35,3674	--	30,3534	--	29,1478	--	--	--
Total		430	100	249	100	291	100	970	100

Table 2. Internal consistency reliability and convergent validity

Construct	Indicator/dimension	Loading		t-value	CR	AVE
Enjoyment	BENJ2	0,959	**	299,227	0,963	0,896
	BENJ3	0,967	**	369,206		
	BENJ4	0,914	**	119,637		
Enthusiasm	BENT1	0,905	**	95,034	0,930	0,816
	BENT2	0,935	**	194,514		
	BENT4	0,868	**	101,17		
Absorption	BABS1	0,931	**	162,513	0,964	0,871
	BABS2	0,933	**	163,439		
	BABS3	0,935	**	140,93		
	BABS4	0,935	**	169,796		
Attention	BAT3	0,964	**	317,612	0,964	0,930
	BAT4	0,965	**	345,719		
Sharing	BSH4	0,926	**	150,532	0,941	0,841
	BSH5	0,929	**	147,621		
	BSH6	0,895	**	103,52		
Learning	BLE1	0,871	**	88,779	0,917	0,787
	BLE2	0,882	**	86,278		
	BLE3	0,907	**	121,487		
Endorsing	BEND3	0,914	**	142,001	0,942	0,803
	BEND4	0,921	**	143,805		
	BEND5	0,883	**	105,33		
	BEND6	0,865	**	82,491		
Loyalty	BL1	0,870	**	79,142	0,931	0,771
	BL2	0,905	**	117,794		
	BL3	0,878	**	91,076		
	BL4	0,858	**	63,219		
Affective brand engagement	Enjoyment	0,915	**	178,811	0,935	0,706
	Enthusiasm	0,901	**	142,128		
Cognitive brand engagement	Absorption	0,976	**	528,981	0,963	0,812
	Attention	0,913	**	139,976		
Behavioural brand engagement	Sharing	0,898	**	147,291	0,936	0,596
	Learning	0,856	**	88,187		
	Endorsing	0,828	**	64,500		

**p<0.01;
*p<0.05

Table 3. Test of discriminant validity

Latent variable	F1	F2	F3	F4
F1. Affective brand engagement	**0,840**	0,722	0,699	0,523
F2. Behavioural brand engagement	0,659	**0,772**	0,703	0,445
F3. Cognitive brand engagement	0,655	0,663	**0,901**	0,378
F4. Loyalty	0,480	0,404	0,355	**0,878**

Note: Diagonal AVE square root; Below diagonal: latent variable correlations
Above diagonal HTMT ratio

Table 4. Proposition testing results

Propositions	Standardized beta		t-value
P1a. Affective brand engagement-->Loyalty	0,367	**	8,843
P1b. Behavioural brand engagement-->Loyalty	0,149	**	3,411
P1c. Cognitive brand engagement-->Loyalty	0,033		0,754

**p<0.01; *p<0.05

R^2(Loyalty)=0.252; Q^2(Loyalty)=0.179

Table 5. Fit indices for one-to-five segment solutions and relative segment sizes

Criteria	Number of segments				
	1	2	3	4	5
AIC (Akaike's Information Criterion)	2 479,19	2 468,21	2 457,00	2 456,11	**2 446,46**
AIC3 (Modified AIC with Factor 3)	2 483,19	2 477,21	**2 471,00**	2 475,11	2 470,46
AIC4 (Modified AIC with Factor 4)	2 487,19	2 486,21	**2 485,00**	2 494,11	2 494,46
BIC (Bayesian Information Criteria)	**2 498,70**	2 512,11	2 525,28	2 548,78	2 563,52
CAIC (Consistent AIC)	**2 502,70**	2 521,11	2 539,28	2 567,78	2 587,52
HQ (Hannan Quinn Criterion)	2 486,61	2 484,92	**2 482,99**	2 491,38	2 491,02
MDL5 (Minimum Description Length with Factor 5)	**2 608,73**	2 759,69	2 910,41	3 071,45	3 223,74
LnL (LogLikelihood)	-1 235,59	-1 225,11	-1 214,50	-1 209,05	-1 199,23
EN (Entropy Statistic (Normed))		0,292	0,354	0,374	**0,559**

Number of segments	Relative segment sizes				
	Segment 1	Segment 2	Segment 3	Segment 4	Segment 5
2	0,729	0,271			
3	0,684	0,201	0,115		
4	0,545	0,200	0,148	0,107	
5	0,7	0,153	0,076	0,044	0,028

Table 6. Proposition testing results in the POS-PLS segments and multigroup analysis

	Segment 1			Segment 2			Segment 3			Total/average
N	178			432			360			970
Relative segment size (%)	22,5			54,5			45,5			122,5
R^2 (Loyalty)	0,718			0,644			0,728			0,689
Propositions										
P1a. Affective brand engagement-->Loyalty	0,759	**	A	-0,168	**	B	0,646	**	A	
P1b. Behavioural brand engagement-->Loyalty	-0,457	**	A	0,049		B	0,604	**	C	
P1c. Cognitive brand engagement-->Loyalty	-0,420	**	A	0,874	**	B	-0,699	**	A	

**p<0.01; *p<0.05

A,B,C different letter indicate significant path differences in the segments according to Henseler et al. (2009) non parametric test

Table 7. Sociodemographic and social network use characteristics of the segments
Vertical percentage

Characteristic		Segment 1 N=178	Segment 2 N=432	Segment 3 N=350	Total N=970	Test	p value
Gender	Male	0,52	0,51	0,47	0,50	$\chi 2(2)=1.815$	p=0.404
	Female	0,48	0,49	0,53	0,50		
Education	Primary school	0,01	0,01	0,01	0,01	$\chi 2(6)=14.369$	p=0.026
	Secondary school	0,10	0,18	0,18	0,16		
	Undergraduate degree	0,39	0,41	0,45	0,42		
	Postgraduate degree	0,51	0,41	0,36	0,41		
Age	Mean	31,9	32,4	32,2	32,2	F(2,967)=0.170	p=0.844
Respondents' Language	English	0,46	0,45	0,43	0,44	$\chi 2(4)=6.185$	p=0.165
	Spanish	0,22	0,24	0,30	0,26		
	French	0,33	0,31	0,27	0,30		
Hours per day online	0-1	0,06	0,09	0,08	0,08	$\chi 2(8)=11.694$	p=0.186
	2-3	0,31	0,26	0,32	0,29		
	4-5	0,24	0,34	0,28	0,30		
	6-8	0,21	0,16	0,19	0,18		
	8+	0,18	0,15	0,14	0,15		
Time per day in Facebook	Less than 10 min	0,06	0,07	0,06	0,07	$\chi 2(6)=2.538$	p=0.864
	11 to 30 min	0,26	0,24	0,25	0,25		
	31 to 60 min	0,33	0,31	0,35	0,33		
	60 min +	0,35	0,38	0,34	0,36		
Time per week in the page	0-2 min	0,48	0,43	0,40	0,43	$\chi 2(8)=13.370$	p=0.100
	3-5 min	0,25	0,33	0,27	0,29		
	6-10 min	0,19	0,15	0,21	0,18		
	11-15 min	0,06	0,06	0,07	0,06		
	15 min +	0,03	0,04	0,06	0,04		

Frequency of active clicking in the page	Never	0,14	0,07	0,08	0,09	$\chi 2(8)=9.646$	p=0.291
	Less than once a month	0,29	0,29	0,27	0,29		
	About once a month	0,25	0,27	0,28	0,27		
	About once a week	0,22	0,25	0,25	0,24		
	More than once a week	0,10	0,12	0,13	0,12		

Table 8. Effect of perceived community value in segment classification

Segment		B		Wald	Exp(B)
2	Intercept	-0,382		2,059	
	PCV_Entertainment	-0,144	*	5,638	0,866
	PCV_Self_Identity	0,052		0,503	1,054
	PCV_Social	-0,024		0,129	0,976
	PCV_informational	0,184	**	8,015	1,202
3	Intercept	-1,057		12,271	
	PCV_Entertainment	-0,093		1,894	0,911
	PCV_Self_Identity	0,167	*	4,276	1,181
	PCV_Social	-0,053		0,507	0,949
	PCV_informational	0,146	*	4,025	1,157

Note: the reference category is segment 1
$\chi 2(10)=18.829$; $p<0.05$; R^2(Nagelkerke)=0.022
**p<0.01; *p<0.05