



Journal of Services Marketing

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Article information:

To cite this document:

Carla Martins, Lia Patrício, (2018) "Company social networks: customer communities or supplementary services?", Journal of Services Marketing, <https://doi.org/10.1108/JSM-07-2016-0250>

Permanent link to this document:

<https://doi.org/10.1108/JSM-07-2016-0250>

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Company social networks: customer communities or supplementary services?

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Abstract

Purpose – The purpose of this study is to contribute to a better understanding of the antecedents and consequences of loyalty to consumer networks hosted by companies in the scope of social networking sites (SNS). These company social networks (CSNs) have traditionally been studied as online brand communities but more research is needed to understand their role for host companies.

Design/methodology/approach – This study identifies CSN performance dimensions (host reputation, informativeness, communication self-expressiveness, rewarding activity and consumption support) and analyzes how they influence attitudes and behavioral intentions toward CSNs (identification with the community, satisfaction and loyalty) and toward the host company (satisfaction and loyalty). A conceptual model is tested through a survey administered to members of a large grocery retailer CSN on Facebook.

Findings – Results show that all six identified performance dimensions significantly impact CSN loyalty. However, while self-expressiveness, communication and rewarding activity (which are closely related to social and hedonic value) are predictors of loyalty to the CSN, through the mediation of identification with the community, they neither indirectly (through the mediation of identification) nor directly impact satisfaction with the host. Conversely, informativeness, communication and host reputation are good predictors of loyalty to the CSN, through mediation of satisfaction with the CSN, and also exert an indirect positive influence on satisfaction with the host. Finally, consumption support positively influences loyalty to the CSN through the mediation of identification with the community and directly positively influences satisfaction with the host company.

Originality/value – These results reveal the dichotomous nature of CSNs, as communities of people with shared interests and supplementary services created by companies to add value to their core offering. While perceptions regarding the community facet are independent from attitude toward the host, perceptions regarding supplementary service are significant predictors of satisfaction with the host. These results offer implications for future research and management of companies' social media presence.

Keywords Company social networks, Loyalty, Satisfaction, Identification, Social networking sites, Online community

Paper type Research paper

Introduction

The growth of social media has profoundly changed the way companies and consumers interact. Communication that used to be unidirectional, from company to consumer, has become fully interactive both between consumers and between consumers and companies (Farquhar and Rowley, 2006; Fisk *et al.*, 2008; Hanna *et al.*, 2011). Consumers now use the Web to express their knowledge and experience of products and services, and word-of-mouth has become a significant component of online consumer interactions (Valck *et al.*, 2009; Brown, 2006; Brown *et al.*, 2007). The vast amount of information shared by consumers within the scope of social media allows companies to better understand and respond to their needs. At the same time, the emergence of social media enables the creation of many new points of contact between

companies and their customers, as well as new opportunities for value co-creation (Prahalad and Ramaswamy, 2004). Besides the collection of relevant consumer data, consumer engagement in social media can be used by companies to reach new potential customers, to facilitate unique experiences that increase consumer affective connection, to improve customer service and even to foster collective innovation (Kao *et al.*, 2016).

Among social media, social networking sites (SNSs) have become an important channel for companies to both communicate with consumers and foster interactions among them. Many companies have created their own consumer social networks around their pages, hereafter referred to as company social networks (CSNs), in the most populated SNSs, such as Facebook, Twitter, YouTube, Instagram or Pinterest. In 2016, Facebook had about 60 million business pages (Business Insider, 2016).

Membership and participation in these CSNs have become important components of the overall customer experience

The current issue and full text archive of this journal is available on Emerald Insight at: www.emeraldinsight.com/0887-6045.htm



Journal of Services Marketing
© Emerald Publishing Limited [ISSN 0887-6045]
[DOI 10.1108/JSM-07-2016-0250]

Received 1 July 2016
Revised 8 January 2017
14 July 2017
28 January 2018
Accepted 8 February 2018

(Verhoef *et al.*, 2009). However, in spite of the growing importance of the CSN phenomenon, managing the presence in SNSs remains a challenge for most organizations. First, some companies hosting pages in SNS have been unable to attract enough consumers to create a relevant social network. Many others have formed social networks, but have been incapable of energizing them. A 2012 study showed that more than 70 per cent of business pages on Facebook were completely inactive (Digital Strategy Consulting, 2012), demonstrating that engaging members is not a straightforward task. Thus, to attract and engage consumers, companies need to understand how they can promote loyalty to their CSNs.

Some studies have already examined CSNs, addressing them as online brand communities (Azar *et al.*, 2016; Jahn and Kunz, 2012; Kang *et al.*, 2014). However, their results suggest that besides communities, CSNs may also be viewed as services. In light of service literature, CSNs present characteristics of supplementary services through which companies facilitate the use and enhance their core offerings (Lovelock, 1995). Among such research, Jahn and Kunz (2012) found that functional value explains Facebook page usage intensity significantly better than hedonic and social value. Martins and Patrício (2013) found that the content of CSNs tends to be mostly created by the host, and that host–consumer interactions are more frequent than interactions between consumers. As such, research on loyalty toward CSNs could benefit from considering service research concepts and methods. Taking these challenges into account, this study builds upon service quality approaches to identify, understand and measure CSN dimensions that can foster CSN loyalty.

The creation, management and return of consumer communities have recently been defined as service research priorities (Ostrom *et al.*, 2010; Ostrom *et al.*, 2015). However, evidence on how companies can benefit from successful CSNs has been mostly anecdotal. To address these challenges, this research studies potential predictors of loyalty and analyzes its outcomes, examining the impact of loyalty to a CSN on attitude toward the host company. Therefore, to advance understanding of CSNs, the study's objectives are threefold:

- 1 identify and measure CSN performance dimensions used by members to assess CSNs;
- 2 examine the effects of member perceptions of the previously identified performance dimensions on loyalty to the CSN through the mediation of two attitudinal variables: identification with the CSN community (an antecedent of participation commonly found in research on online communities) and satisfaction with the CSN (consistently presented as the main antecedent of loyalty in service research); and
- 3 analyze the influence of those attitudes and behavioral intentions toward CSN on satisfaction and loyalty toward the host.

The remainder of this paper is structured as follows. First, based on literature review, a definition of CSNs and a preliminary conceptual model are presented. Then, the article unfolds into two major sections. The first section addresses the process of identification of the relevant performance dimensions used by members in the evaluation of CSNs and development of an instrument to measure the identified

dimensions. In the second section, the refined conceptual model is tested through structural equation modeling. The final section discusses research and managerial implications.

The nature of company social networks

A CSN can be defined as a group of people, generally referred to as followers, fans or subscribers, who are connected to the same service, product or brand and are hosted by a company within the boundaries of an SNS (Martins and Patrício, 2013). CSNs have been referred to in various ways, such as Facebook fan pages, Facebook brand pages, Facebook brand communities or simply brand fan pages. This research adopts the term CSN, as it is wider in scope. First, CSNs comprise all company-initiated consumer networks created within the scope of any SNS, and not only Facebook. Second, the CSN concept does not restrict the phenomenon to a *page*, which is uniquely the platform for social network development and which may exist independently of the members. Third, a CSN is different from a brand community. Brand communities have been well-established in studies conducted prior to the emergence of the CSN phenomenon as a:

[...] specialized, non-geographically bound kind of consumer community, based on a structured set of social relationships among admirers of a brand, which is marked by a shared consciousness, rituals and traditions, and a sense of moral responsibility (Muniz and O'Guinn, 2001, p. 412).

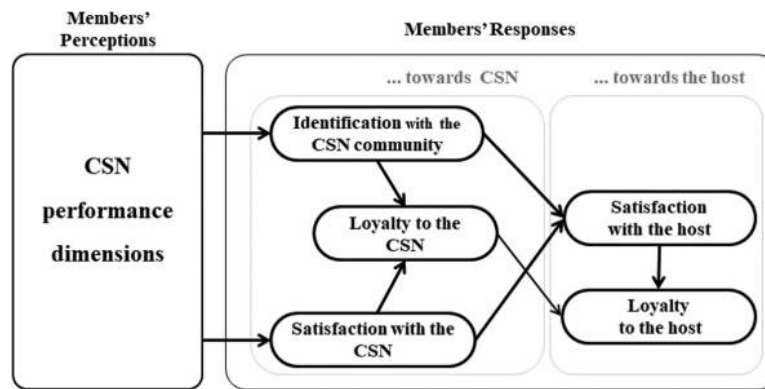
Thus, although several CSNs may constitute true *brand communities*, that definition may not apply to many others. The fact that CSNs are embedded within SNSs makes the act of joining effortless; people are already signed up and a click is all that is needed to register. Hence, CSNs may not require high brand involvement and in many cases may not embody brand community characteristics (Zaglia, 2013). Research has shown that many consumers who join CSNs are not brand enthusiasts, but rather consumers with pragmatic interests, who in some cases may have no connection with the host company outside the CSN (Martins and Patrício, 2013). The fact that CSNs are initiated by companies may also hinder the development of true brand communities. Previous research (Zaglia, 2013) has shown that characteristics of brand community are stronger in member-initiated groups around brands on SNSs than in company-initiated ones (i.e. CSNs).

While brand communities may or may not be fostered by the brand owner, CSNs are part of a product/service concept. CSNs are created by companies to add value to their core offerings by improving the total customer experience (Verhoef *et al.*, 2009). From this point of view, CSNs may be seen as supplementary services (Lovelock, 1995), as they are created by companies to facilitate use of the core service/product (e.g. through information provision) and to enhance its benefits (e.g. providing a closer relationship with the company). Therefore, a service quality perspective should be useful to expand the understanding of CSNs.

Development of the preliminary conceptual model

To explore the service nature of CSNs, this study builds upon service quality research to develop a conceptual model comprising three different layers, as depicted in Figure 1. This model posits that member perceptions about CSN attributes,

Figure 1 Preliminary conceptual model



organized into higher-level quality dimensions (Olson and Reynolds, 1983; Zeithaml, 1988), which represent the first layer of the model, influence member attitudes toward the CSN. These attitudes, in the second layer, mediate the relationship between perceptions and behavioral intentions of loyalty toward the CSN. Two different attitudinal variables were included in the model as mediators: satisfaction with CSN and identification with the CSN community. Finally, the proposed conceptual model comprises a third layer with the purpose of testing whether attitudes toward the CSN influence satisfaction and loyalty toward the host. These layers of the conceptual model are detailed in the following subsections.

Members' perceptions of company social network performance dimensions

The first layer of the conceptual model comprises the dimensions used by members to assess CSN performance, and that are expected to predict loyalty (behavioral intention) toward the CSN. Recent studies have addressed the antecedents of participation in CSNs. Some of these studies fall under the wider umbrella of social media engagement research (Brodie *et al.*, 2013; Dessart *et al.*, 2015; Hollebeek *et al.*, 2014; Wirtz *et al.*, 2013) and have sought to identify antecedents of engagement in CSNs. These studies may be split into two main streams. The first has investigated how different objective characteristics of host-created content in CSNs (e.g. content or media type) influence member engagement (Chua and Banerjee, 2015; Cvijikj and Michahelles, 2013; Gummerus *et al.*, 2012; Luarn *et al.*, 2015; Sabate *et al.* 2014). The second stream has built upon uses and gratifications (U&G) theory (Katz *et al.*, 1973), in line with previous research on other forms of online communities (Nambisan and Baron, 2007; Park *et al.*, 2009; Wang and Fesenmaier, 2003). These studies have examined the impact of perceived value (i.e. benefits) associated with CSN membership and participation (e.g. entertainment, information, social interaction and social identity) on engagement (Azar *et al.*, 2016, Jahn and Kunz, 2012; Kang *et al.*, 2014). While both perspectives have made important contributions to understanding the antecedents of engagement with CSNs, a service quality perspective may offer complementary insights to the understanding of CSNs as supplementary services.

A significant portion of service quality research has been devoted to the identification and measurement of performance/quality dimensions. These dimensions are higher-order

characteristics of a service through which consumers infer its general quality, i.e. its superiority or excellence (Bitner and Hubbert, 1994; Cronin and Taylor, 1992; Parasuraman *et al.*, 1988). Quality judgments have proved to be important predictors of consumer attitudes and behavioral intentions (Cronin and Taylor, 1992; Dagger *et al.*, 2007; Woodside *et al.*, 1989). These higher-order quality perceptions are derived by consumers from more concrete service attributes (Parasuraman *et al.*, 1985, 1988, 2005); as such, service quality studies have often entailed identification of the specific attributes used by consumers to evaluate the service. These attributes are then structured into higher-order performance dimensions to create adequate models and measures of service quality. Earlier service quality studies focused on the development of generic service quality models (Cronin and Taylor, 1992; Grönroos, 1984; Parasuraman *et al.*, 1988) that can be applied to any service industry. More recently, a growing number of context-specific service quality models have emerged (Dagger *et al.*, 2007; Wolfenbarger and Gilly, 2003).

With the aim of complementing current understanding of CSNs as service, the present study develops a quality model that suits this specific context. Therefore, the first layer of the conceptual model shown in Figure 1 comprises the perceptions about CSN performance dimensions, which are hypothesized to be predictors of attitudes toward CSNs (second layer of the conceptual model). As no previous study has identified these dimensions, a qualitative study was developed to identify the relevant attributes and dimensions of CSNs. A subsequent quantitative phase was performed to validate them.

Satisfaction, identification and loyalty toward company social networks

Consumer loyalty was chosen as an outcome in this study, as literature has shown that loyalty, defined as a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future (Oliver, 1997), is a key outcome of service quality (Zeithaml *et al.*, 1996). However, unlike in other services, loyalty toward a CSN is not directly related to purchase. Rather, loyalty toward a CSN represents member stickiness to it. As such, and based on previous literature on company-hosted online communities, loyalty is defined in this research as the degree to which a member intends to continue being part of the network and exhibits behaviors that reveal allegiance to it (Kang *et al.*, 2007).

Satisfaction and identification were chosen as mediating variables between member performance perceptions and loyalty to the CSN. The choice of these two constructs stemmed from the objective of exploring the double nature of CSNs as both customer online communities and supplementary services.

Satisfaction, defined as pleasurable fulfillment response following a consumption experience (Oliver, 1997), is a key construct in service literature. Several studies point it out as a consequence of perceived service performance (Caruana, 2002; Cronin and Taylor, 1992; De Ruyter *et al.*, 1997) and a key antecedent of loyalty (Cronin and Taylor, 1992; Yu and Dean, 2001; Anderson and Sullivan, 1993; Taylor and Baker, 1994; Gustafsson *et al.*, 2005). Some literature on online communities has also shown that satisfaction is a good predictor of intention to continue participating (Cheung and Lee, 2007; Chiu *et al.*, 2011; Lin, 2008; Wu *et al.*, 2007) and actual participation (Langerak *et al.*, 2004). In this study, satisfaction with CSN is defined as the fulfillment response regarding the whole experience of participating as a member on a given CSN.

Identification with a group involves cognitive and affective components (Johnson *et al.*, 2012). In a cognitive sense, identification is the awareness of one's membership of a social group by means of processes that emphasize on both similarities with other members and dissimilarities with non-members. The affective component of identification is a sense of emotional involvement with the group (Dholakia *et al.*, 2004). Identification is a common attitudinal construct in the scope of research on online communities. Identification with the community, as well as other closely related constructs, such as sense of belonging and community commitment, has proven to be influenced by member perceptions about the online community (Dholakia *et al.*, 2004; Kang *et al.*, 2007; Kim *et al.*, 2008; Lin, 2007). Moreover, extant research also shows that identification with the community is an antecedent of desire and intention to participate (Dholakia *et al.*, 2004; Bagozzi and Dholakia, 2002; Zhou, 2011; Cheung and Lee, 2009; Casaló *et al.*, 2010b), community engagement (Woisetschläger *et al.*, 2008; Algesheimer *et al.*, 2005; Hsu *et al.*, 2012) and content provision (Bateman *et al.*, 2011; Wasko *et al.*, 2004). In this research, identification with the CSN community is defined as a psychological state linking an individual to the community of members of the same CSN based on perceived similarity and affective involvement.

Satisfaction and loyalty toward the host

Previous literature has found a significant impact of attitudes and behaviors toward the online community on attitudes and behaviors toward the brand or company in which the community is anchored. For instance, Bagozzi and Dholakia (2006) found that higher levels of participation in a brand community correspond to a higher intensity of brand-related behaviors, as well as more visits to brand seller stores, more purchases and more money spent on brand products. Casaló *et al.* (2007) also observed that participation in online communities centered on free software programs has a positive influence on consumer commitment to those software products. Thus, the proposed model hypothesizes that both satisfaction with the CSN and identification with the CSN

community have a positive impact on *satisfaction with the host*, and also that loyalty toward the CSN has a positive impact on *loyalty toward the host*.

Development of an instrument to assess perceptions of company social network performance

The development of an instrument to assess member perceptions of CSN followed recommended procedures for developing and refining measurement scales (DeVellis, 2012; Gerbing and Anderson, 1988; Parasuraman *et al.*, 2005) used in the context of service quality research. This process includes two main stages:

- 1 exploration of the conceptual domain through a qualitative study supported by a literature review; and
- 2 development and validation of the measurement instrument through survey research.

Exploration of the conceptual domain

In the first stage, a literature review and a previously developed qualitative study (Martins and Patricio, 2013) were used to explore the conceptual domain of CSN quality. This qualitative study formed the foundation upon which the first version of the measurement instrument was developed, and was followed by quantitative methods to refine the instrument and assess its validity and reliability.

The qualitative study started with an exploratory stage, through which the Facebook page stream of a grocery and general merchandise retailer (hereafter called Retailer) was followed for the first six months after its launch. Retailer (which has more than 400 stores and 2.7 million customers) mostly provides goods and services with a low-involvement potential. This increased its research relevance, as creating a community from scratch would have been more challenging (Cova and Pace, 2006). Moreover, unlike most companies, Retailer's Facebook page did not focus directly on its brand, but instead on a recipe service that was connected to its online store. Although references to the brand were constant and noticeable all over the CSN page, the brand was not the main focus of the content creation and interaction. A total of 2,848 interactions (posts and comments) were captured and analyzed over six months. This process provided an initial understanding of the CSN phenomenon and simultaneously supported the identification of participants for the following research stage.

This exploratory stage was followed by a qualitative study with a grounded theory approach (Strauss and Corbin, 1990; Charmaz, 2006), based on focus groups and in-depth interviews with 26 members of the Retailer's CSN. This qualitative study enabled the identification of performance attributes that members value most in CSNs, and their aggregation into higher-level dimensions. The use of a literature review followed the tenets of grounded theory. It was performed throughout the qualitative research process, and its main function was to stimulate theoretical sensitivity and thereby promote theory emergence, as recommended by Strauss and Corbin (1990). The final performance dimensions are the result of the analysis of participants' responses, with the support of extant literature. Nevertheless, only attributes

mentioned by CSN members were taken into account. Dimensions used in previous studies on the same or closely related phenomena were not included if they had not been mentioned by members. Hence, the qualitative study enabled the identification of several attributes, which were then categorized into nine preliminary perceived performance dimensions, as presented in Table I (Martins and Patrício, 2013).

It is worth noting that in the interviews and focus groups, the CSN members never referred to sociability-related attributes as being important. None of the participants spoke of a desire to meet people, make friends or chat with other members in the context of CSNs, which is in contrast with previous studies addressing other types of online communities (Jin *et al.*, 2010; Nambisan and Baron, 2007). Instead, the qualitative study showed that other members were considered important as a source of information about consumption-related issues. Facebook's technical platform's features, more focused on member-host than on member-to-member communication, may partly explain why members viewed CSNs mostly as means of direct interaction with the host and, only to a lesser extent, of interaction with other consumers.

At the same time, factors related to platform design and usability, which have often emerged in previous literature in online communities (Jin *et al.*, 2010; Lin, 2008), as well as in e-service quality models, (Janda *et al.*, 2002; Parasuraman *et al.*, 2005; Wolfinbarger and Gilly, 2003), also failed to emerge during the interviews and focus groups conducted in this study. This may be because members are aware that most of these aspects are controlled by the platform owner (Facebook) and are therefore outside of the CSN host's control.

Preliminary instrument and pilot test

The findings of the qualitative study provided rich ground for the generation of an initial pool of 54 items, covering nine CSN performance dimensions. All the measures were rated on seven-point Likert scales, anchored by 1 = "fully disagree" and 7 = "fully agree". Despite the prominence of the gap-based paradigm of service quality measurement introduced by

SERVQUAL (Parasuraman *et al.*, 1988), service quality has also been successfully evaluated through performance-only measures (Cronin and Taylor, 1994). As research has shown that performance-only measures are similar, or can even outperform disconfirmation-based measures (Brady *et al.*, 2002; Cronin and Taylor, 1992), for parsimony reasons, a performance-only model was used (Seth *et al.*, 2005).

The initial version of the instrument was subject to both qualitative and quantitative pre-testing. Qualitative pre-testing consisted of two meetings with members of Retailer's marketing and innovation departments and with a group of service management master students. Participants were asked to read the list of initial items and suggest possible improvements. Based on the feedback received, some statements were revised for increased clarity, while others were eliminated.

Following this stage, a quantitative pilot test was carried out. A version containing 44 items in Likert response format was administered to a sample of 218 master's students, of whom 106 were female and 122 male, with an average age of 23.4. To qualify for the study, students had to be members of at least one CSN on Facebook. At the beginning of the questionnaire, participants chose one CSN to which they belonged and answered questions related to that CSN. Missing value analysis resulted in the elimination of five items that received responses from fewer than 70 per cent of participants (Hair *et al.*, 2014). A preliminary exploratory factor analysis (EFA) suggested the existence of six CSN performance dimensions, rather than the nine identified in the qualitative stage. *Feeding adequacy* and *informativeness* collapsed into a unique factor, *extrinsic reward* and *intrinsic reward* combined to form a unique factor and *openness* and *responsiveness* also became a unique factor. *Host reputation*, *self-expressiveness* and *thematic consistency* remained as separate constructs.

Following established scale-development procedures, reliability was assessed using Cronbach's alpha, and items with low item-to-total correlations whose elimination improved reliability, as well as items that did not load clearly in one dimension (Hair *et al.*, 2014), were deleted. However, given the exploratory nature of this phase, each item was only deleted if deemed theoretically non-essential. Some items were also

Table I Definition of CSN dimensions identified through qualitative study

CSN dimension	Definition (after qualitative study)
Informativeness	Relevance, accuracy and up-to-datedness of content created within the CSN (not only, but mainly by the host), which is translated into content ability to help people in daily life activities, such as purchase decisions
Feeding adequacy	Noticeable presence of the host company through regular, but parsimonious feeding, translated into a balance in terms of quantity and frequency of content provision by the company
Extrinsic reward	Likelihood of getting an external material (e.g. a prize) or non-material return (e.g. a compliment) of active participation
Intrinsic reward	Likelihood of experiencing positive feelings by actively participating in CSN activities
Self-expressiveness	Ability of the CSN to communicate something about its members
Host reputation	Ability of the host to which a CSN is anchored, to convey a desired image and avoid communicating aspects that a person believes others will deem negative
Openness	Free flow of communication within the CSN, enabling all members to express either positive or negative opinions, without the prospect of company manipulation
Responsiveness	Host company's ability to react timely and appropriately to CSN member interventions, such as questions and complaints
Congruence	Congruence between the content and activities of the CSN and the host offering, thereby supporting members in their consumption processes

Source: (adapted from Martins and Patrício, 2013)

rephrased to improve their capability of measuring the corresponding construct. Following these procedures, the instrument to assess perceived CSN performance entailed 30 items.

Final survey administration

The refined survey instrument was administered online to members of Retailer's CSN. Retailer invited all of its CSN fans to participate through its page on Facebook, publicizing the survey at three different points in time over a period of two weeks. To encourage participation, respondents entered into a contest to receive a tablet computer.

Besides the 30 items developed to assess perceived performance on the six CSN dimensions, the survey also included 21 items to measure the outcome variables of the conceptual model: member responses toward CSN (satisfaction with CSN, identification with CSN community, and loyalty to the CSN) and to the host (satisfaction and loyalty toward the host). These outcome constructs were measured using previously validated scales with slight adaptations. As the conceptualization of identification includes both cognitive and affective components (Johnson *et al.*, 2012), identification with the community was assessed as a second-order construct, measured using two different scales. Cognitive identification was assessed through a scale with four items adapted from a study by Nambisan and Baron (2007); and affective identification was measured through a scale with three items adapted from a study by Allen and Meyer (1990). The scale of satisfaction with CSN, comprising three items, was adapted from a study by Li *et al.* (2006); the scale of loyalty to CSN, composed by three items, was adapted from a study by Kang *et al.* (2007); the scale of satisfaction with the host, comprising four items, was adapted from a study by Oliver (1997); and the scale of loyalty to the host, with four items was adapted from a study by Zeithaml *et al.* (1996). These variables were also measured through seven-point Likert scales.

From this process, 667 responses were received. Following missing value analysis, responses with more than 25 per cent of missing values were not included, and remaining missing values were estimated using the expectation maximization method (Hair *et al.*, 2014). This process yielded a total of 642 valid responses. Table II provides additional sample details. Based on information provided by Retailer, obtained through Facebook Analytics, sample characteristics were compared with the overall population of members and were found not to significantly differ.

To validate the dimensional structure (Hair *et al.*, 2014) of the instrument to measure perceptions about CSN performance, data were randomly split in two groups of 321 responses each. The first half was subject to EFA and the second half was subject to half was subject to confirmatory factor analysis (CFA).

Exploratory factor analysis

EFA was performed in the first half sample, through principal component analysis with Varimax rotation exclusively on data regarding CSN performance perceptions. Eigenvalues greater than 1 served as a criterion to determine the number of factors to retain. The EFA corroborated the results of the pilot test, identifying the same six factors. Items that did not load at least 0.50 or more on one factor and/or loaded at more than 0.35 on

Table II Sample characterization (n = 642)

Sample attributes	Frequency
Age	32.3 (mean)
Gender	80% female
Education	65% higher education
<i>Time as an CSN member</i>	
Less than a month	22%
From one to six months	36%
From six months to a year	22%
More than a year	19%
<i>Reading CSN posts</i>	
Never	1%
Sometimes	31%
Frequently	68%
<i>Visits to CSN page</i>	
Never	2%
Sometimes	53%
Frequently	45%
<i>Active participation in the CSN</i>	
Never	23%
Sometimes	67%
Frequently	10%
<i>Use of company services</i>	
Never	2%
Sometimes	16%
Frequently	82%

two or more factors (Hair *et al.*, 2014; Wolfenbarger and Gilly, 2003) were carefully considered for elimination. After this process, two items were eliminated because of cross loadings. Coefficient alpha values were all well above the minimum acceptable value of 0.70 (Nunnally, 1978), and item-to-total correlations exceeded the minimum recommended value of 0.40 (Hair *et al.*, 2014). No item resulted in an increase in its respective scale alpha value when removed, suggesting internal consistency for all dimensions.

Examination of the content of the final items making up each of the six final dimensions suggested the following labels: *communication* (resulting from the collapse of openness and responsiveness); *host reputation*; *informativeness* (resulting from the collapse of informativeness and feeding adequacy); *self-expressiveness*; *rewarding activity* (resulting from the collapse of intrinsic and extrinsic rewards); and *consumption support*. This latter item replaced the previous denomination of *thematic consistency*. After the elimination of items with poor loadings, all remaining items referred to the ability of the CSN to support members' consumption of the host products and services, and as such, *consumption support* was considered more adequate.

Confirmatory factor analysis

Building upon the results of the EFA and reliability analysis, the process moved to CFA with the remaining half-sample, using IBM SPSS Amos software with robust maximum likelihood (ML) estimation. At this stage, the analysis involved the six constructs representing CSN dimensions and also the

conceptual model constructs regarding member responses toward CSN (satisfaction with the CSN, identification with the CSN community, loyalty to the CSN) and to the host (satisfaction and loyalty toward the host).

Average variance extracted (AVE) and composite reliability were computed for each construct and multiple fit indices were used to assess measurement model fit (Hair *et al.*, 2014). Goodness-of-fit measures indicated that the measurement model should be improved. Literature shows this is a common result that is mainly due to potential sources of misfit in CFA that are not present in EFA (Brown, 2006). When this happens, researchers may make some adjustments to the CFA to improve the model (Schmitt, 2011). As such, similarly to previous studies (Ho and Lee, 2007; Mathwick, 2002; Laroche *et al.*, 2012) and building upon CFA literature recommendations (Hair *et al.*, 2014), three items were deleted based on the analysis of modification indices and/or low loadings, but only after ensuring that they were not theoretically essential. From the eliminated items, two pertained to CSN performance dimensions and one to the loyalty measure adapted to the CSN context (Kang *et al.*, 2007). The final measurement model computed with the half sample presented an adequate fit ($\chi^2 = 2,251.93$; 933 *df*, $p = 0.00$; CFI = 0.91; TLI = 0.90; RMSEA = 0.07; SRMR = 0.07), according to recommended standards for samples with $n > 250$ and a number of observed variables above 30 (Hair *et al.*, 2014). After this two-stage process, the CFA and EFA were performed for the whole sample, as shown in Table III.

As the data were collected via a cross-sectional survey design, common method bias was a potential problem. To address this concern, Harman's one-factor test was performed (Podsakoff *et al.*, 2003). All observed variables were loaded into an EFA, and the unrotated factor solution was examined. As the first factor explained 42.23 per cent of the variance, which is not the majority of the total variance, the finding suggests that common method bias is not a problem.

Assessment of reliability and validity of the final instrument

The final instrument presented composite reliabilities above 0.7 for all dimensions, which support the existence of internal consistency. These values, together with CFA loadings (all of which were above the minimum recommended value of 0.7), supported the convergent validity of each dimension. Correlations between the constructs of the measurement model were all below 0.8 (Bagozzi and Yi, 1988), which suggests discriminant validity. Additionally, the variance shared by each pair of factors was lower than their AVEs, satisfying Fornell and Larcker's (1981) discriminant validity criterion, as depicted in Table IV.

Conceptual model test

Following the scale development process described above, the final conceptual model was achieved. The following paragraphs define each CSN performance dimension and relate them with previous research:

- *Communication* resulted from the collapse of *openness* and *responsiveness*, identified through the qualitative study, and is the degree to which members can express their ideas, get

other members' opinions and interact with the host. Previous research has shown that perceptions of effective communication, namely, freedom to share opinions and interactivity, positively influence commitment (Kang *et al.*, 2007; Kim *et al.*, 2008) and loyalty to the community (Kim *et al.*, 2008). Moreover, experimental studies show that response rate and message interactivity positively affect intention to participate (Wise *et al.*, 2006), as well as actual participation (Joyce and Kraut, 2006).

- *Host reputation* is the ability of a brand to which the CSN is anchored to convey a positive and desirable image. Although the effect of host reputation has not been studied in the scope of company-hosted consumer communities, previous research has found associations between perceived brand/organization reputation and customer satisfaction (Helm *et al.*, 2010; Andreassen and Lindestad, 1998; Walsh *et al.*, 2006). Literature also indicates that when consumers perceive a brand as reputable, they tend to report a higher level of brand/organization identification and loyalty (Bhattacharya *et al.*, 1995; Kuenzel and Halliday, 2010).
- *Informativeness* is the degree of credibility, appropriateness, up-to-dateness and feeding adequacy of the content provided by the host through its CSN. It is similar to the concept of information quality that has emerged in several studies of online communities as a predictor of satisfaction (Lin, 2008; Lin and Lee, 2006), sense of community (Yoo *et al.*, 2002) and sense of belonging (Lin, 2007).
- *Self-expressiveness* is the ability of the CSN to communicate something about its members. This dimension is related to other constructs that have emerged in recent literature on the antecedents of CSN engagement (using a U&G perspective) such as self-concept value (Jahn and Kunz, 2012) and social-psychological benefits (Kang *et al.*, 2014). Self-expressive brands generate stronger connections between the brand and the customer, driving attachment and loyalty (Aaker, 1999; Lee and Workman, 2015). Perceived self-expressiveness of a CSN should be related to self-expressiveness of the host brand. In this regard, research suggests that self-expressive brands exert more attractiveness and generate higher levels of identification on consumers (Kim *et al.*, 2001). Consumer brand communities tend to be formed around high-involvement brands (with a strong image) that have more potential to create desirable self-images (Cova and Pace, 2006; Muniz and O'Guinn, 2001).
- *Rewarding activity* is the degree to which the CSN host is capable of proposing activities with the potential to intrinsically and extrinsically motivate members to actively participate. This dimension is related to two constructs that emerged in recent studies as antecedents of CSN engagement (Azar *et al.*, 2016; Jahn and Kunz, 2012; Kang *et al.*, 2014): monetary value and hedonic value/entertainment. However, rewarding activity, in this case, relates exclusively to the activities proposed by the host to foster active participation. Nowadays, people participate in several CSNs simultaneously; as such, participation often has to be stimulated by companies through activities

Table III Final survey items, with mean rating values, EFA (performance dimensions only) and CFA results (all model dimensions) – whole sample

Survey dimensions and items	Mean	Communalities	EFA loadings	Cronbach α	CFA loadings	AVE	CR
Communication				0.90		0.60	0.90
Possibility of knowing other fans opinions about the company services/products	5.63	0.68	0.64		0.80		
Opportunity for fans to interact with people with similar interests	5.48	0.79	0.81		0.79		
Creation of content by fans that is useful to other fans	5.57	0.69	0.69		0.79		
Possibility of clearing doubts directly with the company	5.66	0.65	0.58		0.78		
Chance of commenting the own experiences with the company services/products	5.82	0.72	0.75		0.77		
Total openness of participation for all the fans	6.03	0.59	0.54		0.72		
Host reputation				0.91		0.68	0.92
Credibility of the company brand	6.38	0.82	0.85		0.87		
High reputation of the company brand	6.39	0.78	0.82		0.84		
Distinctiveness of the company brand	6.09	0.75	0.77		0.84		
Quality of products and services of company brand	6.31	0.76	0.76		0.83		
Ability of the company to be in the forefront of innovation	6.05	0.66	0.70		0.75		
Informativeness				0.86		0.56	0.86
Up-to-datedness of the information provided by the company	5.99	0.72	0.74		0.82		
Adequateness of the frequency of the company posts	5.69	0.71	0.75		0.76		
Sufficiency without excessiveness of the information provided by the company	5.92	0.73	0.80		0.76		
Credibility of the information provided by the company	6.26	0.59	0.63		0.71		
Adequate proportion of company advertising	5.70	0.56	0.62		0.68		
Self-expressiveness				0.90		0.70	0.90
Ability to transmit something positive about a person's lifestyle	5.01	0.85	0.85		0.90		
Ability to transmit something positive about a person	5.24	0.76	0.77		0.83		
Ability to increase the others knowledge about a person	4.42	0.78	0.83		0.83		
Ability to express personal tastes	5.36	0.71	0.74		0.78		
Rewarding activity				0.92		0.74	0.92
Interest of the activities promoted by the company	5.80	0.85	0.78		0.93		
Enjoyment derived from the participation in the activities	5.68	0.84	0.80		0.91		
Prizes as a good incentive to stimulate fans active participation	5.92	0.79	0.77		0.83		
Chance of gaining good prizes as rewards for participation	5.81	0.77	0.80		0.77		
Consumption support				0.77		0.64	0.78
CSN as a good Service of support to the company customers	5.71	0.78	0.73		0.86		
Relatedness of the CSN to the company services and products	5.90	0.83	0.84		0.73		

(continued)

Table III

Survey dimensions and items	Mean	Communalities	EFA loadings	Cronbach α	CFA loadings	AVE	CR
<i>Identification with community*</i>						0.81	0.90
Cognitive identification (Nambisan and Baron, 2007)				0.95	0.84		
The other fans of this page are similar to me	4.30				(0.97*)		
The other fans of this page behave like me	4.28				(0.96*)		
The other fans of this page think like me	4.67				(0.90*)		
The other fans of this page could be my friends	4.51				(0.79*)		
Affective identification (Allen and Meyer, 1990)				0.94	0.96		
I feel 'emotionally attached' to the community of fans of this page	4.23				(0.95*)		
Making part of the community of fans of this page has a great deal of personal meaning for me	4.36				(0.94*)		
I feel like 'part of the family' at the community of fans of this page	4.63				(0.87*)		
<i>Satisfaction with CSN (Li et al., 2006)</i>				0.91		0.67	0.86
My choice to become a fan of this page on Facebook was a wise one	6.21				0.90		
If I only learned about this page on Facebook today, I'd become a fan of this page in the same way	6.32				0.88		
I am satisfied with my decision to become a fan of this page on Facebook	6.04				0.66		
<i>Loyalty to the CSN (Kang et al., 2007)</i>				0.72		0.57	0.73
I would recommend this page to other people	5.85				0.81		
I intend to continuously make part of the group of fans of this page	6.24				0.69		
<i>Satisfaction with the host (Oliver, 1980)</i>				0.95		0.82	0.95
I am sure it is the right thing to purchase this company's products/services	6.03				0.93		
I am satisfied with my most recent decision to purchase from this company	6.12				0.92		
Generally, I am satisfied with this company	6.12				0.92		
If I had it to do over again, I'd make my most recent purchase at this Host	6.20				0.86		
<i>Loyalty to the host (Zeithaml et al., 1996)</i>				0.91		0.75	0.92
I recommend this company's products/services to friends and relatives	5.98				0.93		
I intend to do more business with this company in the next few years	6.22				0.88		
I consider this company to be my first choice to buy the kind of product/service it offers	5.85				0.83		
I say positive things about this company to other people	5.71				0.82		

Notes: $\chi^2 = 3,260.18$, 933df, $p = 0.00$; CFI = 0.92; TLI = 0.91; RMSEA = 0.06 SRMR = 0.06; AVE = average variance extracted; CR = composite reliability; * in CFA, *identification with the CSN community* is a second-order construct. Loadings of first-order constructs (*cognitive identification and affective identification*) are indicated in brackets

such as contests, games or direct invitations to participate in exchange of some kind of material reward (Sicilia and Palazón, 2008), i.e. monetary value. Nonetheless, as extrinsic rewards tend to have a short-term effect (Fahey et al., 2007), the activities proposed by the host should also be intrinsically motivating. Previous literature on

online communities has shown the relevance of intrinsic motivation in explaining active participation, namely, enjoyment (Wasko and Faraj, 2000; Yu et al., 2010; Füller et al., 2008), positive self-worth (Chiu et al., 2011) and self-efficacy (Kollock, 1999; Wasko and Faraj, 2000; Antikainen et al., 2010). Enjoyment has also been found

Table IV Squared correlations between model constructs (in italics) and respective *t* values (below each squared correlation)

	COM.	H. REP.	INFORM.	SELF-EXPR.	R. ACT.	C. SUP.	CSN IDENT.	CSN SAT.	CSN LOY.	H. SAT.	H. LOY.
Communication	<i>(0.60)</i>										
Host reputation	0.40	<i>(0.68)</i>									
	11.29										
Informativeness	0.43	0.42	<i>(0.56)</i>								
	10.55	10.82									
Self-expressiveness	0.46	0.21	0.24	<i>(0.70)</i>							
	11.61	9.33	9.03								
Rewarding activity	0.48	0.31	0.44	0.27	<i>(0.74)</i>						
	11.93	10.77	10.94	7.79							
Consumption support	0.48	0.36	0.31	0.29	0.18	<i>(0.64)</i>					
	10.62	10.13	9.00	7.05	8.08						
CSN community identification	0.46	0.18	0.19	0.65	0.29	0.33	<i>(0.81)</i>				
	11.31	8.50	8.26	12.69	10.17	9.61					
CSN satisfaction	0.50	0.46	0.43	0.27	0.33	0.32	0.24	<i>(0.67)</i>			
	12.24	12.36	11.05	10.19	11.18	9.87	9.50				
CSN loyalty	0.56	0.47	0.48	0.35	0.38	0.46	0.42	0.61	<i>(0.57)</i>		
	12.26	10.89	10.12	9.90	10.24	9.84	10.17	13.63			
Host satisfaction	0.35	0.59	0.30	0.19	0.22	0.37	0.20	0.46	0.43	<i>(0.82)</i>	
	11.16	13.58	10.12	9.15	9.85	10.58	9.08	12.88	10.39		
Host loyalty	0.28	0.52	0.23	0.18	0.17	0.32	0.21	0.40	0.40	0.83	<i>(0.75)</i>
	10.14	12.57	9.01	8.73	8.73	9.79	9.12	11.84	10.99	14.88	
MSV	0.56	0.59	0.48	0.65	0.48	0.48	0.65	0.61	0.61	0.83	0.83
ASV	0.44	0.39	0.35	0.31	0.31	0.34	0.32	0.40	0.46	0.39	0.35

Notes: AVE on diagonal (in brackets); MSV = maximum shared variance ASV = average shared variance; all the correlations are significant at $p < 0.01$

to positively influence member satisfaction (Kim *et al.*, 2008) and sense of community (Koh *et al.*, 2003).

- Consumption support evolved from the (initially identified) construct of *thematic consistency* and is here defined as the degree to which the CSN supports members' processes of purchase and consumption of the host offerings. Consumption support can be related to the more general concept of usefulness, which is defined as the extent to which consumers perceive that the use of a service helps them accomplish their personal goals (Wang *et al.*, 2012). Consumption support is, however, more specific, reflecting the usefulness of the CSN in facilitating the particular process of purchase and consumption. In this way, consumption support is also related to the functional value that appears as an antecedent of CSN engagement in recent studies (Jahn and Kunz, 2012). Previous literature in online communities has also found that usefulness is a good predictor of satisfaction (Casaló *et al.*, 2010a; Jin *et al.* 2010; Wang *et al.*, 2012) and sense of belonging (Lin, 2007, 2008; Tsai, 2012).

Taking into account the results of the empirical studies along with the literature review, the conceptual model hypothesizes that these six CSN performance dimensions positively influence loyalty to the CSN through the mediation of both satisfaction and identification with the community.

Structural equation modeling results

The proposed path model (Figure 2) was estimated with the software AMOS SPSS, through structural equation modeling,

using robust ML estimation. Additionally, we used the bootstrap method with bias-corrected confidence intervals (Erceg-Hurn and Mirosevich, 2008) to test the significance of all the direct and indirect effects of each CSN dimension on the outcome variables (Table V). The results of the structural equation modeling, presented in Figure 2, show that the proposed conceptual model satisfactorily fits the data ($\chi^2 = 3477.53$; 955 df; $p = 0.00$; CFI = 0.91; TLI = 0.90 RMSEA = 0.06; SRMR = 0.06).

The model has adequate explanatory power for both identification with the CSN community (70 per cent of variance explained) and satisfaction with the CSN (68 per cent of variance explained). All six identified dimensions have a significant impact on at least one of these attitudes toward the CSN. However, some of the dimensions do not behave as hypothesized in the conceptual model. The results indicate that only self-expressiveness ($\gamma = 0.61$; $p < 0.01$), consumption support ($\gamma = 0.20$; $p < 0.01$), rewarding activity ($\gamma = 0.15$; $p < 0.05$) and communication ($\gamma = 0.15$; $p < 0.05$) have a significant positive impact on identification with the CSN community. Host reputation ($\gamma = -0.09$; $p > 0.05$) has no significant influence on identification with the CSN community, and in contrast with what was hypothesized, informativeness has a slight negative impact on that variable ($\gamma = -0.10$; $p < 0.05$).

On the other hand, the same constructs that have either no influence or a slight negative impact on identification with the CSN community have a significant positive influence on satisfaction with the CSN. These constructs are host reputation ($\gamma = 0.36$; $p < 0.01$) and informativeness ($\gamma = 0.20$; $p < 0.01$).

Figure 2 Structural model test results

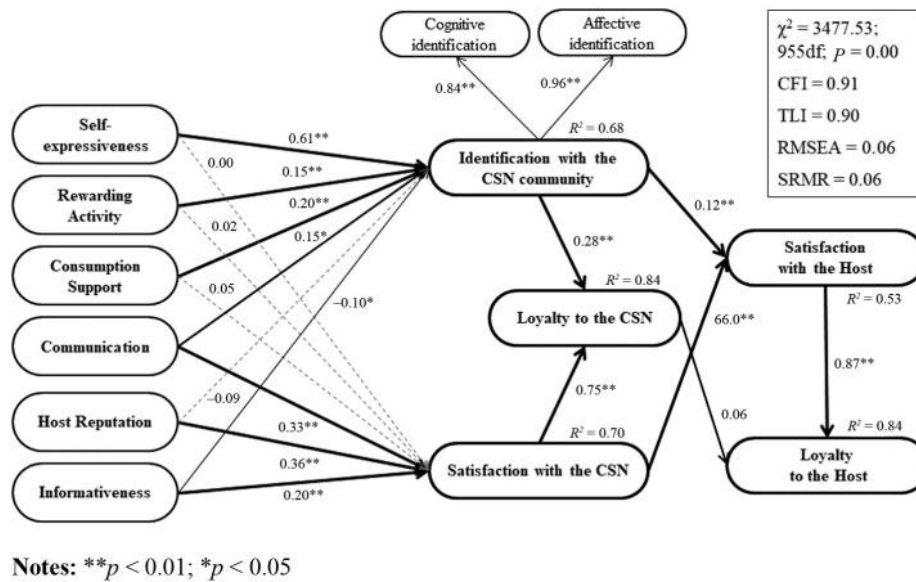


Table V Direct, indirect and total effects of the six performance dimensions on loyalty toward the CSN and satisfaction with the host

Effects of: → on: ↓	Communication	Reputation	Rew. activity	Self-expressiveness	Informativeness	C. Support
Loyalty to CSN						
Total effect	0.29**	0.20**	0.04	0.13	0.19*	0.17*
Direct effect	0.07	0.05	0.00	0.00	0.09	0.12
Indirect effect through						
Satisfaction + identification	0.22	0.15	0.04	0.13	0.10	0.04
Identification	0.05*	-0.03	0.05**	0.20**	-0.04*	0.06**
Satisfaction	0.20**	0.18**	0.01	0.02	0.12**	0.00
Satisfaction w/host						
Total effect	0.06	0.61**	0.00	0.01	-0.01	0.20**
Direct effect	-0.06	0.54**	-0.02	-0.06	-0.06	0.17*
Indirect effect through						
Satisfaction + identification	0.11	0.07	0.02	0.07	0.05	0.02
Identification	0.02	-0.01	0.02	0.08	-0.01	0.02
Satisfaction	0.10**	0.08**	0.01	0.01	0.06**	0.00

Notes: ** $p \leq 0.01$; * $p \leq 0.05$

Communication is not only a predictor of identification (as mentioned before) but also of satisfaction with the CSN ($\gamma = 0.33$; $p < 0.01$). At the same time, self-expressiveness ($\gamma = 0.00$; $p > 0.05$), rewarding activity ($\gamma = 0.02$; $p > 0.05$) and consumption support ($\gamma = 0.05$; $p > 0.05$) did not show any statistically significant impact on satisfaction with the CSN. In summary, results show that self-expressiveness, consumption support, rewarding activity and communication positively influence identification with the CSN community. On the other hand, communication, host reputation and informativeness positively influence satisfaction with the CSN.

As hypothesized in the model, both attitudes (satisfaction with the CSN and identification with the CSN community)

have a significant impact on loyalty toward the CSN ($\beta = 0.28$; $p < 0.01$; and $\beta = 0.75$; $p < 0.01$, respectively), explaining 84 per cent of its variance.

The results also reveal that while satisfaction with the CSN has a strong impact on satisfaction with the host ($\beta = 0.66$; $p < 0.01$), identification with the CSN community has a lower impact ($\beta = 0.12$; $p < 0.01$) on this outcome variable. The analysis of indirect effects (Table V) revealed that all predictors of satisfaction with the CSN (communication, host reputation and informativeness) are significant indirect predictors of satisfaction with the host company. However, none of the predictors of identification (consumption support, self-expressiveness and rewarding activity) is a significant

indirect predictor of that outcome variable. Nevertheless, the analysis of direct effects (Table V) shows that consumption support is a good predictor of satisfaction with the host, albeit only directly ($\beta = 0.17$; $p < 0.01$). Reputation, besides positively impacting satisfaction with the host through the mediation of satisfaction with the CSN, also has a strong direct impact on that variable ($\beta = 0.54$; $p < 0.01$). Finally, loyalty to CSN, which is in great part explained by identification with the CSN community, does not exert any influence on loyalty toward the host ($\beta = 0.06$; $p < 0.01$).

Discussion

The study enabled the identification of six quality dimensions used to assess CSNs, showing that all have a significant impact on loyalty to CSNs. At the same time, the results show that loyalty can be generated through either identification with the CSN community or satisfaction with the CSN, revealing the dual nature of CSNs. On the one hand, members are loyal to CSNs because of their identification with other members in the community who have common interests. On the other hand, customers are loyal to the CSN because they are satisfied with the supplementary service, which enables them to get information through a privileged channel that offers increased closeness and interactivity with the host. Overall, the study results reveal that CSNs are perceived as a blend of online communities and supplementary services and suggest the need for a more nuanced understanding of their nature and management.

The conceptual model initially hypothesized that all six CSN quality dimensions positively affect identification with the community and satisfaction with the CSN. However, some of those relationships were not confirmed. First, host reputation showed an almost insignificant, slightly negative, impact on identification with the community. This result apparently contradicts literature, stating that the more prestigious an individual perceives a social identity to be, the more attractive that identity should be (Bhattacharya *et al.*, 1995). However, the studied CSN has been developed, not around Retailer's brand, but around a related subject: cooking. Therefore, the basis of identification with the community should be the shared interest in the subject of cooking, rather than love or enthusiasm for the company brand. In this context, a CSN member may feel highly identified with the community members, because they are also cooking enthusiasts, without the need to have a positive perception about the host reputation. The analysis of non-hypothesized direct effects shows, however, a strong direct impact of host reputation on satisfaction with the company, which corroborates the findings of previous studies (Helm *et al.*, 2010; Andreassen and Lindestad, 1998). Moreover, the observed lack of influence of informativeness on identification with the community in this study should be related to the fact that this CSN performance dimension mainly regards to the content created by the host, which is the central content producer within the CSN (Martins and Patrício, 2013).

The dimensions that had a positive impact on identification with CSN were self-expressiveness, rewarding activity, communication and consumption support. The first two suggest that identifying with the CSN may result from positive

perceptions about the social identity and entertainment benefits of being connected to the network, which can only be achieved through the CSN community. Communication and consumption support are more related to functional benefits of the CSN, which depend on both the host and the community. On the one hand, the host generates most of the content; on the other hand, the community improves the CSN's functionality by adding other customers' perspectives, which are generally perceived as more credible than the brand messages (Bickart and Schindler, 2001).

The results also show that communication, informativeness and host reputation are good predictors of satisfaction with the CSN, whereas self-expressiveness, rewarding activity and consumption support did not show any significant impact on that variable. These results suggest that satisfaction with a CSN is more related to perceptions about the host (reputation) and to the way it manages the CSN. Unlike consumer-initiated communities, CSNs are run according to the host's rules, which define the type of information and ways of communication within the CSN. Consumers see CSNs as important channels of communication among members and with host companies, as well as a source of information about their offerings. They will therefore be more satisfied if they perceive the host as creating quality content and fostering appropriate communication.

In the initial analysis, it was intriguing that consumption support did not arise as a good predictor of satisfaction with the CSN. Consumption support is defined in this study as the capability of the CSN to support members in their consumption of the host's offering. As such, it would be expected to be associated with the supplementary service side of the CSN, similarly to communication and informativeness. The analysis of direct effects sheds some light on this unexpected result. The existence of a significant direct influence of consumption support on satisfaction with the host indicates that developing a CSN that supports members in their consumption processes generates positive attitudes toward the company, independent of member satisfaction or identification with the CSN.

Overall, the study results show an interesting duality between satisfaction and identification that reveal a dual nature of CSNs as supplementary services and communities. On the one hand, CSNs are seen as supplementary services that are created and managed by the host to add value to its core offering. Customers will be satisfied with a CSN as a supplementary service provided by a reputable host, which offers adequate information and good communication management practices. On the other hand, members will identify with the CSN as a community for sharing consumer knowledge, through which they can gain not only social identity and activity benefits but also functional value.

Another important finding is that identification with the community, contrary to satisfaction with the CSN, is a poor predictor of attitude toward the host. This was not expected if the basis for identification with the community was the common connection to the host company. However, in the particular case studied, the shared interest in the subject of cooking (and not the common connection to the brand) is the main factor of aggregation. In this context, the interest in cooking becomes the main driver of members' identification

with the community, which may explain the poor relationship between identification with the community and attitude toward the host. This finding corroborates the distinction between the concepts of CSN versus brand community. In a genuine brand community, identification with the group is underpinned by a common enthusiasm for the host brand (Marzocchi *et al.*, 2013; Dholakia and Algesheimer, 2009; Zhou *et al.*, 2012). As such, identification with the community should be translated into a positive attitude toward the host. In CSNs, however, identification with the community may or may not be rooted in passion for the host brand, because the CSN may be developed around a different theme. Thus, in CSNs, identification with the community may be independent from the attitude toward the host. Loyalty to the CSN is, in this particular case, a poor predictor of loyalty toward the host. This feeble impact of loyalty to the community on loyalty to the host contrasts with the findings of previous literature on brand communities (Füller *et al.*, 2008; Zhou *et al.*, 2012; Marzocchi *et al.*, 2013). This result may be attributed to the fact that identification with the community is an important antecedent of loyalty to the CSN.

Research and managerial implications

This study responds to the call for further research on the creation and management of consumer communities (Ostrom *et al.*, 2010, 2015). It advances understanding of CSNs by examining them as both communities and services, incorporating a service quality perspective. Recent decades have been rich in the emergence of industry-specific models of quality (Dagger *et al.*, 2007; Wolfenbarger and Gilly, 2003) focused on the core service, but none of these models has been focused on CSNs. By adding a service quality approach, this study identifies the performance dimensions used by members to evaluate CSNs: informativeness, communication, host reputation, consumption support, self-expressiveness and rewarding activity.

Previous research has studied how CSN member engagement can be fostered through content characteristics (Chua and Banerjee, 2015; Cvijikj and Michahelles, 2013; Gummerus *et al.*, 2012; Luarn *et al.*, 2015; Sabate *et al.*, 2014) and perceived CSN benefits (gratifications) (Azar *et al.*, 2016; Jahn and Kunz, 2012; Kang *et al.*, 2014). This study complements these findings by investigating CSN quality dimensions as predictors of loyalty. The results show that some of these performance dimensions are very close to perceived personal benefits reported in previous CSN studies that have been drawn upon U&G theory (Azar *et al.*, 2016; Jahn and Kunz, 2012; Kang *et al.*, 2014), namely, rewarding activity, self-expressiveness and consumption support. However, other performance dimensions (host reputation, informativeness and communication) are related to CSN attributes and are more independent of the benefits to members and are more related to service quality dimensions. Interestingly, although the dimensions related to benefits are stronger predictors of identification with the CSN (community component), dimensions related to attributes are stronger predictors of satisfaction with the CSN (supplementary service component).

The study results also shed light on the dual nature of CSNs. On the one hand, consumers tend to use CSNs to obtain information and get insights into supplementary services (Loveloek, 1995) to support their purchase and consumption of the host's core offering. If the host is able to provide this service appropriately, it will generate satisfaction with the CSN and, consequently, with the host. Thus, satisfaction with the CSN is significantly influenced by the way the host manages the CSN content and communication with customers (as well as by the host's reputation). On the other hand, CSNs are means of self-presentation and entertainment. In other words, the results suggest that members also perceive CSNs as communities in a more traditional sense, i.e. as groups of people that get together and identify with each other by sharing similar interests. Identification with the community is explained by dimensions that are less related with the process of consumption of the core offering (except for consumption support). This may explain why identification is a good predictor of loyalty to the CSN but not to the host, while satisfaction is a good predictor of both.

Social media and CSNs are currently important components of customer experience that may therefore have a significant impact on attitudes and behavior toward companies (Verhoef *et al.*, 2009). In this context, CSN management becomes an important, albeit challenging task. These study findings provide useful insights for service providers for managing their presence in the social Web, suggesting two different paths for companies to generate loyalty to CSNs. The first path comprises creating informative content that is related to the company's offerings, as well as promoting interactive communication, assuming CSNs as important customer support channels. The second path entails fostering member identification with the community, which involves developing a strong and consistent image of the CSN, and keeping content and activity focused on the central topic that is capable of communicating something specific about its members. This task may be particularly difficult when the CSN is developed around a low-involvement service or product whose self-expression value is low.

Study results also show that satisfaction with and loyalty toward the host are strongly influenced by satisfaction with the CSN, but not by identification with the community, which raises important questions. Given that managers ultimately seek higher levels of satisfaction and loyalty toward the host, these results suggest that it may not be worth promoting identification with the community when the most important factor in generating satisfaction and loyalty to the company is satisfaction with the CSN. However, the impact of identification with the community on loyalty toward the CSN is rather significant. This indicates that companies should not disregard social and hedonic aspects that promote identification with the community. First, nurturing CSN participation, even if that participation is passive, creates more opportunities for contact between customers, the host and its brand. These moments should be taken as opportunities to create awareness and involvement with the brand. Therefore, CSNs may well be a space, not only for communication with current customers but also for new customer acquisition and for regaining the trust of dissatisfied or lost customers.

In addition, previous research (Kang *et al.*, 2014) found that while hedonic and social-psychological benefits are good predictors of active participation, functional benefits are not. In this study, these benefits were found to be antecedents of identification with the CSN community. This may suggest that promoting identification with the community should be key for keeping the community alive and appealing through members' active participation. Finally, the measurement instrument developed in this study may be used by host companies to assess the performance of their CSN and to devise more effective social Web strategies.

Conclusion and future research

This study brings a new perspective to the understanding of CSNs by developing and testing a conceptual model that identifies performance dimensions of CSNs and analyzes their impact on community-related outcomes (identification with the CSN), as well as on service-related outcomes (satisfaction and loyalty with the CSN and host). Viewed in light of the online community and service literature, the results reveal that CSNs have a dual role, as both communities and supplementary services. Members view CSNs as a way to self-express and entertain themselves and also as a way to interact with and receive relevant information from the host.

However, this study has some limitations, as it focused on one CSN, in a specific business (grocery and general merchandise retail), with a particular CSN strategy. This retailer chose to create a CSN that does not address the company brand or core offering, but instead focuses on a specific subject (cooking) which is related to the company's activity. The results have important implications for the study of CSNs and for how service providers manage their social networks, but they also raise additional directions for future research. Continuing CSN research in different organizations characterized by different purposes can improve the current study's empirical generalization, as results derived from data gathered in one specific organization type are not necessarily applicable to all.

Future research can replicate this study in other service contexts, establishing comparisons among them. It would be particularly relevant to study how the importance of different CSN performance dimensions changes in distinct areas (e.g. health or education) or how the service and community dual nature holds across different contexts. In this respect, it would also be interesting to examine the differences between topic-driven and service-, product- or brand-focused CSNs. The CSN under study incorporates a noticeable retailer brand presence but was created on the basis of a topic (cooking) that offers higher potential of consumer involvement compared to the host offering. Further research could explore CSNs that have the brand or product/service as their main focus. The same applies to the examination of potential differences between CSNs (which are company-hosted) and third-party social networks, especially as the latter may be perceived by consumers as a more credible source of information to support consumption (Bickart and Schindler, 2001).

In the present study, identification with the CSN community and member satisfaction with CSN were independently examined. Future research can examine possible relationships between identification with the community and member satisfaction, similar to previous studies regarding other forms of online communities (Cheung and Lee, 2009; Lin, 2008)

Despite the contribution of this and other studies on CSNs, the understanding of the relationship between participation in CSNs and attitudes/behaviors toward the host is still limited. This study only considered satisfaction and attitudinal loyalty and found that those are much more influenced by satisfaction with the CSN (service) than by identification with the CSN community. Future research should also consider other outcomes, especially brand identification, given its reported relationship with brand loyalty and commitment in extant literature (Tuškej *et al.*, 2013). Longitudinal studies, that can capture attitudinal and behavioral changes towards the hosts as a consequence of becoming a CSN member, are also a promising approach to future research on this phenomenon. In addition, the use of concrete behavioral measures regarding both CSNs (e.g. frequency of active participation) and host companies (e.g. purchase behavior) can contribute to deepening our understanding of this phenomenon.

This study focused on Facebook-based CSNs, which are just one among many possible platforms through which to host a CSN. Future studies could also be extended to other platforms, such as Instagram or Twitter. As many brands create their networks within more than one platform, understanding the difference in CSN characteristics and in their members' attitudes and behaviors across different platforms would be particularly interesting.

This study also raises questions about the relevance of CSN members' identification with the community. For instance, is it worth promoting identification, even though this is a poor predictor of loyalty to the host company? Should host companies favor the promotion of satisfaction by enhancing the informational value of their pages, while giving low priority to strategies that improve the sense of community? Future studies, following mixed-methods approaches, should strive to better understand how host companies could build upon member identification with CSN communities to improve their performance.

Finally, there is a need for studies that compare the most active participants, which are generally a minority, with the remaining members of CSNs. Host companies tend to mainly analyze visible behaviors, which often represent a small part of their CSN members. Understanding how active participants differ from those who are mere passive users of content regarding personality, motivations and the importance given to different CSN characteristics would be especially interesting.

With the increasingly interactive and networked service environment, this study opens up a new perspective on CSNs, which will hopefully build the ground for future research in this field. Despite the rapid evolution of online social environments, namely, the emergence of new platforms and the decline of others, it is likely that the CSN phenomenon will persist, assuming different facets, and offer new and interesting challenges for both companies and researchers.

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