Relationship quality, community promotion and brand loyalty in virtual communities: Evidence from free software communities

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ABSTRACT

The Internet has favored the growth of collaborative platforms where marketers and consumers interact to develop more engaging products and services. These platforms are usually centered in a specific brand/product and their members are linked by a shared admiration to that brand. This paper analyzes one of the most powerful online collaborative platforms, the free software (FS) case, which involves a lot of virtual communities developed around products such as Linux or Android, the new Google's mobile operating system. Our purpose is to determine some of the main antecedents and consequences of the consumer involvement in this type of communities. Results have shown that satisfaction with a virtual community may increase the level of consumer participation in that community. At the same time, a greater identification with the virtual community may increase indirectly the consumer participation thanks to the enhancement of his/her satisfaction with the community. We have also found positive and significant effects of consumer identification and participation on the level of community promotion. Finally, positive and significant effects of consumer participation and satisfaction with the community on loyalty to the FS were also found. These findings allow us to conclude some interesting managerial implications.

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1. Introduction

With the increased connectivity afforded by the Internet (Hoffman, Novak, & Chatterjee, 1995) and the increased power of the online consumer (Kucuk & Krishnamurthy, 2006; Pitt, Watson, Berthon, Wynne, & Zinkhan, 2006), online communities have emerged as a major phenomenon (Hagel & Armstrong, 1997; Rheingold, 1993) leading to greater communication between companies and consumers (Pitta & Fowler, 2005). In other words, the Internet has favored the growth of collaborative groups where marketers and consumers interact to develop more engaging products and services. These platforms are usually centered in a specific mutual interest (a brand, a product, etc.) and their members are linked by a shared admiration to that interest. Therefore, due to its increasing importance, there is already a sizeable literature on online groups such as brand communities (Andersen, 2005; Muñiz & O'Guinn, 2001), user innovation communities (Lerner & Tirole, 2002, 2004; Von Hippel, 2001), open source communities (Krishnamurthy, 2009; Krishnamurthy & Tripathi, 2009) or e-tribes (Kozinets, 1999), that tries to explain the main antecedents and consequences of consumer involvement in them. However, a brief analysis of this literature body allows us to identify three main gaps in this topic:

- *Precursory factors of community promotion*: The online community literature has focused on participation within the community rather than outside the community. It is conventional wisdom that the success of a community is based on the level of involvement of its members (Koh & Kim, 2004). However, promotion of the community to non-members has received lesser attention. There are some exceptions; for example, Krishnamurthy (2009) describes how members of the Firefox community use promotion behaviors to create a brand, build traffic and differentiate in the marketplace. Therefore, due to the relevant role that community promotion to non-members may have, more understanding of the antecedents and consequences of this promotion is needed.
- *Relationship quality and virtual communities*: The nature of relationship quality within a community, in terms of satisfaction levels, is not well understood. Not all members are satisfied with the online community. How do dissatisfied members behave in comparison to members who are satisfied?
- *Monetization of virtual communities*: In spite of the amazing growing of virtual communities and social networks (e.g. 350 millions

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of Facebook's users; 26 millions of Twitter's users only in the USA),[1] the monetization of this huge database of demographic and behavioral knowledge of consumer is pending (Clemons, 2009). Thus, in the case of virtual brand communities, it is important to understand how brands may generate incomes from these communities; for instance, what members' behaviors in the community may influence loyalty to the brand around which the community is developed.

This study contributes to close the aforementioned gaps offering the followings theoretical contributions:

- Little is known about what motivations induce people to be involved in a virtual community, especially, in terms of the promotion of the community to non-members. This recommendation is especially important because it may help to attract new members to the community, ensuring future participation in the community and guaranteeing its survival in the long term. To move on this topic, the influence of identification with a virtual community on the participation and promotion of the community is considered. This adds to the growing literature on the importance of social identification in developing commitment to a community (e.g. Bagozzi & Dholakia, 2006). Moreover, the influence of relationship quality (satisfaction) on promotion is investigated. Finally, the link between continuance participation in a virtual community and the promotion of the community is also considered.
- We study some antecedents and consequences of relationship quality within a community, in terms of satisfaction. Although the application of satisfaction to interactions as opposed to transactions has been increasingly used (e.g. Gustafsson, Johnson, & Roos, 2005), as far as know, this is one of first application of satisfaction to relationships in virtual communities. First, we analyze the effect of identification with a virtual community on consumer satisfaction. The reason behind this is the fact that identification with a group may help to satisfy some of the individuals' basic needs. Second, we analyze the role of satisfaction in developing consumer participation and community promotion. These behaviors reflect engagement with the community and satisfaction is a key determinant of commitment to a relationship (e.g. Bauer, Grether, & Leach, 2002).
- We examine how members' behavior in the community influence loyalty to the brand/product around which the community is developed. To be precise, the relationship between consumer participation in a virtual community and brand loyalty is analyzed. In addition, we also propose a positive effect of community promotion on brand loyalty.

To do that, this study focuses on free[2] software (FS) virtual communities for to three main reasons. Firstly, according to Bagozzi and Dholakia (2006), the three core components of a brand community proposed by Muñiz and O'Guinn (2001) can be observed in these types of virtual communities. In addition, although FS products are mostly developed by a set of computer programmers, they have started to behave as a brand in order to attract new consumers and create consumer desire (Ratto, 2005). Secondly, FS communities have experienced a great development in the last years and they have had a deep impact on business models (Benyoussef, Hoffmann,

Roehrich, & Valette-Florece, 2006). The rapid development and growing diffusion of FS (e.g. the operating system Linux) in both the corporate and domestic environment is just a clear instance of that. Finally, the analysis of the FS case is especially relevant in order to understand the behavior of virtual community members since FS is developed thanks to the collaboration and interaction among members of these communities. Thus, FS communities are a clear example of product development and distribution thanks to members' participation in the community.

It is very important to note that FS community members act not only as producers or developers of some type of software (e.g. a Linux distribution), but also as consumers of this software. We can consider these individuals as a mix of producers, consumers and promoters. Some people call them "*prosumers*" and can be defined as consumers with a very active role in the production process (Jensen & Hansen, 2007). So these communities are constituted by consumers with the ability of producing customized products and services. Moreover, these products and services may be freely distributed in an altruistic way. But the main cause to pertain to the FS community is the consumer role. This assumption – the consumer role – is what convert communities in a fantastic opportunity to analyze consumer needs. The prosumer figure is not limited to FS. For example, Starbucks offers to its consumers the possibility of suggesting whatever improvement they want for the store.[3] If the suggestion is highly rated by the rest of the community members, Starbucks may adopt it. Therefore, the analysis of the FS case will help reveal the managerial relevance of these communities.

Therefore, we can consider that these communities have helped involve consumers in the value-creation process, which is a key aspect of the new dominant logic for marketing (Vargo & Lusch, 2008a). In this new service-centered logic, the consumer is viewed as a co-producer and thus maximizing consumer involvement in the value-creation process is needed in order to better fit his/her needs (Vargo & Lusch, 2004). According to these authors, the producer–consumer distinction is incoherent because, in a collaborative model of value creation, both parties reciprocally co-create value (Vargo & Lusch, 2008b). Each party brings their own unique resources into the process (Vargo & Lusch, 2008b) and, as a result, customers create value with the firm as opposed to the firm creating value for customers (Auh, Bell, McLeod, & Shih, 2007). Although there has been great debate on the difference between co-production and co-creation, Vargo and Lusch (2008a) argue that co-production is a component of co-creation of value that reflects the "participation in the development of the core offering itself". In the specific case of FS communities, we state that they help consumers collaborate in the development of FS products, co-participating in the value-creation process.

Taking into account the previous considerations, this work is structured as follows. Firstly, we carry out an in-depth review of the relevant literature concerning the variables included in the study. Secondly, we formalize the hypothesis. Then, we explain the process of data collection and the methodology employed. Lastly, the main conclusions of the work are discussed.

2. Literature review

2.1. Identification with the community

Identification with a virtual community may be defined as the strength of the consumer relationship with the virtual community and the other members (Algesheimer, Dholakia, & Herrmann, 2005). In other words, we may say that identification with a com-

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[1] See Facebook stats in http://www.facebook.com/press/info.php?statistics. Twitter numbers are available in eMarketer (2009).

[2] It is important to note that, although commercial development of free software is not usual, "free" does not mean "non-commercial". Indeed, a free program may be available for commercial use, commercial development, and commercial distribution (www.fsf.org).

[3] See more information at http://mystarbucksidea.force.com/.