

Firm-hosted online brand communities and new product success

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Abstract Many firms use online brand communities to support the launch of their new products. This study proposes a typology of firm-hosted online brand communities and examines whether such a classification system can improve predictions of new product success. A cross-industry analysis of 81 firm-hosted online brand communities shows that these communities reflect three archetypes. A subsequent survey of 170 community-hosting firms in the consumer durable goods industry reveals that the three types of communities are not equally important for new product success. Moreover, one archetype generally underperforms the other two as a new product support mechanism. Overall, the results demonstrate that firm-hosted online brand communities can be a predictor of new product success.

Keywords Firm-hosted online brand communities · New product success · Product innovativeness · Product introduction timing · Product and brand management

A growing number of firms develop and host online brand communities (OBCs) (Fournier and Lee 2009; Schau et al. 2009), usually linking to such online forums from their websites. Examples of firm-hosted OBCs include *forums.ebay.com*, *discussions.apple.com*, and *supportforums.blackberry.com*. One important motivation for

firms to invest in OBCs is to increase the success rate of their new products in the marketplace (Füller et al. 2008).

As firms have taken up the use of firm-hosted OBCs to support their new product launches, academic research into firm-hosted OBCs has also begun (see Table 1). Because this line of inquiry is still in its early stages, central questions remain. In this study, we focus on two interrelated research questions: (1) Can persistent types (i.e., archetypes) of firm-hosted OBCs be identified, and if so (2) do they differ in their ability to predict new product success? Answering these questions is essential because, if archetypical firm-hosted OBCs exist, and if their differences relate to variations in new product success, then both researchers and practitioners will be better able to predict the success of an OBC-supported new product based on the supporting OBC's archetype.

Overall, we aim to better understand whether and how firm-hosted OBCs can contribute to the success of new products. As Table 1 shows, only three published studies (Adjei et al. 2010; Kozinets et al. 2010; Thompson and Sinha 2008) have had similar research objectives.

To answer our research questions, we adopted a mixed methods research design, in line with accepted guidelines (Creswell 2003; Hesse-Biber 2010). Central to this design is that the results from the first method inform the second method. The first method consisted of a content analysis of 81 firm-hosted OBCs, which resulted in the identification of three archetypical firm-hosted online brand communities. The second method, which built on this analysis, consisted of an examination of survey data obtained from 170 manufacturers of consumer durable goods. The results from the survey analysis revealed that the three identified OBC types are related to new product success as reflected in sales and market share. Product innovativeness and product introduction timing were included as moderator variables to establish some boundary conditions, and five covariates were used as control

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Table 1 Selected literature on online brand communities and main research streams

Author(s)	Type of data/study	Purpose of study	Key insights into online brand communities	Classification of online brand communities
Research Stream I: Online Brand Community Characteristics				
Andersen 2005	Qualitative; case study on Coloplast, an online community for healthcare professionals	To explore the importance of online brand communities for B2B marketing purposes.	OBCs in the professional market build on preexisting communities and enable members to intensify activities and expand their reach. They can also enhance customer relationships in a B2B setting.	No
Cova and Pace 2006	Qualitative; case study on the Nutella company	To analyze the influence an online brand community exerts over a mass-marketed convenience product.	The online community that gathers around Nutella shows a new form of sociality based on personal self-exhibition in in a C2C setting.	No
Heehyung et al. 2008	Quantitative; survey of 250 members of various online brand communities	To examine how an online community's characteristics affect community and brand loyalty—particularly how the hosting type (consumer- or company-based) of an online brand community affects relationships between characteristics and community commitment.	The hosting type of an OBC has a positive moderating effect on community commitment and brand loyalty.	No—only a separation into company-initiated and (or hosted) online brand communities.
Stokburger-Sauer 2010	Quantitative; survey and experimental design	To empirically assess the relevance of offline and online marketing management tools in strengthening brand communities by facilitating shared customer experiences and multi-way interaction.	Offline marketing management activities (e.g., events) strengthen OBCs by facilitating shared customer experiences, multi-way interactions, and customer-brand relationships.	No
McWilliam 2000	Qualitative; secondary research	To examine the role of OBCs' characteristics in establishing stronger brands.	OBCs perform a number of functions such as encouraging dialogue, fostering relationships, and active participation. Corporations can shape communities according to their goals and objectives.	No
Research Stream II: Participation in Online Brand Communities				
Bagozzi and Dholakia 2002	Quantitative; survey of 157 regular community participants	To investigate the individual and social determinants of OBC members' intentions to participate.	Intentions to participate are functions of both individual determinants (positive anticipated emotions and desires), and community influences (social identity). Engaged consumers exhibit enhanced consumer loyalty, satisfaction, empowerment, connection, emotional bonding, trust, and commitment.	No
Brodie et al. 2013	Qualitative; netnography of a selected firm-hosted OBC	To explore the nature and scope of consumer engagement in an OBC.	Trust placed in a virtual community may increase the levels of participation.	No
Casaló et al. 2008	Quantitative; survey of 215 members of several	To explore the major drivers of consumers' participation in virtual		No

Table 1 (continued)

Author(s)	Type of data/study	Purpose of study	Key insights into online brand communities	Classification of online brand communities
	online communities	communities and their effect on consumer behavior.	Consumers' participation in a virtual community has a positive effect on their affective commitment to the brand around which the community is developed. The importance of an appropriate conceptualization of intentional social action in OBCs is one where the influence on members stems from an understanding of the benefits that participants seek. There are differences in network- and small-group-based community participants.	No—only a differentiation between network-based and small-group-based virtual communities (from a consumer-centric perspective).
Dholakia et al. 2004	Quantitative; survey of 545 participants (representing 264 virtual communities)	To investigate two determinants of participation in virtual communities—group norms and social identity.		
Miller et al. 2009	Theoretical	To develop a theory and model for firms' participation in OBCs as a way of increasing product demand.	The model identified some contingencies relevant to firms seeking to influence OBC activities.	No
Research Stream III: Customer Co-Production and New Product Development in Online Brand Communities				
Filler et al. 2006	Qualitative and quantitative; case study and netnography	To explore if and how members of virtual communities can be integrated in the new product development process.	The integration of community members in the new product development process (through consumer-based innovation) increased NPД efficiency.	No
Kim et al. 2008	Empirical; case studies	To investigate how OBCs are used in the new product development process by promoting communication between firms and community members.	The roles of OBCs vary along the new product development stages—from trendsetters (lead users) to innovation facilitators (users as innovators) and information disseminators (early adopters). These communities can, among other things, help firms gain insight into consumer needs.	No
Pitta and Fowler 2005	Theoretical	To explore online consumer communities and their implications for new product developers.	Lead users of OBCs are valuable resources when developing new products as they can help identify trends, generate ideas, screen product ideas and provide feedback.	No—only communities of interest are distinguished from communities of practice.
Research Stream IV: Online Brand Communities and Product Success				
Adjei et al. 2010	Qualitative and quantitative; netnography, survey data, and experiment	To develop and test a model of online customer-to-customer communications in increasing product sales.	OBCs are effective tools for influencing sales and customer retention. Positive information shared by community members has a stronger moderating influence on purchase behavior than negative information.	No
Kozinets et al. 2010	Qualitative; netnography of content on 83 blogs	To investigate how intentional influencing of consumer-to-consumer	The narratives that result from the seeding campaign can be classified into social media communication strategies, which	No—only the development of a classification of blogger archetypes.

Table 1 (continued)

Author(s)	Type of data/study	Purpose of study	Key insights into online brand communities	Classification of online brand communities
Thompson and Simha 2008	following a seeding campaign Quantitative; involving a continuous process of downloading, analyzing, and recording forum information.	communications creates networked narratives. To measure and classify different types of blog and communication forum narratives. To examine the effects of brand community participation and membership duration on the adoption of new products.	have the potential to influence the success of a new product (mobile phone). Higher levels of participation and longer-term membership in a brand community increase the likelihood of adopting a new product from the preferred brand, but decrease the likelihood of adopting a new product from an opposing brand.	No

variables. To minimize common source bias, we obtained the survey data for the independent and dependent variables from different firm sources.

We make a number of contributions to the marketing literature. First, by developing a typology of firm-hosted OBCs, this investigation introduces a configurational perspective of organizational analysis (Meyer et al. 1993) into OBC research.¹ Second, because of its novelty and theoretical implications, this study provides a conceptual starting point for future inquiries into OBCs in a new product context. Third, our managerial implications can help practitioners improve the effectiveness of their investments in firm-hosted online brand communities.

Content analysis: developing a typology of firm-hosted online brand communities

A firm-hosted OBC is an internet forum that is (1) concerned with the products of a particular firm's brand(s) and (2) initiated and subsequently maintained by the firm. The term *firm-hosted online brand community* is distinct from the terms *online brand community* and *brand community*. An online brand community refers to a wide range of community forums, including electronic bulletin boards, social networking sites, and shared-interest websites (Miller et al. 2009). A brand community encompasses all consumers who feel connected to the focal brand, whether online or offline (Ouwensloot and Odekerken-Schröder 2008).

In approaching our first research question—whether archetypes of firm-hosted OBCs exist—we used an analysis consisting of two research phases. We describe these research phases next.

Research phases

In the first research phase, we used four steps to identify whether any OBC community dimensions exist that are fundamental to firm-hosted OBCs. This first research phase was based on a content analysis of 81 firm-hosted online brand communities.

In the second research phase, a coding process determined whether archetypical OBCs could be derived from the findings of the first research phase. The results of the

¹ The literature contains other attempts to classify online communities. For example, Correll (1995) developed four types of online community membership and participation: regulars, newbies, lurkers, and bashers. Hagel and Armstrong (1997) identified four types of online communities: communities of transaction, interest, fantasy, and relationship. These studies, however, do not (1) concentrate on online *brand* communities or communities *hosted by firms*, (2) develop a taxonomic classification system for online communities, or (3) examine whether online communities are related to new product success.

coding process were verified by replicating the coding process and then conducting a cluster analysis.

A full account of the research procedures performed in both research phases is provided in Appendix 1. Our research findings are summarized below.

Findings from the first research phase The first research phase revealed two administrative and two social community dimensions. These four dimensions proved to be fundamental to the 81 firm-hosted OBCs examined in this study.

We labeled the two administrative dimensions *community access* and *activity control*. Community access refers to the extent to which host firms regulate, by way of membership requirements, the number of members participating in a community. Activity control refers to the extent to which host firms monitor, delay, or withhold member communications or otherwise restrict community content.

We labeled the two social dimensions *host integration* and *member engagement*. Host integration captures the extent to which host firms respond to member communications (such as debates) and take part in community activities (such as meetings at conferences). Member engagement captures the frequency with which community members participate in community activities as well as the extent to which community members form bonds with each other (such as friendships) and become involved in community interactions.

Findings from the second research phase The second research phase revealed that firm-hosted OBCs can be classified as belonging to one of three archetypes (Appendix 1 contains a detailed description of how the three archetypes were derived). The classification is based on a high/moderate/low profile across the four community dimensions identified in the first research phase. Table 2 shows the three archetypical profiles, which we labeled *Open OBC*, *Discerning OBC*, and *Restricted OBC*.

Types of firm-hosted online brand communities

In the following sections, we describe the three OBC types in more detail. We also provide one example for each OBC type.

Table 2 Dimensions and types of firm-hosted online brand communities

Community Dimension	Open OBC	Discerning OBC	Restricted OBC
Community access	High	Moderate	Low
Activity control	Low	Moderate	High
Host integration	Moderate	High	Low
Member engagement	Low	High	Moderate

Open OBCs Consumers can easily join and leave this community type without having to meet any membership requirements (high community access). Communication among members occurs spontaneously, freely, and usually in real time. The host firm does not restrict communication content and monitors it irregularly, leaving members free to say what they want about a product or share personal information (low activity control). Host firms are marginally integrated into the community, usually through responses to member questions and concerns, and they only occasionally take part in community communications (moderate host integration). Members do not bond, and their interactions are transactional since they mainly use the community to get answers to product-related questions. Also, members rarely participate in other community activities (low member engagement).

An example of an Open OBC is Apple’s discussion forum, which anyone can join and leave. This firm-hosted OBC allows individuals interested in Apple products to “search for an answer, post [a] question, or answer other users’ questions” (<http://discussions.apple.com>) in real time and without many restrictions, thereby illustrating the low level of activity control exerted by Apple. Members can also schedule meetings and events both online and in person, which indicates that they can share personal information if they wish. Despite this freedom to engage, consumers tend to stay transactional and focus on product-related questions. They also do not usually take part in frequent and long discussions or initiate activities. The following is an example of a typical post:

Help me out here please. Can someone tell me how I get music from my iTunes library on my iMac to my iPhone 3GS? If not, please tell me where I can find detailed instructions. I searched iPhone support but I can’t find how.

The post is answered by a fellow community member. Although Apple employees can interact with consumers and respond to consumer queries and comments, Apple’s community membership guidelines explain that, because of post volume and other factors, Apple employees may not respond promptly, or at all, to community member posts. This guideline illustrates Apple’s moderate level of host integration.

Discerning OBCs This community type typically requires members to sign up before they can participate in any way, with acceptance to the community not guaranteed (moderate community access). Host firms monitor the community fairly regularly and guide member communication through occasional questions. Communication does not always occur in real time, and communication content is partially restricted. For instance, members are sometimes discouraged

from posting personal information (moderate activity control). The host firm is highly integrated into the brand community through diligent responses to member questions and concerns as well as through regular participation in community activities and member conversations (high host integration). Members form strong bonds, engage in complex and thoughtful interactions, and usually participate frequently in community activities (high member engagement).

An example of a Discerning OBC is the Ford Motor Company's community for its Sync products (<http://boards.synccommunity.com>), which are part of a voice-activated entertainment and communication system for cars. Only registered product owners can participate in the site's owner-to-owner conversations. The guidelines on the community's message board instruct users to limit discussions to Sync products. Ford regularly accesses the forum and contributes to members' communications. For example, members' concerns aired during community discussions regarding a problem with a particular voice command were addressed by one of Ford's community moderators as follows:

In regards to the incorrect Sirius voice commands concern, we now have a user-installed file that you can download to a USB (flash or thumb) drive. To download the Sirius Voice Command Update file, please follow the steps below....

This response illustrates Ford's high integration into the community. Member engagement is also high because members frequently interact, initiating and contributing to lengthy discussions about a variety of entertainment and communication topics.

Restricted OBCs Membership in this brand community type must be earned. For instance, membership may be restricted to those individuals who have purchased a product from the host firm. New members may also have to pay a fee to receive a community access code (low community access). Host firms carefully monitor these communities, usually prompting and then screening member communications, even withholding certain member communications entirely from the community. Also, communication content is often restricted by, for example, limiting typing space or prescribing the selection of particular words members can use (high activity control). Host firms tend not to respond to member questions and concerns or take part in community communications (low host integration). Members form only loose bonds with each other, and their interactions are straightforward and usually casual. Members infrequently participate in community activities (moderate consumer engagement).

Nintendo Europe's Club Nintendo (<http://nintendo.it>) is an example of a Restricted OBC. Nintendo customers can only obtain access to Club Nintendo through a purchased product code and are required to complete a customer survey consisting of multiple pages. The main purposes of this community are for consumers to register their products, set up a product-user profile, stay informed about Nintendo products, and participate in a loyalty program by collecting points. These purposes point to high activity control. Although the Nintendo community provides links to Nintendo's active external social media pages, it enables moderate member interaction in the community itself and has low host integration.

Survey data analysis: Linking types of firm-hosted online brand communities to new product success

In this section, we conceptualize and empirically test how the three OBC types identified with the content analysis are likely to be associated with the success of new products in terms of sales volume and market share. A central focus was the role that product innovativeness and introduction timing potentially play as boundary conditions in our conceptual framework.

In this study we adopt Lee and O'Connor's (2003) definition of product innovativeness and Lieberman and Montgomery's (1998) definition of product introduction timing. Product innovativeness is the extent to which a product's technology, benefits, and features differ from other products of the same product category. Product introduction timing is whether a product is among the first or last of its kind to be launched in a product category.

These two possible contingency factors provide separate and independent conceptual perspectives on launching new products. Innovativeness focuses on the extent to which products are different—with radically innovative products differing more strongly from incumbent products than incrementally innovative products, regardless of how early the products are launched. Introduction timing, on the other hand, focuses on the extent to which products are pioneering—with early-mover products being more market-pioneering than late-mover products. Because of being among the first to be introduced and having little competition, early movers can define the market and set product standards, regardless of how innovative the products actually are.

Theoretical foundations

Diffusion research shows that consumer-disseminated information about a new product is related to how well the broader market receives the product and, ultimately, its market success. We refer to Rogers (2003) for an overview of the foundational research in this area.

OBC research (see Table 1) suggests that OBCs facilitate the dissemination of product information through their members. Indeed, we made corroborating observations during our content analysis of the 81 firm-hosted online brand communities.

In many cases, consumers who became community members exchanged product information with each other and the general public. Such exchanges would occur, for instance, in the form of community members having discussions with individuals outside of their communities, and then digesting those discussions inside their communities (e.g., by posting comments and questions as a result of their outside discussions) before re-engaging with outside individuals.

Diffusion research and OBC research complement each other. Drawing on these two bodies of literature, our theoretical baseline is that firm-hosted OBCs are associated with new products that successfully penetrate their target markets.

Hypotheses development

Our content analysis also shows that the dissemination of product information by consumers who become members of firm-hosted OBCs is tied to the OBCs' defining dimensions—community access, activity control, host integration, and member engagement—and these dimensions' particular manifestation levels. For instance, we observed that members of firm-hosted OBCs characterized by low activity control disseminated a broader range of information about new products than members of firm-hosted OBCs high on the same dimension. The likely reason for this difference is that members of low activity control communities are less constrained by the hosting firms in terms of which topics the members can discuss and how freely they can express their opinions.

In summary, the dissemination of product information through firm-hosted OBCs appears to vary according to the manifestation levels of the OBCs' defining dimensions and, thus, according to OBC type. On the basis of our theoretical baseline, stated above, we therefore predict that different *types* of firm-hosted OBCs are associated with different *levels* of new product success.

Which OBC type, however, is associated with which level of product success is likely to depend on a number of contingencies. Below, we explain this possibility and, as already discussed, we concentrate on two contingency factors in particular—a new product's innovativeness and timing of market entry.²

² Product innovativeness and entry timing can interact with each other as contingencies. For example, a product may be late and incrementally innovative or late and radically innovative. To comply with space limitations, we do not address such interaction combinations and instead focus conceptually and empirically on the likely contingency effects of each factor separately. This approach enables us to establish a basic understanding of each factor's individual contingency effects for future research.

The relationship between OBC type and new product success for radically innovative products and early products New products that are either radically innovative or among the first to market are exploratory in nature and focus on the needs of emerging customers (Fernhaber and Patel 2012). Prior to adoption, these products are unfamiliar to consumers because consumers have limited information about them and no experience with comparable products.

Product unfamiliarity can present a barrier to adoption for consumers (von Hippel 2007). If consumers do not know a new product and have no incumbent products that may serve as a reference for comparison purposes, then the new product is unlikely to be part of consumers' product consideration set. To overcome adoption barriers related to lack of familiarity with a new product, consumers have to be able to encounter a new product to become aware of it in the first place. Subsequently, consumers must also be able to investigate the new product by exploring and discovering what they have become aware of (Rogers 2003).

Comparing the three OBC types identified in this study, we suggest that Open OBCs are most conducive to encountering and investigating new products and, hence, overcoming adoption barriers. The first reason is that Open OBCs place fewer restrictions on community access than Discerning OBCs and Restricted OBCs (see Table 2, Community Access dimension). Additionally, the more accessible a firm-hosted OBC is, the more likely new members are to encounter the hosting firm's products. The second reason is that Open OBCs are less controlling of community activities than Discerning OBCs and Restricted OBCs (see Table 2, Activity Control dimension), thereby giving members of Open OBCs comparatively more freedom to investigate the newly encountered products and, as a result, overcome any adoption barriers.

In summary, compared with Discerning OBCs and Restricted OBCs, Open OBCs rate highest on community access and lowest on activity control and, consequently, are better suited to overcoming adoption barriers associated with product unfamiliarity. We therefore hypothesize the following relationship:

H1: A new product is more successful when it is associated with an Open OBC than with a Discerning OBC or Restricted OBC if the new product is (a) a radical innovation or (b) early to market.

The relationship between OBC type and new product success for incrementally innovative products and late products New products that are either incrementally innovative or late to market are exploitative in nature and focus on customers of incumbent products (Fernhaber and Patel

2012). Fundamentally, these new products are positioned to differentiate themselves from existing products with which targeted customers are already familiar.

Familiarity with an incumbent product, however, can be a barrier to switching (Farrell and Klemperer 2007). Specifically, if customers are familiar with an incumbent product, then in effect they have made specific investments in that product, such as learning how to operate the product and acquiring its auxiliary products. Unless consumers can be persuaded that it is worthwhile for them to duplicate their investments and switch to a competitor's incremental innovation or late-entry product, their initial investments in the incumbent product effectively deter them from switching.

To overcome such switching barriers, consumers have to be able to carefully analyze the alternative product offering in question (Shapiro and Varian 1999), since often only minor differences are apparent unless the product is fully scrutinized. Subsequently, consumers also have to be able to appraise any identified differences between the alternative product offerings in order to fully appreciate them (Shapiro and Varian 1999).

Across the three OBC types identified in this study, we expect that Discerning OBCs are most conducive to analyses and appraisals of product alternatives and, thus, to overcoming switching barriers. The first reason for this expectation is that Discerning OBCs tend to integrate their host firms with their community members more than the other two OBC types (see Table 2, Host Integration dimension), thus enabling the hosts of Discerning OBCs to be more responsive to community member questions, provide more specific answers to questions, and convey more detailed product information. As a result, members of Discerning OBCs are likely to be in a better position to analyze in detail their hosts' new products than members of Open OBCs and Restricted OBCs.

The second reason Discerning OBCs may facilitate the overcoming of switching barriers associated with product familiarity is that Discerning OBCs enable community members to engage more with other members of their own community than do Open OBCs and Restricted OBCs (see Table 2, Member Engagement dimension). Specifically, high levels of OBC-facilitated engagement enable OBC members to more comprehensively and in more detail discuss among themselves any perceived product advantages of their hosts' new products than moderate or low levels of facilitated member engagement. As a result, in comparison with members of Open OBCs and Restricted OBCs, members of Discerning OBCs are likely to be able to better appraise any switching costs and, ultimately, whether switching is worth the effort.

To summarize, in comparison with Open OBCs and Restricted OBCs, Discerning OBCs appear better suited to overcoming perceived switching barriers associated with

product familiarity because of the community type's characteristically high host integration and high member engagement. We therefore hypothesize the following relationship:

H2: A new product is more successful when it is associated with a Discerning OBC than with an Open OBC or Restricted OBC if the product is (a) an incremental innovation or (b) late to market.

Control variables To control for additional explanations of new product success, we included several control variables during the empirical testing of our hypotheses. On the basis of a review of the new product development literature, we assessed three control variables: product advantage (the advantages that a product may have over similar or substitute products; e.g., Langerak et al. 2004), employee skills (the employee skills of the OBC host firms; e.g., Leonard-Barton 1992), and market predictability (the predictability of a new product's market; e.g., Calantone et al. 2003). Additionally, on the basis of our content analysis, we controlled for product involvement (the involvement of consumers with a product) and firm size (the size of the firm hosting an OBC). Fig. 1 summarizes our empirical model.

Research setting and design

The empirical setting for our hypothesis tests was manufacturers of consumer durable goods. Although a single-industry focus reduces the generalizability of our empirical analysis, the within-sample consistency afforded by such a focus ensures that industry parameters potentially related to the variables in our conceptual model are controlled for, which enables more accurate interpretations of our analysis results.

To reduce the risk of common source bias, we developed one questionnaire for the independent variables and another for the dependent variable. The development process included a questionnaire pre-test with a convenience sample of 15 managers responsible for marketing consumer durable goods. These managers offered several suggestions to improve our questionnaires. For instance, we selected a new product's first 6 months on the market as the period for assessment of new product success. The consensus among the managers was that 6 months after the launch of a new product, most launch-specific OBC effects usually diminish and other factors increasingly influence product success, such as competitor responses that might include product counter-launches.

To test our hypotheses, we used a commercially available national database as our sampling frame. We purchased contact information for a random sample of 670 manufacturers from this database. Data for the independent variables

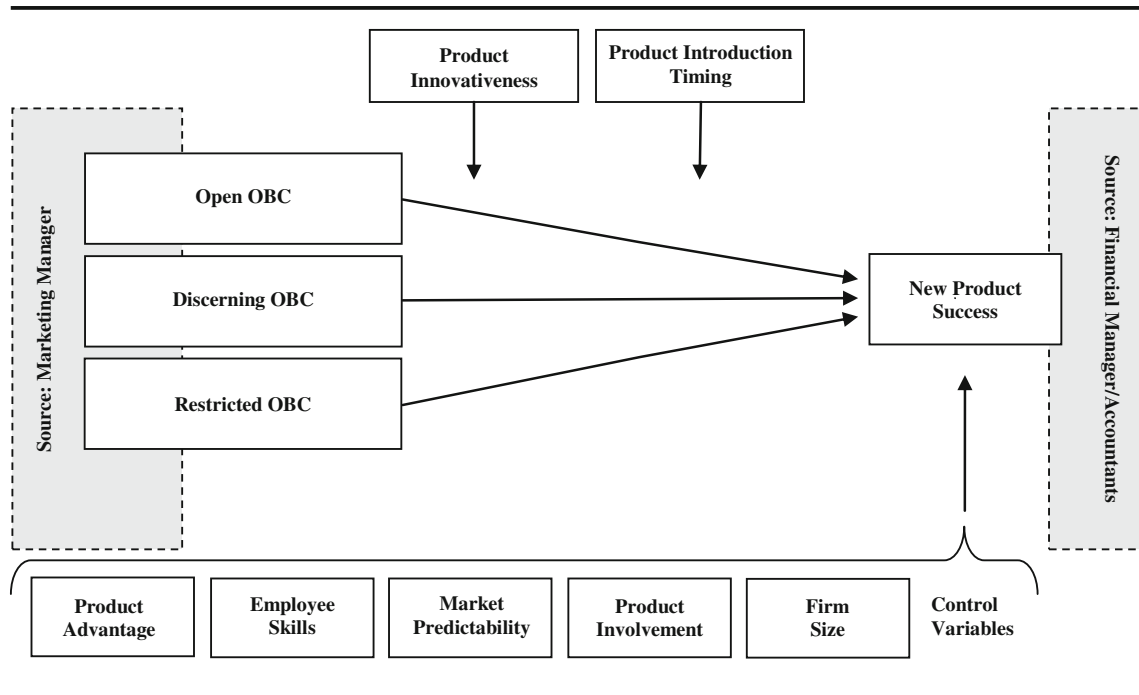


Fig. 1 Conceptual model

(i.e., the firm-hosted OBC types and the control variables) were collected from the firms’ chief marketing officers or equivalent professionals, and data for the dependent variable (i.e., new product success in terms of sales and market share) were collected from finance and accounting professionals. The data collection process involved several steps.

In a first step, the marketing professionals in our sample firms were contacted by phone and asked to identify their most recently launched product that had been in the market for between 6 and 12 months. To minimize selection bias, the requirement to select the most recent product was introduced, and the 12-month cutoff requirement helped to ensure that important details about the product’s first 6 months on the market could still be recalled. A further selection criterion was that the product launch had to be supported by a firm-hosted online brand community. In addition, the marketing professionals were required to identify a finance or an accounting professional who could report on the success of the product.

Our final sample consisted of 305 firms. The main reasons for excluding firms were the 12-month cutoff requirement for having launched a new product and the requirement to identify a finance or an accounting professional. Only 66 firms did not host an online brand community.

The marketing professionals in the 305 firms were then asked to respond to our questionnaire, or to schedule a second phone interview to answer the questionnaire when they had more time. In total, 182 marketing professionals

completed our questionnaire. Subsequently, the identified finance and accounting professionals in the 182 responding firms were contacted by telephone. Twelve of these professionals did not provide us with information about the success of the focal new product, resulting in complete information from 170 firms, or 55.7% of our 305 sample firms.

To test for non-response bias, we compared the 170 participating firms with the initial sample of 670 firms and the viable sample of 305 firms in terms of number of employees and annual revenue. The comparisons showed no statistically significant mean differences, suggesting a low probability of non-response bias.

Measurement instruments

Appendix 2 contains our measurement instrument for a firm’s OBC type. The measure was developed as follows. The first author proposed the paragraph descriptions, which the second and third authors independently reviewed and refined. Eight marketing professionals with online community experience subsequently critiqued the content validity of the descriptions, which were then revised accordingly.

In the data collection step, for each of the four community dimensions respondents allocated 100 points across the three paragraph descriptions, with a total of 400 points distributed. Following a majority-rule procedure used by Conant et al. (1990), we allocated one type of firm-hosted OBC to each responding firm according to which

community type obtained the highest total score across its four dimensions on the relevant questionnaire. To break a tie in the highest total score—which occurred three times—we obtained further information about the involved OBCs by contacting the host firms. Overall, our sample of 170 firm-hosted OBCs consisted of 30% Open OBCs, 42% Discerning OBCs, and 28% Restricted OBCs.

By assigning each firm in our sample to the OBC type for which it obtained the highest score, we were able to assess the validity of our OBC measure by comparing how much greater the highest score was than the second highest score. The higher the resulting figure, the more confident we can be in our allocation of each firm to a particular OBC type. The results show that in 19% of the comparisons, the score difference between the two community types was below 50, and in 49% of the cases, the difference was 200 or above. The score differences in the remainder of the cases were between 50 and 200. We therefore concluded that the items developed for our typology of firm-hosted OBCs demonstrate discriminant validity.

Appendix 3 contains the scales for the remaining variables in our empirical model as well as individual item reliabilities, composite reliabilities, and average variances extracted. The composite reliabilities for the scales range from .87 to .94, indicating acceptable levels of reliability for all scales. The scales also demonstrate convergent validity. The average variances extracted range between 62% and 89% and are greater than the .50 level recommended by Fornell and Larcker (1981). Discriminant validity for the scales was established by finding that the shared variance between all possible pairs of constructs was lower than the average variance extracted for the individual constructs.

Results of hypothesis tests

Table 3 provides relevant means, standard deviations, and correlations. We used a general linear model and pairwise comparisons to test our hypotheses and report the results in Table 4.

Table 4 shows a statistically significant ($p \leq .001$) association between firm-hosted OBC type and new product success, a statistically significant ($p \leq .01$) interaction between firm-hosted OBC type and product innovativeness, and a statistically significant ($p \leq .05$) interaction between firm-hosted OBC type and product introduction timing. These results provide evidence that different types of firm-hosted OBCs are associated with different levels of product success and that the association depends on the involved product's innovativeness and timing of market introduction.

The pairwise comparisons reported in Table 4, however, indicate that while H1a and H2a are fully supported at the statistical significance levels of either

$p \leq .05$ or $p \leq .001$, H1b and H2b are only partially supported if $p \leq .05$ is chosen as the minimum acceptable significance level. We discuss our findings in more detail in the following sections.

Discussion

Our hypotheses analyses show that radically innovative products launched by the firms in our sample are more successful when supported by an Open OBC than by a Discerning OBC or Restricted OBC. Incrementally innovative products, however, are more successful when supported by a Discerning OBC than by an Open OBC or Restricted OBC.

In terms of early-mover product success, we unexpectedly did not find an Open OBC to be the best performer among the three community types. Instead, we observed that an Open OBC and Discerning OBC do not differ in their association with early-movers' product success. Also unexpectedly, we did not find a Discerning OBC to be the best community performer in terms of late-mover product success. Again we found no difference between an Open OBC and Discerning OBC. Nevertheless, in terms of both early- and late-movers' product success, an Open OBC and a Discerning OBC outperform a Restricted OBC.

Taking these findings together, we conclude that the three OBCs identified in this study are not equally important for new product success. Notably, a Restricted OBC appears to be generally³ less important than an Open OBC or Discerning OBC, regardless of the supported products' innovativeness and introduction timing.

Theoretical contributions and implications

The main theoretical insights from our findings are that different archetypical firm-hosted OBCs exist and that they are associated with different levels of new product success. These findings should motivate researchers to undertake more conceptual and empirical research on OBCs in a new product context.

We developed a typology of firm-hosted OBCs based on our analyses and show that this typology can be a predictor of a new product's success. In doing so, we contribute a configurational perspective of organizational analysis (Meyer et al. 1993) to the growing body of research on online brand communities. The typology can also provide a conceptual basis for future studies in this research area.

³ We note that in one instance, a pairwise comparison involving the Restricted OBC variable is statistically only marginally significant ($p = .079$; Table 4).

Table 3 Summary statistics and correlations

(a)	Variables for All Firms	M	SD	1	2	3	4	5	6	7	8
1	New product performance	5.01	1.77	1.00							
2	Product innovativeness	4.28	1.97	.20	1.00						
3	Product introduction timing	3.83	1.60	.38	.15	1.00					
4	Product advantage	5.46	1.08	.50	.27	.24	1.00				
5	Employee skills	5.96	.78	.27	.24	.14	.45	1.00			
6	Market predictability	4.09	2.11	-.11	.16	-.06	-.02	-.03	1.00		
7	Product involvement	5.55	1.11	.27	.37	.14	.28	.23	-.19	1.00	
8	Firm size (log)	5.77	1.60	.01	-.08	-.11	-.15	.01	-.02	-.05	1.00

N=170; for absolute value of $r > .08$, $p < .05$, for absolute value of $r > 0.10$, $p < .01$
M=Mean; *SD*=Standard Deviation

(b)	Variables for Firms with Open OBC	M	SD	1	2	3	4	5	6	7	8
1	New product performance	5.56	1.21	1.00							
2	Product innovativeness	5.51	1.61	.37	1.00						
3	Product introduction timing	3.78	1.34	.25	-.04	1.00					
4	Product advantage	5.80	.88	.43	.25	.10	1.00				
5	Employee skills	6.12	.63	.41	.36	-.00	.49	1.00			
6	Market predictability	4.36	2.74	.07	-.13	.00	.12	-.01	1.00		
7	Product involvement	6.02	.88	.02	.26	.09	.04	.27	-.24	1.00	
8	Firm size (log)	5.86	1.57	.19	.02	.05	-.38	-.04	.06	-.28	1.00

N=51; for absolute value of $r > .08$, $p < .05$, for absolute value of $r > 0.10$, $p < .01$
M=Mean; *SD*=Standard Deviation

(c)	Variables for Firms with Discerning OBC	M	SD	1	2	3	4	5	6	7	8
1	New product performance	5.57	1.54	1.00							
2	Product innovativeness	3.88	1.98	-.19	1.00						
3	Product introduction timing	4.11	1.79	.47	-.02	1.00					
4	Product advantage	5.64	1.04	.29	.14	.17	1.00				
5	Employee skills	5.92	.75	.09	.03	.09	.29	1.00			
6	Market predictability	3.82	1.84	-.25	.48	-.17	-.16	-.18	1.00		
7	Product involvement	5.46	1.09	.06	.09	.00	.28	.08	-.23	1.00	
8	Firm size (log)	5.85	1.62	-.02	-.20	-.33	-.13	-.11	-.11	.01	1.00

N=72; for absolute value of $r > .08$, $p < .05$, for absolute value of $r > 0.10$, $p < .01$
M=Mean; *SD*=Standard Deviation.

(d)	Variables for Firms with Restricted OBC	M	SD	1	2	3	4	5	6	7	8
1	New product performance	3.48	1.80	1.00							
2	Product innovativeness	3.51	1.79	.31	1.00						
3	Product introduction timing	3.40	1.46	.23	.62	1.00					
4	Product advantage	4.76	1.07	.44	.19	.29	1.00				
5	Employee skills	5.76	.91	.32	.29	.26	.53	1.00			
6	Market predictability	4.36	1.65	-.09	.10	.14	.10	.19	1.00		
7	Product involvement	5.11	1.22	.42	.55	-.32	.18	.21	-.20	1.00	
8	Firm size (log)	5.48	1.69	-.21	-.14	-.02	-.19	.09	.05	-.05	1.00

N=47; for absolute value of $r > .08$, $p < .05$, for absolute value of $r > 0.10$, $p < .01$
M=Mean; *SD*=Standard Deviation

Fundamentally, our findings imply the need for researchers to think about firm-hosted OBCs when designing research to explain product success. Although firm-hosted OBCs are a relatively recent commercial phenomenon, our results indicate that they should be

given consideration alongside more traditional explanations of product success, such as product advantage and firm size.

Further, our findings confirm our reasoning leading up to our hypotheses that firm-hosted OBCs can be thought of as

Table 4 Results of general linear model with interaction effects and results of pairwise comparisons

General Linear Model with Interactions	Success			Pairwise Comparisons	Success	
	Beta	<i>p</i> -value	Partial Eta Squared		Mean Differences	<i>p</i> -value
Product advantage	.505	.000	.097	H1a Radical Product Innovation		
Employee skills	.067	.345	.001	Open OBC—Discerning OBC	.760	.018
Market predictability	−.014	.407	.000	Open OBC—Restricted OBC	1.424	.001
Product involvement	.095	.214	.005	Discerning OBC—Restricted OBC	.664	.079
Firm size (log)	.074	.164	.007	H1b Early Market Entry		
OBC archetype	−	.001	.091	Open OBC—Discerning OBC	−.282	.239
Product innovativeness	−	.017	.032	Open OBC—Restricted OBC	1.865	.000
Product introduction timing	−	.423	.000	Discerning OBC—Restricted OBC	2.147	.000
Firm-hosted OBC type x Product innovativeness	−	.006	.061	H2a Incremental Product Innovation		
Firm-hosted OBC type x Product introduction timing	−	.040	.035	Open OBC—Discerning OBC	−1.040	.021
Adjusted R ² (.404)				Open OBC—Restricted OBC	1.649	.001
				Discerning OBC—Restricted OBC	2.689	.000
				H2b Late Market Entry		
				Open OBC—Discerning OBC	.002	.498
				Open OBC—Restricted OBC	1.208	.004
				Discerning OBC—Restricted OBC	1.206	.001

firm-engineered social mechanisms for overcoming customer-perceived product adoption and switching barriers. Although product unfamiliarity can be a product adoption barrier for consumers, and familiarity with an incumbent product can be a switching barrier, we observed that firm-hosted OBCs can help consumers overcome both of these barriers.

Our results also emphasize the need for OBC researchers to adopt a contingency perspective in their research. Our findings are evidence that product- and launch-related contingencies, and product innovativeness and introduction timing in particular, should be taken into account by researchers interested in explaining the success of new products that are supported by firm-hosted online brand communities.

Managerial contributions and implications

Firm-hosted OBCs appear to be a common phenomenon in the consumer durable goods industry, with almost 90% of the firms in our initial sample of 670 firms hosting an online brand community of some type. The configuration of these OBCs (i.e., as high/moderate/low across the four community dimensions in Table 2) can vary, and our findings show that such variations can correspond with variations in the success of new products supported by the online brand communities. Managers should recognize, therefore, that they ought to understand the configuration of their existing

OBCs, and know what configuration they need for a new OBC, if such communities are to support the introduction of new products.

When deciding on which type of firm-hosted OBC to use to support a new product launch, managers in the durable consumer goods industry should further note that certain OBC types are preferable in particular circumstances. One such circumstance identified in this study is a product's innovativeness. Indications are that if a new product is radically innovative, an Open OBC should be used, but if a new product is incrementally innovative, a Discerning OBC is preferable. Another circumstance we examined was whether a new product is early or late to market. Our findings suggest that regardless of introduction timing, either an Open OBC or a Discerning OBC could be relied on for introduction support. Managers should further note that Restricted OBCs are generally associated with lower levels of success for innovative products and early movers than the other two community types.

Overall, our research findings can help simplify two important managerial decisions related to using firm-hosted OBCs to support new products in the consumer durable goods industry. Our findings can (1) help managers make more informed decisions about which OBC type a new product should be linked to for launch support, and (2) show managers how to configure a preferred OBC type.

Limitations and future research

Our research findings should be viewed with some of the limitations of this study in mind. Although consumers discuss new products as members of firm-hosted OBCs in a wide range of industries, in testing our predictions we applied our typology to the consumer durable goods industry. While this sample restriction allowed us to control for extraneous sources of variation, future studies in different industries should explore the extent to which our hypothesized findings are generalizable.

Another limitation is that we focused on an industry with a very high incidence of firm-hosted online brand communities. While this sample choice increased the likelihood of obtaining sufficient data related to our research questions, it does not allow us to make comparisons with firms operating without online brand communities. Such comparisons, if they were possible, would help establish the importance of hosting OBCs in the first place. To this end, we recommend the development of a matched-control design, where each examined firm that hosts an OBC is matched with a similar firm that does not host an online brand community.

We also encourage researchers to conduct longitudinal research, which could shed light on questions regarding the usefulness and functionality of firm-hosted OBCs beyond the product introduction period. Of particular interest might be the role of firm-hosted OBCs in achieving long-term new product outcomes, such as customer retention or product-brand fortification.

Moreover, in addition to verifying our contingency findings, future research might examine additional potential boundary conditions to help improve the understanding of when firms would prefer to use Restricted OBCs in a new product context. Although we found this OBC type to generally underperform an Open OBC and a Discerning OBC as a support mechanism for new product introductions, numerous firms consciously use OBCs that match the profile of a Restricted OBC, and one would have to assume that firms do this for a reason.

Researchers could further explore the effectiveness of the firm-hosted OBCs identified in this study for motivating community members to participate in co-creation activities related to new product introductions (Füller et al. 2006, 2008). Some firm-hosted OBCs, such as that of Mercedes Benz (*generationbenz.com*), encourage community members to co-create advertising for new products by watching and commenting on current advertisements.

In conclusion, our findings support the early optimism of brand community researchers (e.g., McAlexander et al.

2002; Muñiz and O’Guinn 2001) regarding the importance of OBCs for firms. Going forward, programmatic OBC research will provide many new insights for the discipline of marketing.

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Appendix 1

Content Analysis

First research phase: Identification of distinguishing dimensions of firm-hosted online brand communities

- Step 1** In the first step of this research phase, a content analysis of the brand community literature identified the dimensions of firm-hosted online brand communities. Relevant literature on organizational behavior and change (e.g., Hellriegel and Slocum 2004), organizational and corporate culture (e.g., Deshpandé et al. 1993), and personal and social psychology (e.g., Lickel et al. 2001) was also reviewed. As can be seen in the Appendix Table (see Step 1) at the end of this Appendix, 19 dimensions were identified.
- Step 2** In this step, the three co-authors of this study discussed which of the 19 dimensions derived from the literature could be used to distinguish persistent differences among firm-hosted online brand communities. As a result of these deliberations, six dimensions (see Step 2 in Appendix Table) were removed, leaving 13 OBC dimensions for further consideration.
- Step 3** Next, three 30-minute focus groups were conducted to review and validate the remaining 13 dimensions. The focus group size ranged from 9 to 12 managers from the consumer durable goods industry. One new community dimension—community access—was proposed during the second focus group and confirmed by the third group. Further, the managers concluded that four (see Step 3 in Appendix Table) of the 13 dimensions “surviving” Step 2 were not relevant for the purpose of defining potential archetypes of firm-hosted online brand communities. Ten potentially relevant OBC-defining dimensions remained after this step.
- Step 4** This step of the study was a content analysis of actual firm-hosted OBCs, with the objective of establishing which of the remaining 10 dimensions were capable of revealing any systematic

Table 5 Community dimensions: the identification and elimination process

Step 1: Content analysis of literature led to the identification of the following OBC dimensions	Description	Source/Literature
1 Participation (also referred to as “Interaction”)	The degree to which members actively participate in group activities	(Online) Brand Community (e.g., Hägel and Armstrong 1997; Muñiz and O’Guinn 2001; Rothaermela and Sugiyamab 2001)
2 Embeddedness	The degree to which members feel part of a coherent community	
3 Membership size	The number of members belonging to a community	
4 Community scalability	The degree to which a community can be seen as a living organism that grows and changes over time	
5 Sense of moral belonging	The degree to which a community feels that it is duty-bound or obligated to society	
6 Shared consciousness	The degree to which members feel a sense of shared knowing of belonging	
7 Status	The role a group plays in providing status to its members	
8 Affiliation	The extent to which groups fulfill social needs	
9 Activity control (also referred to as “Site Management”)	The extent to which firms direct and organize group activity	
10 Autonomy	The degree to which a community functions independently of other groups and determines its own activities	Organizational Behavior and Change/Organizational and Corporate Culture (e.g., Deshpandé et al. 1993; Hellriegel and Slocum 2004; Quinn and Rohrbaugh 1983)
11 Motivation	The degree to which members are intrinsically/extrinsically motivated to participate in a community	Personal and Social Psychology (e.g., Chatzisarantis et al. 2006; Hemphill and Westie 1950; Lickel et al. 2001)
12 Host integration (also referred to as “Entitativity”)	The extent to which host firms themselves become a community member by participating in community activities	
13 Hedonic tone	The degree to which group membership is accompanied by a feeling of pleasantness and absence of complaining	
14 Member engagement (also referred to as “Viscidty”)	The extent to which consumers become involved with a community	
15 Permeability	The degree to which it is easy to join or leave a community	
16 Polarization	The degree to which a community is oriented and works toward a single, well defined goal	
17 Flexibility	The degree to which a community’s activities are characterized by informal procedures rather than adherence to established guidelines or rules	
18 Stability	The degree to which a community persists over a period of time without changing	
19 Stratification	The degree to which a community places its members into a status hierarchy	
Step 2: Multiple discussions among the authors led to the exclusion of the following OBC dimensions	Reason for excluding the dimension	
1 Participation	Is captured through Engagement	
2 Embeddedness	Is captured through Engagement	
3 Shared consciousness	Is captured through Engagement	
4 Polarization	With the exception of market research communities (e.g., communispace.com), which are not part of this study, this dimension is not relevant for firm-hosted OBCs	
5 Autonomy	Is captured through Control	

Table 5 (continued)

6 Flexibility	Is captured through Control
Step 3: Focus groups with managers led to the exclusion of the following firm-hosted OBC dimensions	
1 Community scalability	The majority of focus group participants agreed that this dimension is somewhat “aloof” and not suitable to describe firm-hosted OBCs
2 Status	All focus group members agreed that this dimension is relevant for only a very few firm-hosted OBCs
3 Stratification	Is captured through Status
4 Stability	The majority of focus group participants agreed that the nature of online brand communities is to be dynamic
Added: Community access	The extent to which host firms regulate community access, and with that manage membership size, was deemed as firm-hosted OBC-defining by the majority of focus group participants
Interim results from first three research steps: Ten potentially archetype-defining OBC dimensions	1 Membership size; 2 Sense of moral belonging; 3 Affiliation; 4 Activity control; 5 Motivation; 6 Host integration; 7 Hedonic tone; 8 Member engagement; 9 Permeability; 10 Community access
Step 4: Content analysis led to exclusion of the following OBC dimensions	
1 Membership size	Is captured through the added dimension Accessibility
2 Sense of moral belonging	Did not define systematic differences among the firm-hosted OBCs
3 Affiliation	
4 Motivation	
5 Hedonic tone	
6 Permeability	Is captured through the added dimension Accessibility (Note: Permeability also includes the ease with which members can leave a community; the authors found this dimension to be not relevant for firm-hosted OBCs)
Final results from the four research steps: Four archetype-defining OBC dimensions	1 Activity control; 2 Community access; 3 Host integration; 4 Member engagement

differences among firm-hosted online brand communities. By way of searches through google.com, yahoo.com, and ask.com, firm-hosted OBCs from a broad range of industries were studied.⁴ The firm-hosted OBCs also differed in size (ranging from fewer than 100 members to more than 10,000 members), geographic scope, features, and product categories. To further improve the generalizability of the study, our examination extended to firm-hosted OBCs beyond those with high post-traffic and a large number of discrete message posters.

Three types of data were collected. First, community postings were tracked for up to six months and, whenever available, guidelines were downloaded. In a few cases, the authors repeatedly failed to gain community access and, therefore, directly contacted the firms hosting the OBCs to obtain more community information. The second type of data was collected by observing the OBC, its members, and members' interactions. Particular attention was paid to community rules and guidelines such as those regulating members' and visitors' access to community content. The degree to which firms moderated messages posted by community members was also monitored. The third type of data was generated when further clarification about the content of an online interaction was required. In such cases, community members were directly engaged via the OBC platform or by telephone.

After analyzing 81 firm-hosted OBCs, the three co-authors agreed that more community analyses were not likely to yield further insights into the dimensionality of firm-hosted online brand communities. The analysis of the firm-hosted OBCs established that of the 10 community dimensions derived from the first three research steps, six dimensions did not display strong enough variation in their manifestation levels across the 81 firm-hosted OBCs to warrant their further consideration for establishing whether archetypes of firm-hosted OBCs could be identified (see Step 4 in Appendix Table). The remaining four dimensions revealed persistent differences among the

firm-hosted OBCs (see final results from the four research steps in Appendix Table).

Second research phase: Identification of archetypes of firm-hosted online brand communities

For the second phase of the research process, the three co-authors classified each of the 81 firm-hosted OBCs as "high," "moderate," or "low" on each of the four remaining community dimensions (i.e., community access, activity control, host integration, and member engagement) found in the first research phase. As a result, three archetypical OBCs emerged along the four dimensions, which we labeled Open OBC, Discerning OBC, and Restricted OBC. The OBC types are profiled in the main body of the paper, and a summary profile can be found in Table 2.

Two validation procedures were applied to the emergence of the three OBC types. The first validation procedure required four research assistants with a background in qualitative research methods to serve as judges. To this end, the judges' task was to replicate the co-authors' classification steps by re-classifying the 81 firm-hosted OBCs as "high," "moderate," or "low" on the final four community dimensions. The three OBC types were confirmed by this procedure. Interjudge reliability was assessed with the percentage of agreement between the judges (i.e., the ratio of number of agreements and total number of items). The minimum percentage of interjudge reliability obtained was 78%.

The second validation procedure involved a cluster analysis. To generate the data for the analysis, we hired four experts: a community researcher, a digital media manager who worked on biotech projects at the authors' shared university and was directly involved in the development of online brand communities, and two research assistants who were active members of several firm-hosted OBCs and corporate networking sites.

The four experts visited the 81 firm-hosted OBCs and rated them on a scale from 1 to 7 on the 10 community dimensions derived in the third research step of the first research phase. To avoid the experts becoming fatigued from visiting the 81 firm-hosted OBCs, and to control research costs, we instructed participants to explore the firm-hosted OBCs in four sessions and not to spend more than 15 min on each community. We also required the experts to review the firm-hosted OBCs in alphabetical order.

We used cluster analysis to explore the data, relying on hierarchical clustering using Ward's method. The dendrogram showed that three clusters emerge. This additional analysis confirmed the existence of three types of online brand communities. To keep the length of the paper within editorial guidelines, we do not report the detailed results of the cluster analysis.

⁴ Online communities that served other purposes than to establish relationships with customers and enhance new product success, such as corporate research (e.g., communispace.com) or open-source software development (see Hemetsberger and Reinhardt 2009) were not part of our content analysis.

Appendix 2

Table 6 Measurement of firm-hosted online brand communities

All items begin with “Our online brand community”...

COMMUNITY ACCESS (Please distribute 100 points)

- (A) ...is unrestricted in terms of consumers joining and leaving. The community has a large number of community members (high community access).
- (B) ...is somewhat restricted in terms of consumers joining and leaving. The community has a moderate number of members (moderate community access).
- (C) ...is challenging in terms of consumers joining and leaving. The community has a small number of members (low community access).

ACTIVITY CONTROL (Please distribute 100 points)

- (A) ...is not regularly monitored by us (the firm). Member communication occurs spontaneously and freely, and communication usually takes place in real time. Communication content is unrestricted and members can say whatever they want about a product or share personal information (low activity control).
- (B) ...is more or less regularly monitored by us (the firm). Member communication is guided by us through occasional questions, and communication does not always occur in real time. Communication content is somewhat restricted (moderate activity control).
- (C) ...is very carefully monitored by us (the firm). Member communication is usually prompted and then screened by us before made available to other members, and then is mostly either posted with a substantial time delay or, in some instances, simply withheld. Communication content is very restricted (high activity control).

HOST INTEGRATION (Please distribute 100 points)

- (A) ...is one with which we (the firm) are somewhat integrated by usually responding to member questions and concerns. We occasionally take part in community activities and everyday conversations of members (moderate host integration)
- (B) ...is one with which we (the firm) are highly integrated by always responding to member questions and concerns. We always take part in community activities and everyday conversations of members. (high host integration)
- (C) ...is one with which we (the firm) are not integrated. We do not respond to member questions and concerns. We also do not take part in community activities and everyday conversations of members; we observe the members instead. (low host integration)

MEMBER ENGAGEMENT (Please distribute 100 points)

- (A) ...is one where members do not feel close to one another and do not bond. Members’ interactions are transactional or at arms-length. Members very rarely participate in community activities (low member engagement).
- (B) ...is one where members feel very close to one another and form strong bonds. Members’ interactions are very involved and thoughtful. Members frequently participate in the community’s activities (high member engagement).
- (C) ...is one where members feel somewhat close to one another and form loose bonds. Members’ interactions are not very involved and remain more on the causal side. Members infrequently participate in the community’s activities (moderate member engagement).

Respondents distributed 100 points among the three response options [(A) = Open OBC; (B) = Discerning OBC; (C) Restricted OBC] under each dimension, with a total of 400 points distributed

Appendix 3

Table 7 Dependent, moderator, and control variables

Construct Name and Items	CR	AVE	IIR
DEPENDENT VARIABLES			
New Product Success	.94	.74	
Sales (adopted from Im and Workman 2004)			
The product is very successful in terms of sales			
- relative to your firm’s other new products			.690
- relative to competing products in the market to the best of your knowledge			.833
- relative to your firm’s original objectives for this product			.856
Market Share (adopted from Im and Workman 2004)			
The product is very successful in terms of market share			

Table 7 (continued)

Construct Name and Items	CR	AVE	IIR
- relative to your firm's other new products			.686
- relative to competing products in the market to the best of your knowledge			.795
- relative to your firm's original objectives for this product			.576
MODERATOR VARIABLES			
Product Innovativeness (adapted from Lee and O'Connor 2003)	.91	.78	
- The technology the new product makes use of was new to the customer			.655
- The benefits this product offers were new to the customers			.970
- Customers perceived the product features as novel			.714
Product Introduction Timing (adapted from Lee and O'Connor 2003)	.94	.89	
- The new product introduction is the first such product to be launched in its product sector			.835
- The new product introduction is one of the pioneers in its product sector			.948
CONTROL VARIABLES^a			
Product Advantage (adapted from Li and Calantone 1998 and Calantone et al. 2006)	.90	.75	
Comparing the product with your biggest competitor's latest competing product launch, your product is superior in terms of			
- Ease of use, i.e., the extent to which the product is easy to use			.616
- Functionality, i.e., the extent to which a product meets customers' functional needs			.961
- Quality as defined by the user			.514
Skills (adapted from Di Benedetto 1999)	.89	.62	
- Our marketing research skills were more than adequate			.661
- Our sales force skills were more than adequate			.641
- Our distribution skills were more than adequate			.521
- Our advertising and promotion skills were more than adequate			.626
- Our R&D skills were more than adequate			.621
Market Predictability (adapted from Sethi and Iqbal 2008)	.87	.68	
- Technological changes in our industry were rapid and unpredictable			.755
- The market competitive conditions were highly unpredictable			.763
- Changes in customers' needs were unpredictable			.533
Product Involvement (adapted from Laurent and Kapferer 1985 and Zaichkowsky 1985)	.93	.73	
The new product...			
- is one that consumers are highly involved with			.646
- is one that consumers are interested in			.641
- is part of a product class that plays an important part in consumers' lives			.664
- is chosen very carefully by its consumers			.839
- purchase decision requires a lot of thought			.889

All variables used a rating scale anchored by *strongly disagree* (1) and *strongly agree* (7)

CR composite reliability; AVE average variance extracted; IIR individual item reliability

^a Firm size was measured in terms of the number of full-time employees

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