BUILDING BUSINESS CUSTOMER COMMUNITIES IN KNOWLEDGE INTENSIVE INDUSTRIES – IMPACT ON SALES PERFORMANCE

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Session E-2

Abstract

The successful formation of Business Customer Communities (BCCs) is associated with significant challenges. Based on the case study of Critical Care Europe (Eli Lilly & Company), four major challenges that are coupled with the enabling of BCC formation are identified: (1) ensuring an optimal member composition, (2) balancing and ensuring interests of various stakeholders, (3) motivating customers to participate and become active, and (4) fostering interaction and communication. It is demonstrated how these challenges can be overcome, resulting in BCCs that have a strong impact on sales. The investigation also reveals that BCC projects have a much better ROI than the average project ROI. Regarding the relationship between BCC characteristics and the economic outcome, three explanatory variables were found to be most important: (1) time spent by the sales representative with the community leader, (2) level of influence of the community leader, and (3) market share of the leading hospital. The type of community and money invested were not found to have any impact on economic outcome.

Keywords: communities of practice, customer communities, knowledge management, sales performance, pharmaceutical industry.

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1   Abstract

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Suggested track: L Practitioner's Track

2   Introduction

The underlying assumption of this investigation is that in several knowledge intensive industries, firms can create substantial value for their customers by transforming their sales approach from a focus on "information transaction to customers" to "enabling knowledge sharing between customers". Firms in these industries could add significant value by enabling groups of business customers to form communities (i.e. Communities of Practice) through online and offline support activities. The aim of this paper is to contribute both empirically and theoretically to the understanding of challenges associated with the enabling of BCC formation and how firms can overcome these challenges.

There are two main reasons why research about BCCs as a subset of Communities of Practice (CoPs) is out of interest: (1) BCC formation is a highly challenging and complex process and (2) BCC formation is a unique and unexplored phenomenon in the health care industry. In initial discussions with the management and the sales force of Critical Care Europe, it became evident that the implementation of BCC initiatives is a highly challenging process. In the view of the practitioners, major challenges were related to the orchestration of organizational competencies (e.g. medical competencies, technological competencies, marketing competencies, and sales competencies) and above all, the capability of sales representatives to deal with numerous difficulties during the planning, initiation, and sustenance stage of community formation. In addition, discussions with decision makers in other health care companies and conducted literature reviews revealed that Critical Care Europe was the only organization in the health care industry that had defined BCC enabling as a core element of its marketing and sales strategy and systematically fostered BCC formation.

3   Theoretical Background

3.1   Definitions

In this paper Customer Communities (e.g. Cross Border Communities, Private Customer Communities, and Business Customer Communities) are considered to be sub groups of *Communities of Practice* (CoP). Lave and Wenger introduced the concept of CoPs in 1991. Since its introduction, the concept has gained significant interest and triggered a flood of academic contributions. At the core of the various CoP definitions, suggested by the literature, is the community purpose. The purpose is the

fundamental reason why a group of people comes together in a community. In general, people come together in order to develop a knowledge domain, shared practice, and social relationships. This contribution is based on the following CoP understanding suggested by APQC (2000): "Communities of Practice are groups of people who come together to share and to learn from one another face-to-face and virtually." Contrary to other groups of people, such as "project teams" or "organizational units", CoPs focus on the development of a knowledge domain and practice (von Krogh 2002; Wenger et al. 2002; Fox 2000; Brown and Duguid 1998); exist outside the formal organization (von Krogh 2002; Wenger et al. 2002), generate the "drive" from within (e.g. Wenger et al. 2002; Wenger 1998a), develop a shared sense of identity (Diemers 2003; von Krogh 2002; Wenger 2000), and evolve and reproduce themselves over time (Skyrme 2002; Wenger et al. 2002; Barab and Duffy 2000). From this perspective, most BCCs and Private Customer Communities (PCCs) can be viewed as CoPs. Due to the directive way firms regulate and manage Cross Border Communities (CBCs), these types of communities often do not qualify. For CBCs to become CoPs firms need to tolerate more self-organization, autonomy, and diversity (e.g. Sawhney and Prandelli 2000).

In recent years, firms have started to develop knowledge-based communities (i.e. *Cross Border Communities*) together with customers. In such communities, customers take an active role in the development of a shared knowledge domain and practice (e.g. Sawhney and Prandelli 2000). From a firm perspective, customers can fulfill three distinct roles within this setting. They can be viewed as a *resource*, *co-creators*, or *users* (Nambisan 2002). Accordingly, customer CBCs can be defined as follows: "Customer Cross Border Communities are groups consisting of employees and selected customers who come together to develop and exchange information, test new ideas and concepts face-to-face and virtually."

Private Customer Communities (PCCs) come to existence through interactions and relationships developed between private customers (Typaldos 2001). They emerge when enough people carry on public discussions long enough with sufficient human feeling. The core of such communities usually consists of a common purpose, value, and vision (Figallo 1998). The firms normally appear as "hosts" of the communities meaning that they invite and empower customers to interact on a Web site (Barnatt 1998). Accordingly, external PCCs can be defined as follows: "External Private Customer Communities are groups of customers who come together in order to share

information, knowledge and opinions and to develop relationships with peers, over a platform enabled by a firm."

The focus is on *Business Customer Communities.* Such communities consist of customers understood as professional institutions that either use the products and services provided by a firm or function as distributors in the value chain. Business customers form a community in order to fulfill a specific purpose and a firm deliberately enables the formation through technological (e.g. collaboration technology) and organizational (e.g. workshops and events) means. The type of knowledge exchanged within BCCs is always work-related. Accordingly, BCCs can be defined as follows: "External Business Customer Communities are groups of business customers, which are deliberately enabled by a firm and share a long-term need to exchange work-related knowledge through online and offline interaction."

This paper also focuses on how firms can *enable* the formation of BCCs. The term "enabling" is of particular importance. Both existing theory (e.g. Wenger et al. 2002; von Krogh et al. 2000) and the authors' experience suggest that CoPs (particularly external Customer Communities) cannot be managed in the traditional sense. The role of a firm is to develop an environment favorable to community formation. According to Wenger et al. (2002: 13) "some communities of practice grow spontaneously while others may require careful seeding. Yet in both cases, organizations can do a lot to create an environment in which they can prosper". Enabling, in this context, consists of the overall set of organizational activities that positively affect the formation (i.e. planning, initiating, and sustaining) of external Business Customer Communities.

3.2 Distinction between Customer Community Types

External BCCs are distinct from both customer CBCs and external PCCs. The different dynamics and contexts of these communities result in distinct challenges and ways to overcome them. A good understanding of these differences is, therefore, constitutive for successful community facilitation. The following table illustrates some of the most important distinguishing dimensions.[1]

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1 The purpose of the table is to create an understanding of the generic distinctions between the community types. In reality, the distinctions are not always as clear as proposed in the table.

Category	Customer CBCs	External BCCs	External PCCs
Firm Objectives	Gain value from customer knowledge and experience	Enhance the value of the offering and increase customer loyalty	Improve the image of a brand
Member Interests	Product benefits, firm benefits	Relationship benefits, knowledge, improved practice, medium-related benefits	Relationship benefits, access to information, knowledge, medium-related benefits
Initiation	Intended, by a member of the firm	Intended, by a business customer with the support of the firm	Emergent, by private customers
Firm Influence	Strong	Limited	Small
K. Domain	Firm related knowledge	Work related knowledge	Interest related knowledge
K. Exchange	Customer-to-Firm	BC-to-BC	PC-to-PC
Interaction	Structured within a specific time-frame	Semi-structured with an open time-frame	Unstructured with an open time-frame
Transparency	High	High	Low
Boundaries	Precise	Evolving	Fluid

Table 1: Distinctions between Customer Community types

4 Methods

One of the aims of this study was to develop a theory about challenges and solutions with respect to BCC enabling. An initial decision had to be made concerning the number of case studies to be included. The "multiple-case design" was chosen. The challenges managers and sales representatives face when enabling the formation of BCCs can vary widely from case to case (e.g. depending on customer type, community type, and community context). Accordingly, it would not be possible to find a single case that is representative of all major challenges that could occur during the formation process nor could one single case provide enough insight into the variety of ways practitioners could deal with such challenges. As the objective was to build a theory about the complex phenomenon of BCC enabling, relatively comprehensive data was collected from each case study. The sample of this investigation includes 12 BCCs within Critical Care Europe. The BCCs had existed long enough to provide data for all of the phases of community formation (i.e. planning, initiating, sustaining). For data collection 52 interviews were conducted and numerous discussions were held.

Documents and archival records were used in the initial project phase to develop an understanding of the firm context and the customer environment.

In addition to challenges and solutions, the investigation also explored possible relationships between BCC characteristics and economic outcome in the case firm. Those BCCs that had existed for at least three months at the point of data collection were included. Customers with whom the case firm had other substantial projects running in parallel were excluded (through this measure the effect of other projects and initiatives could be controlled). The result of this selection was a sample of 20 BCCs from different countries in Europe (see table 2). After the sample was defined, the questionnaire was developed. The decision was made to combine open-ended and closed questions. The questionnaire was structured according to "background information", "BCC characteristics", "moderating effects", and "economic outcome". Before the questionnaire was finalized, it was used on a sub-sample of sales representatives (i.e. sales representatives with BCC experience in Germany). The aim was to test the instrument and administrative procedures in a miniature study. Based on the questionnaire telephone interviews were conducted and the data collected. The aim of the data analysis was to explore possible relationships between BCC projects, BCC characteristics, and the average monthly sales development (AMSD)[2]. The relationship between BCC projects and economic outcome were tested through financial calculations as demonstrated in the Appendix. For the investigation of possible relationships between BCC characteristics and sales development, a regression model was developed to describe the data of the 20 investigated communities in an appropriate way (Kleinbaum et al. 1998). The data of the 20 BCCs contained 13 explanatory variables and a response AMSD. (see table 2) All explanatory variables except "ComType" are continuous. The explanatory variables can be divided into the two groups "community" (i.e. type, size, and interaction) and "customer" (i.e. type, involvement, influence, and time).

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[2] See Appendix, equation 11

ComType	NuAcc	NuAccLab	AvTimeAcc	AvContProv	AvNuMeet	ShareMarket	Potential	Segm	CustInvol	CustInfl	Money	Time	AMSD
ST	7	3	42.4	0.70	0.2	0.095	2500	Dev	4	3	7000	2.0	0.005193
GU	3	2	5.7	1.00	0.8	0.126	2700	Dev	1	4	8000	2.5	0.006435
ST	3	1	NA	NA	0.5	0.208	1700	Max	3	3	0	0.5	0.000000
GU	6	1	12.0	1.50	0.0	0.339	683	Max	4	3	3000	2.0	-0.020120
SD	4	4	131.3	11.00	0.0	0.304	1400	Max	4	4	3000	0.5	-0.002512
RO	10	10	NA	NA	0.1	0.056	700	Dev	1	1	13000	1.5	0.022302
SU	4	1	1.8	0.00	0.3	0.260	700	Max	1	2	8000	4.0	0.023105
RO	6	6	NA	NA	0.3	0.290	1100	Max	2	4	0	8.0	0.141598
GU	8	1	2.3	0.75	1.0	0.290	1100	Max	3	4	3000	5.0	0.014819
RO	9	1	1.4	1.00	0.3	0.341	1000	Max	4	4	3000	0.7	0.010019
GU	6	1	NA	NA	0.3	0.259	670	Max	3	3	3000	3.0	-0.063231
TR	18	7	50.1	0.20	0.3	0.753	2000	Max	0	4	3000	0.5	-0.037217
GU	6	5	54.8	3.50	0.2	1.000	500	Max	2	4	3000	1.0	0.029967
RO	5	5	24.6	1.40	0.1	0.709	1100	Max	2	3	3000	0.2	-0.001181
AD	5	5	37.0	1.20	0.2	0.618	500	Max	4	3	3000	1.4	0.025833
RO	9	9	39.6	2.70	0.3	0.680	300	Max	3	2	3000	0.7	0.000097
SU	6	6	27.4	1.00	0.4	0.336	800	Max	3	3	3000	1.1	-0.007984
GU	5	1	54.4	1.40	0.4	0.345	926	Max	1	2	3000	3.0	-0.010232
GU	5	1	NA	NA	0.2	0.374	700	Max	3	4	0	2.9	0.069398
RO	4	4	86.0	4.50	0.0	0.067	1100	Dev	4	4	3000	1.7	0.019349

Table 2: Survey data table

For data analysis, the multiple regression model was chosen (e.g. Backhaus et al. 1994). It allows the reduction of random dispersion, in order to detect effects more easily. Dealing with several explanatory variables simultaneously in a regression analysis is considerably more complicated than dealing with a single explanatory variable because it is more difficult to choose the best model, since several reasonable candidates may exist (e.g. Kleinbaum et al. 1998). In selecting the multiple regression model, a stepwise-backward procedure was used. This procedure selects a model by reducing one variable per step minimizing an information criterion (e.g. Akaike 1985; Hannan and Quinn 1979). For this purpose Akaike's Information Criterion (AIC) was used (e.g. Akaike 1974). The elimination process was stopped when all effects were formally significant. The significance level chosen was $p < 0.05$.

5   Results

This chapter highlights challenges and solutions related to the enabling of BCC formation and presents possible relationships between community projects, community characteristics, and economic outcome. The following box provides a brief introduction to Critical Care Europe.

> Critical Care Europe is a business unit of Eli Lilly & Company, founded in 1999, focusing on sales, marketing, customer- and medical services for specialty products in the critical care setting. Critical Care Europe had 150 employees across Europe and generated annual revenue of approximately USD 100 million. The majority of the revenue came from a single product which is high-end priced, complex, and has been in the market for several years. The drug is given exclusively in specialized centers.

The community formation process can be divided into the three stages: planning, initiation, and sustenance. During the *planning stage*, the sales representatives set the ground for a BCC together with the community leader. This includes activities such as market screening, identification and contacting potential community leaders and members, identification of common needs, definition of purpose, and preparation of a kick-off event. During the *initiation stage*, the members came together to launch the community and to generate a critical momentum. The focus during this stage is to define a knowledge domain and to start sharing and creating knowledge within this domain. Core activities are the execution of a kick-off event, initiation of regular community meetings, development of a shared community concept, implementation of a communication solution, and the definition of norms and roles for working together. During the *sustenance stage*, the aim is to ensure that the community keeps up its momentum and remains viable. The focus during this stage often shifts from sharing knowledge to transforming jointly created knowledge to working practices. Core activities are the management of participant growth and fluctuation, collaboration with other communities, and execution of regular meetings.

5.1   Challenges and Solutions

Community Planning

The case studies revealed that finding a suitable community leader was the most important *composition*-related challenge. The criteria often used to assess the suitability of potential leaders were: (1) willingness to advocate the product, (2) motivation and time to lead the community, and (3) ability to influence potential community members. To identify the right customers, sales representatives often made a pre-selection based on sales data (e.g. customer potential and share of market). The final selection was based on discussions with potential community leaders. During these discussions, the community idea was elaborated and the interest and motivation of potential community leaders assessed. After identifying the right customer to lead the community, the challenge was to identify potential members that would fit into the

community. Often the community leaders already had contact with potential members, so the most frequently adopted strategy was to start developing the core team around these relationships. In some cases, however, the community leader did not know the potential members. In these cases, sales representatives worked with the community leader to define an ideal member profile and helped to identify potential members. Frequently used assessment criteria were: (1) level of interest, (2) fit with respect to personality and knowledge profile, and (3) decision-making power. After the initial selection, sales representatives usually went on tour to visit the potential members, assess their suitability, and gain insight into potential areas of conflicts and specific conditions of member hospitals.

In all communities investigated, conflicts of *interest* occurred. Due to the sales representatives' limited opportunity to influence the community discourse and activities directly, the most critical aspect was to come to an agreement with the community leader that ensured long-term firm interests. Taking into consideration that sales representatives had just started to work with the community leader in this new mode (i.e. transformation from "information provider" to "community consultant"), they had to be careful to demonstrate continuously that they were genuinely interested in developing a win-win situation. Through these measures, the necessary level of trust between the community leader and the sales representative could be developed. The most frequent conflicts of interest occurred between the community leader and the members, especially in "guideline communities"[3] where aspects of patient transfers and reimbursement played important roles. In these cases, it became significant to foster a solid understanding of members' interests, anticipate potential areas of conflict, and consider member interests when developing the community concept and solutions. To develop this understanding, sales representatives visited the potential members and discussed their experiences and insights with the community leader. Often, sales representatives had to take the interests of hospital administrators, such as pharmacists and controllers, and insurance companies into account as well. All of these parties had the potential power to hinder the community-formation process and affect community-related sales growth. The community leader played a central role in identifying and involving critical stakeholders because he had knowledge of and relationships with hospital administrators, and the authority to negotiate with insurance companies. To facilitate the process, sales representatives helped the community

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[3] Guideline communities are groups of physicians who develop and implement treatment regimes according to existing published medical guidelines adapted to local needs.

leader to explore which players could potentially influence community success and created action plans outlining how the critical stakeholders could be approached.

Regarding *motivation*, the critical question was to what extent the potential community leader and members were motivated to join the community and invest time and energy in the development of shared knowledge and practices. The cases revealed that the key driver for the initial motivation was fascination for the topic and, most importantly, the realization that participation could bring a clear personal advantage. In their approach to motivate the leader, sales representatives focused on adding a direct value to the customer and used examples of other successful communities. Often they used experienced leaders from other communities to promote the community idea. In addition to "community promotion", successful cooperation during the initial months had a motivational effect. It was especially important that sales representatives demonstrated that they were ready to go out of their way to solve problems meaningful to the customer. Also, getting the community leader involved in the early development of a community concept draft often opened the customer's eyes to the opportunities of community-based collaboration. Potential community members frequently turned out to be rather skeptical at the outset of the community-formation process. To convince the members of the advantages of community-based collaboration, sales representatives visited member hospitals and focused their argumentation on aspects that would give members a clear advantage. Sales representatives used examples of other communities and provided contact information to doctors with community experience to prove that the advantages were realistic. In a few cases, the community leader joined in the visits. This measure had a strong motivational impact but was usually not possible due to the community leader's limited availability. A more common approach was to have the community leader call the members over the phone and conduct joint visits with district sales managers or key account managers.

The cases demonstrated that the major *communication*-related challenges during the planning stage were to get the community leader to promote the usage of an online collaboration portal called "mednetwork.org"[4] and to develop a solid understanding of communication needs and requirements. To get the community leader to promote the online solution, sales representatives had to make sure that he really understood the

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[4] In Critical Care Europe the collaboration portal "mednetwork.org" was developed to provide access to medical content and to support online interaction between customers. On this portal each BCC received a customized online community space with functionalities supporting knowledge capturing and sharing.

application areas and comparative advantages. To come to this understanding, they, with the community leader, assessed communication needs and created a draft of the online community space. Discussing "look and feel" aspects of the community space and demonstrating how the solution could be customized to the needs and preferences of the leader turned out to be important. Through these discussions, the community leader could develop an affinity towards the community space. In some cases, customer needs could not be met with simple online collaboration functionalities, and many sales representatives did not have the knowledge or skills to take the online system further. To overcome this shortage, the representatives established a direct contact between the leading customer and an online communication expert and jointly developed an implementation plan that clearly defined responsibilities and deadlines.

Community Initiation

In some of the investigated cases, the initiation stage revealed unexpected weaknesses in the team *composition*. Discussions during, or, as a result of, the kick-off meetings brought new parties to attention that could be involved to improve community viability. To identify new members, a decentralized approach was normally taken where the ideal profile constellation was discussed and defined by the community, and members were asked to come up with participant suggestions that matched the profiles.

The investigated cases showed that it was often challenging to find a solution that satisfied the *interests* of all parties involved and also ensured the interests of the firm. Sales representatives who had a keen understanding of member interests and potential areas of conflict were much better prepared for this endeavor. The initial months were usually filled with skepticism, so it was important to be as honest as possible regarding interests and expectations and to foster open dialogue with the members. During the kick-off meeting, the participants usually started to come up with a community concept, including a shared community vision, mission, and goals. Through this process, community participants started to realize that the community was more than just a way to optimize the current situation. As a consequence, the discussions started to shift from a mode of "protecting own interests" to "maximizing joint interests". Obviously sales representatives had a clear stake in the community. As well as developing their relationships with the community leader and the members, they wanted to increase sales. As they could not directly influence the community

discourse, they regularly talked to the community leader about the development of the community and how cooperation between the leader and the firm could be improved.

With respect to the *motivation*, the cases demonstrated that it was necessary to create enough momentum for the community to get going. During the initiation stage, sales representatives had little direct influence on the community dynamic. Their role was usually as facilitators. The main challenge was to ensure that the community leader would actively motivate the members to participate and contribute. Sales representatives helped the community leader to create a meeting context, including location and agenda, which allowed for informal interaction and relationship building. In addition, they helped to prepare the argumentation for the community and invited guest speakers to promote the community idea. During the actual meeting, sales representatives helped to moderate a constructive discussion.

During the initiation stage, the active fostering of interaction and *communication* between community participants became highly important. The major challenge was related to the introduction of the collaboration portal "mednetwork.org". The cases revealed that some customers were highly skeptical about the firm's motives to provide online support, fearing that the firm would track their activities on the portal and misuse the information for sales purposes. The major challenge was to convince participants of the honest intentions of the firm and to generate enthusiasm for the portal. It turned out to be critical to ensure that the community leader was well informed about the solution and that he was aware of his role as a motivator during the introduction. The online portal and the customized community space were usually introduced to the members during the kick-off meeting. Prior to the actual introduction, it was significant to carefully explain why the firm was offering online community support and to assure that personal customer data would not be captured. During the demonstration, sales representatives could also show that the community space allowed for different levels of privacy. As well, it was vital to emphasize that all information in the community space was under the control of the community members and that it was the property of the community. If critical doubts could be removed, the actual introduction the community space and motivation could start.

Community Sustenance

During the sustenance stage, the greatest *composition*-related challenges were participant fluctuation as a result of people moving, changing jobs, or simply losing

interest. The challenge with the potentially largest impact was the change of community leader. It was crucial that the existing leader played an active role in finding and introducing a successor. The fluctuation of members was not only a challenge but also an opportunity. For many communities, a minimum level of fluctuation was important to develop the knowledge domain and keep up the momentum. For fluctuation to work this way, the community leader had to take an active role in introducing and integrating members. Also, it was helpful when, from the beginning, the participants agreed that a certain level of fluctuation was desired and they came up with an approach to handle it. To ensure the communities continued to function despite fluctuation, it was also advantageous to rotate responsibilities and roles within the community.

Many sales representatives had to face the challenge of demonstrating continuously that member *interests* were ensured and that the participants fulfilled the agreements made during the initiation stage. To tackle the challenge, sales representatives regularly talked with community members about their interests and satisfaction, and actively advanced ways to avoid or solve conflicts of interest. In particularly crucial situations, external neutral experts were invited to provide their advice. Sales representatives also had to ensure that the community leader secured their interests. In "guideline communities", they often found out that community members did not treat the patients according to the jointly developed protocol. To overcome this challenge, sales representatives held meetings with the community leader to inform him about the situation and encourage him to ensure that the members followed the agreements. The sales representatives also organized community meetings where each member could present the way they were treating patients and discuss difficulties with the implementation of the treatment guidelines. For all participants, these meetings were an excellent opportunity to present problem cases and jointly search for solutions by sharing experiences and developing new ideas and knowledge.

During the sustenance stage, the level of *motivation* and participation started to drop in some of the investigated cases. The main challenge was to create new community momentum and reactivate single participants who had lost their drive. To deal with this challenge, sales representatives introduced new topics and speakers to the community, and sometimes even recruited new participants who were expected to spark the community engine. Sales representatives also searched for other communities that were working in a similar domain or on similar issues and organized multi-community activities to link the communities. Examples of such activities were

joint online and offline meetings and merging or connecting separate online communities. In many cases, it was also necessary to clarify and redefine the community focus, including the redefinition of the knowledge domain or the identification of new applications for the practice.

The investigated cases revealed two *communication*-related challenges to be tackled during the sustenance stage. The first challenge was to find ways to activate online communities that were losing their momentum. The second challenge was to find ways to promote community-based cooperation across community borders. To activate and reactivate online communities, sales representatives helped customers to define and agree on how to use different communication channels, particularly when it would make sense to use emails and when to use the online community space. Sales representatives also attracted community members to the community space by uploading documents and other contents. In many cases, the customer portal had not been introduced properly in the first place, making it necessary to remind the members of existing applications. To promote community experiences across community borders, sales representatives helped customers to capture community experiences and prepare presentations. In addition, sales representatives invited customers to conferences and events to speak about their community experiences, and a community advisory board was formed by a group of sales representatives. The idea of the "meta-community" was to bring together customers with experience in community building across Europe to share knowledge of community-based collaboration and advice on how the implementation of the community-based sales strategy could be fostered. In a few cases, sales representatives also supported customers in the production and publication of articles about community-based cooperation.

5.2   Relationship between Community Projects and Economic Outcome

BCC projects had a superior impact on sales development in comparison to other customer related projects. The investigation reveals that the average net community sales development (ANCSD) was positive for each month after the community kick-off. The ANSCD of all European BCCs is illustrated in the following figure.[5]

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[5] Due to the fact that the average monthly sales development in the market (MSD) was subtracted from the community sales development (CSD) when calculating the net community sales development (NCSD) for each community, the European sales development curve is flat.
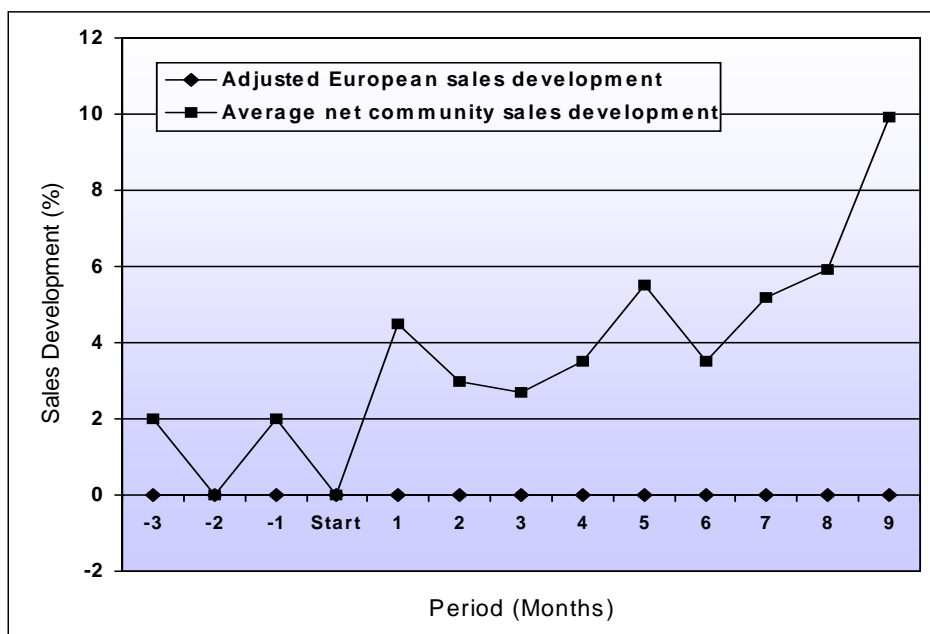
Figure 1: Average European net community sales development

The sales development of customers included in BCC initiatives was ten percent higher within nine months compared to the sales development of customers not included in such initiatives.

An additional question that was explored was whether the positive BCC project related sales development was merely a result of increased investments. The answer was discovered in a comparison of community-project-related ROI with the ROI in other customer projects. The findings demonstrated that the ROI (i.e. investment over sales, income over investment, and contribution margin) of BCC initiatives was superior to the average ROI of other customer projects executed in the same time period. The "other projects" dealt with "health economics", "continuous medical education", and "customer specific marketing". This is illustrated in the following table.

Project Type	Investment / Sales	Income / Investment	Contribution Margin
BCC Projects	2 %	17.07	42%
Other Projects	20 %	1.5	24%

Table 3: ROI comparison between projects

The findings indicated that (1) BCC projects were much cheaper than other types of projects, (2) BCC projects were more profitable, and (3) the contribution margin of

hospitals involved in community projects was twice as high compared to hospitals involved in "traditional" projects (for the calculations see Appendix).

5.3 Relationships between Community Characteristics and Economic Outcome

With respect to possible relationships between BCC characteristics and the average monthly sales development (AMSD), three explanatory variables were found to be of interest (see table 2). *First*, the one single variable with the strongest impact on AMSD was the amount of time (Time) the sales representative invested in the community. *Second*, communities led by a customer with a strong influence (CustInfl) on the members were likely to be more successful in terms of the AMSD than communities with a less influential leader. *Finally*, the investigation revealed that communities developed with a leading hospital with a market share (ShareMarket) lower than 20 percent were likely to be more successful in terms of AMSD than communities with hospitals with a market share above 20 percent.

6 Conclusions

6.1 Theoretical Implications

The case study identified several BCC-related challenges and respective solutions that are different from the ones discussed in the CBCs and PCCs literature. One of the core differences between BCCs and other Customer Community types is the role of the community leader. BCCs (as investigated in the case study) are led by customers with the support of the firm, whereas customers do not usually lead CBCs, and PCCs often do not have any explicit (or at least assigned) leaders. As a result, all the specific challenges related to cooperation with the community leader are unique to BCCs. Examples of such challenges are: (a) finding the right leader and handling changes in leadership, (b) coming to an agreement with the leader and ensuring that the leader follows it, (c) ensuring that the leader motivates members to contribute, and (d) getting the leader to promote the collaboration portal and community space.

However, differences not directly related to the role of the community leader were also identified. *First*, the participant fluctuation is a larger challenge for BCCs than for CBCs and PCCs. CBCs do not have much fluctuation due to their relatively short life span and well-defined boundaries. PCCs often have a high fluctuation of members but this is usually not a challenge due to the relatively large community size and highly fluid boundaries. *Second*, firms initiating BCCs have to consider a larger variety of

stakeholders compared to other Customer Community types because BCCs often develop practices that influence processes reaching across organizational departments and boundaries. Therefore, multiple stakeholders have the potential power to influence the success of the BCCs. *Third*, sales representatives, enabling the formation of BCCs, often have to face the challenge of settling conflicts between participants. For instance, it is critical that sales representatives actively demonstrate that members' interests are assured and react effectively in times of crisis. *Finally*, "customer knowledge capturing" is not a major reason why firms should get involved in BCCs. Contrary to CBCs, which aim to gain value from customer knowledge and experience, BCCs aim to create maximum value for selected customers to increase customer loyalty and increase sales. The case study demonstrates the importance of clearly assuring that personal customer data is not captured. As well, it is vital to emphasize that all information in the online community is under the control of the community members and is the property of the community.

6.2   Practical Implications

This investigation has demonstrated that BCC-based marketing and sales strategies have the potential to impact performance significantly. In the context of Critical Care Europe, the study demonstrated that BCC projects have a notable impact on sales and yield a considerable return on investment. The following dimensions give a possible explanation to the sales impact of BCC initiatives: community formation allows (a) sales representatives to spend more time and develop better relationships with important customers, (b) selected customers (i.e. community leaders) to influence positively the perception of the product in the community, and (c) allows sales representatives to develop relationships with customers that cannot be reached through traditional sales visits.

However, the questions remain when BCC strategies make sense, and when firms should invest in BCC initiatives. As demonstrated in the following figure, experience indicates that certain customer and firm related preconditions should be in place for BCC initiatives to become successful.
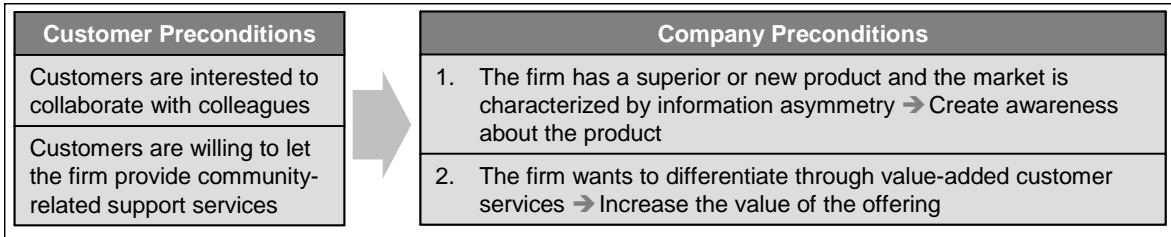
Customer Preconditions	Company Preconditions		
Customers are interested to collaborate with colleagues	1.	The firm has a superior or new product and the market is characterized by information asymmetry ➔ Create awareness about the product	
Customers are willing to let the firm provide community-related support services	2.	The firm wants to differentiate through value-added customer services ➔ Increase the value of the offering	

Figure 2: Preconditions for a community strategy

The most important precondition for a community strategy is the *interest* of business customers in collaborating with colleagues. The following figure gives some examples of what drives the level of interest.
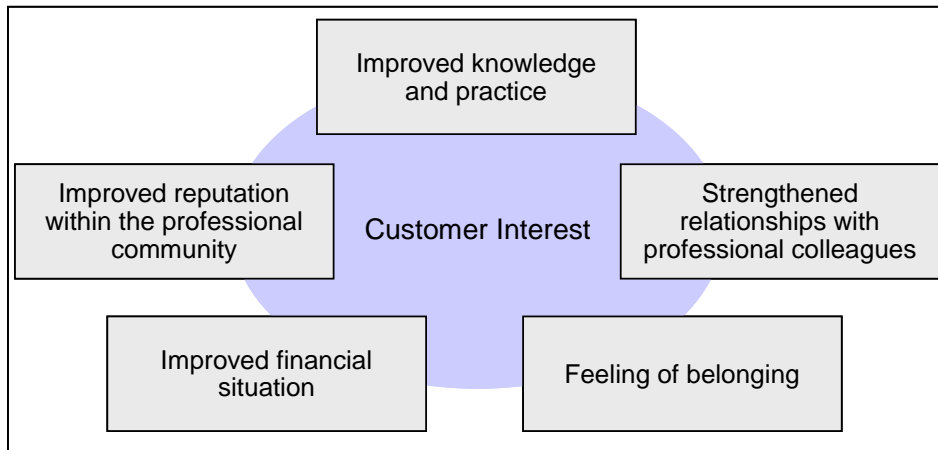

Figure 3: Drivers of customer interest

Experience has shown that the prospect of creating new knowledge, thereby improving the quality and efficiency of a practice (e.g. patient treatment), is the strongest single driver of customer interest. This has various implications for firms assessing the possibilities of community-based sales strategies. In general, business customers buying products used in a relatively *complex process*[6] (process complexity) that is of *high importance* for their work[7] (process importance) are more likely to be interested in collaborating with colleagues. Depending on the levels of process complexity and process importance, firms have four generic strategy options.

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[6] e.g. if a drug is used in a disease area characterized by complex patient diagnostic and treatment methods.

[7] e.g. if a drug is frequently used by physicians and the treatment has a high impact on patient health.

Figure 4: Customer Community strategy matrix

Product community strategy: The ideal customer-related precondition for a BCC strategy is in a situation where the product is used in a relatively complex process, which is highly important to the customers. In this case, customers are likely to be interested in engaging in long-term knowledge exchange with colleagues in a product-related domain. Faced with this situation, firms can try to motivate customers to form communities around product-related knowledge domains.

Interest community strategy: When the product is used in a process that is important for the customers but of a relatively low complexity, the need for product-specific continuous knowledge exchange is likely to be moderate. In this case, the firm can provide community support to groups of customers who have a specific area of interest more broadly related to the process (e.g. a new treatment method). The result of such a strategy might be a large variety of different community types with relatively product-independent knowledge domains. The particular challenge of this strategy is to create a perceived link between community support services and the product.

Information transaction strategy: If the product is used in a relatively complex process that is of low importance, customers will hardly get engaged in continuous community activities but might be interested in getting quick access to well-prepared information. In this case, the firm can develop a knowledge transaction strategy based on call center and online portal services.

When enough customers are interested in collaborating with colleagues and are willing to let the firm provide community support services, the question arises whether a BCC

strategy makes sense from a firm perspective. In general, there are two major situations where a BCC strategy could be considered.

First, the firm has a superior or new product and the market is characterized by information asymmetry. The asymmetry is usually the result of a relatively high product complexity and is characterized by the fact that some customers are much better informed about the product and its advantages than others. A firm with a superior product has the opportunity to select "informed" customers and support them in the formation of communities with colleagues. Through the knowledge exchange within the community, information symmetry can be established and awareness about the product's superiority can be increased. When a firm introduces a new product to the market, substantial marketing efforts are undertaken to diffuse product-related information in the market. The efficiency of such efforts is, however, decreasing as a result of marketing overload.[8] A firm faced with this situation has the opportunity to build awareness of the product among targeted customers through BCCs.

Second, the firm needs to differentiate through value-added services; often the case when the product is relatively high priced, and is reaching the peak of its life cycle. Faced with this situation, the firm has a chance to increase the value of the customer offering by introducing community support services to its most important customers. Ultimately, these services allow customers to become more knowledgeable in a domain of importance and to develop the capacity to act more successfully.[9]

To summarize, Critical Care Europe enabled highly influential customer to form BCCs that increased the knowledge of the customers and had a positive impact on the economic outcome of the organization. Firms with superior and complex products in markets characterized by information asymmetry should consider developing their sales approach from a focus on "information transaction to customers" to "enabling knowledge sharing between customers". They should enable their important customers, interested in collaborating with colleagues, to form BCCs.

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[8] Discussions with physicians revealed that most of the direct mailings sent out by pharmaceutical companies are filtered by the hospital secretary and often do not reach the target person.
[9] The relevance of this differentiation is increasing for European hospitals.

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Appendix: Variables and Operationalization

To explore possible relationships between community projects, community characteristics, and economic outcome the following dimensions were calculated: (1) average net community sales development (ANCSD) of all BCCs, (2) ROI of all BCC initiatives, and (3) average monthly sales development (AMSD). The abbreviations used for the formulas are illustrated in the following table.

CS	= Community Sales (absolute)
CSD	= Community Sales Development (relative)
CSI	= Community Sales Increase (absolute)
TCSI	= Total Community Sales Increase (absolute)
MSD	= Market Sales Development (relative)
NCSD	= Net Community Sales Development (relative)
ANCSD	= Average Net Community Sales Development (relative – 1 month average for all communities)
TI	= Total Investments (absolute)
IT	= Time Investment (absolute)
IF	= Financial Investment (absolute)
TCI	= Total community income (absolute)
ROI	= Return on Investment (relative)
AMSD	= Average Monthly (Net Community) Sales Development (relative – n months average for 1 community)
n	= Number of months since kick-off
x	= Total number of communities

<u>Calculation of ANSD</u>

The average net community sales development (ANCSD) was calculated as follows:

- Calculation of monthly community sales $(CS1_M)$[10] starting three months before kick-off $(CS1_{M-3}, …, CS1_{Mn})$

- Calculation of monthly (e.g. month M3) community sales development $(CSD1_{M3})$ by comparing community sales in a given month $(CS1_{M3})$ with community sales at kick-off $(CS1_{M0})$

    Equation 1: $CSD1_{M3} = (CS1_{M3} - CS1_{M0}) / CS1_{M0}$

- Calculation of net monthly community sales development $(NCSD1_{M3})$ by subtracting the average monthly sales development in the market where the community resides $(MSD1_{M3})$[11] from the monthly community sales development

    Equation 2: $NCSD1_{M3} = CSD1_{M3} - MSD1_{M3}$

- Calculation of the total average net monthly community sales development $(ANCSD_{M3})$ by adding up the net monthly community sales developments of all communities and dividing the result by the number of communities (x)

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[10] A rolling 12 months average was used in order to reduce the distortion of ordering patterns.
[11] $MSD1_{M3} = (MS1_{M3} - MS1_{M0}) / MS1_{M0}$

$$\text{Equation 3: } ANCSD_{M3} = (NCSD1_{M3} + NCSD2_{M3} + NCSD3_{M3} + \ldots + NCSDX_{M3}) / x$$

The ANCSD was calculated for each month starting at M_{-3}. In order to avoid any distortion, communities including customers with whom the case firm had other substantial projects and initiatives (i.e. investments > 10 000 USD) running in parallel were excluded.

<u>Calculation of ROI</u>

Assuming that BCC enabling has a significant impact on sales, the question remains if it makes sense to invest in such initiatives. Some might argue that the ANCSD is not a result of the unique approach per se, but simply a result of increased investments in the particular customers involved in BCCs. Consequently, not only the ANCSD is of importance but also the return on investment (ROI). Of particular interest is the ROI of BCC projects compared to the ROI of other customer projects and initiatives. To do the comparison, three different measurements were calculated:[12] (1) investment over sales, (2) income over investment, and (3) contribution margin. The BCC-related ROI was calculated according to the following steps.

- Calculation of absolute yearly community sales increase for each community $(CSI1_Y)$[13]

    $$\text{Equation 4: } CSI1_Y = 12 * ((CS1_{Mn} - CS1_{M0}) / n)$$

- Calculation of total yearly community sales increase $(TCSI_Y)$ by adding up the absolute yearly sales increases of all communities

    $$\text{Equation 5: } TCSI_Y = CSI1_Y + CSI2_Y + CSI3_Y + \ldots + CSIX_Y$$

- Calculation of total yearly investments in each community $(TI1_Y)$ taking both total time investment (IT1 = number of SR days invested * daily salary) and total direct financial investments (IF1) into account

    $$\text{Equation 6: } TI1_Y = (12 / n) * (IT1 + IF1)$$

- Calculation of total yearly community investments (TI_Y) by adding up total investments of all communities

    $$\text{Equation 7: } TI_Y = TI1_Y + TI2_Y + TI3_Y + \ldots + TIX_Y$$

- Calculation of total yearly community income (TCIY) by subtracting 56 percent (contribution to the corporation) and the total yearly community investment (TIY) from the total yearly community sales increase

    $$\text{Equation 8: } TCI_Y = TCSI_Y * 0.44 - TI_Y$$

- Calculation of ROI

    $$\text{Equation 9: Investment over sales} = TI_Y / TCSI_Y$$

    $$\text{Equation 10: Income over investment} = TCI_Y / TI_Y$$

    $$\text{Equation 11: Contribution margin} = (TCI_Y / TI_Y) / TCSI_Y$$

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[12] These are widely used ROI calculations within the pharmaceutical industry.
[13] The yearly average is calculated to be able to compare different projects on a yearly basis.

To compare community projects with other types of projects, the same calculations were conducted for projects in Health Economics, Continuous Medical Education, and Marketing. The calculation of project- and customer-based ROI was a novelty within the case firm, so a comprehensive comparison with all other projects could not be conducted.