



Developmental approaches to B2B virtual communities

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ABSTRACT

This paper analyses the development approaches of four business-to-business (B2B) virtual communities (VCs) and compares them through use of a cross-case analysis. The study indicated that there is no “one size fits all” method for developing VCs and that a structured, rigorous development methodology based on academic research is required in order to successfully create and manage VCs. It also found that the main challenge in creating successful VCs is not that of developing them, but that of developing an engagement and contribution culture.

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1. Introduction

This paper analyses a number of developmental approaches to business-to-business (B2B) virtual community (VC) development. Consequently, it identifies and evaluates different methods of development by studying four such VCs and comparing them through use of a cross case analysis.

A VC is a community of people with a common interest but not necessarily a common geographic location (Sands, 2003). In their most basic form, VCs are websites that allow their users to interact with each other using tools such as discussion forums, weblogs (or ‘blogs’), real-time chat and trading areas. VCs effectively allow the exchange of vast amounts of information between users scattered globally. Case et al. (2001) make the distinction between a VC and a traditional community (i.e. a location where people with similar interests can share experiences, ask questions and collaborate)—members of a given profession can join a ‘physical’ community bringing with them a large amount of critical information, knowledge and experience, which they share only occasionally at events such as conferences. VCs, on the other hand, overcome this minimal interaction by connecting geographically disparate groups in real time, through an online environment. This allows them to share knowledge and information with speed, but with little expense. According to Wu and Fang (2010), such interaction has been credited with the ability to create value by activities such as idea generation resulting from consumer interaction within VCs. Like traditional communities, VCs also act as a repository of information for their

members, but they can store a much larger amount of important data (Case et al., 2001). The data stored within the VC is also far more accessible, with members using sophisticated search engines to identify their exact topic of interest. Another advantage for VC members is access to opinion leaders and industry experts with a mouse click with whom they would otherwise never have contact.

Ardichvili et al. (2003) suggest that VCs are fast becoming the tool of choice for knowledge management professionals in multinational corporations such as Hewlett Packard, British Petroleum, Chevron, Ford, Xerox, Raytheon, IBM and Shell. Their study of VCs within Caterpillar found that the company had more than 600 such VCs with more than 15,000 members worldwide.

Despite the proliferation of VCs in international business organisations, there is still little known about factors that lead to their success or failure. Little is also known about the vast number of different methods of development available to community managers. A historical analysis of VCs was produced by Kubicek and Wagner (2002) who provide an insight as to how these networks evolved over time with varying technology infrastructures. Their analysis concluded that a standard design or development methodology for VCs does not exist. Because of this, Harrison and Zappen (2005) believe that each VC can be seen as “an experiment in accommodating the tensions between access to hardware/software infrastructure, design of the particular application or system, user needs, and the initiating and ongoing resources that support these efforts”. Wenger et al. (2005) state that there is no “perfect” technology configuration for VCs, believing that the choice of technology changes from community to community over time, further complicating the situation.

This paper presents the findings of four case studies of VC development and compares them through use of a cross case analysis. The paper first introduces a literature review of VCs, before detailing the study’s research questions and aim. The methodology of the study, including summaries of the four case studies, will then be introduced. Finally, results from the analysis

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of the four case studies will be presented in the discussion and analysis section, before the study conclusions are detailed.

2. Literature review

VCs are developed from the more established concept of communities of practice (CoP). A CoP is a group of people that share a passion for something they specialise in and who interact on a regular basis in order to learn how to do it better (Wenger, 2004). CoPs improve the performance of their members, by allowing them to share the experience or advice of other members (Wenger, 2004). The main driver behind CoPs is that people learn more when they engage and share knowledge with others than they do when attempting to learn alone (Campbell and Uys, 2007). With the proliferation of advances in technology, practitioners began examining the ability of ICT to enhance these offline CoPs through use of VCs, and the number of VCs created to support offline CoPs grew progressively.

Most VCs are self-organising, as they are made up of individuals who voluntarily choose to participate, with participation being open to all members interested in the shared practice the VC supports (Wasko and Faraj, 2005). Many VCs occur outside organisations, although companies such as Proctor and Gamble, Hewlett Packard, Sun, Ford, IBM and Shell have embraced the idea on an organisational level (Williams and Cothrel, 2000; Michaelides and Kehoe, 2007). Chiu et al. (2006) highlight the importance of VCs in terms of knowledge management, stating that knowledge is a valuable resource for competitive advantage due to it representing intangible assets that are difficult to imitate. It is widely accepted that most organisations do not have access to all the knowledge they require and, as such, must rely on links to outside organisations (and individuals) to acquire this knowledge. VCs offer one such way to create these external links, as they support knowledge exchange between geographically dispersed co-workers. VCs can therefore be seen as a tool to support open innovation principles within an organisation.

2.1. Open innovation

Open innovation is a relatively new concept that challenges the way firms view their internal research and development (R&D). According to Huizingh (2011) open innovation is not a clear cut concept, as it manifests in different forms. In the early twentieth century, internal R&D was seen as a strategic asset and a barrier to entry in many industries, with research based companies such as IBM, GE and AT&T conducting the mass of the R&D, and earning the majority of the profits in the process (Chesbrough, 2003a). Rivals needed to invest in their own R&D labs and employ the most talented researchers and engineers in order to outperform their competitors (van de Vrandea et al., 2009). Once a stream of new, innovative ideas was created, these firms had to defend their intellectual property (IP) against its use by competitors (Dahlander and Gann, 2007), resulting in many useful innovations being 'left on the shelf' if they could not be used by the company to stop competitors gaining any sort of advantage. This model has been coined the 'closed innovation' paradigm of the early 20th century.

Although this method of innovation had originally proved successful, Chesbrough (2003b) notes that several factors occurring in the latter years of the century began to undermine the closed innovation paradigm. Firstly, highly skilled people who left a company after many years of loyal service took a large amount of their hard-earned knowledge with them to their new employer, with the previous employer not receiving any sort of compensation for the training. Secondly, private venture capital investments

became more popular, creating new, valuable firms that could commercialise external research. As a result of these two factors, people started to realise that there was a second, outside path to market for many of the ideas that were currently left on the shelf at these large R&D companies. The very ideas that the market leaders discovered through their R&D processes were now being used against them as these new firms competed for industry leadership.

Chesbrough (2003a) coins this paradigm shift as 'open innovation' and argues that "open innovation is a paradigm that assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as firms look to advance their technology".

Within the open innovation process, ideas can still originate from inside the firm; however some of these ideas can seep out of the firm at either the research stage or the development stage. When these ideas leave the firm, a start-up company is formed, often staffed with some of the company's own personnel (Chesbrough, 2003b). Other leakage mechanisms include external licensing as well as departing employees setting up their own start-up company. The open innovation paradigm also allows for ideas to be generated from outside the firm and then researched and developed within the firm. The firm's boundaries are therefore more porous as opposed to the solid boundaries of closed innovation firms.

Innovation is becoming more global in nature, with an increased global dispersion and firms can therefore not innovate in isolation (Dahlander and Gann, 2007). It is well known that technology assists in integrating internal and external inputs to innovation (Dodgson et al., 2006). The proliferation of the Internet in particular has allowed companies access to a vast amount of scientific and commercial knowledge that was less available (both in terms of cost and time) as recently as the early 1990s (Kafourous, 2006). Bjork and Magnusson (2009) highlight the use of social networks and communities of practice in generating and acquiring new knowledge as well as increasing learning within the organisation. Furthermore, Kohler et al. (2009) found that virtual interactions add value in different stages of the 'real-life' innovation process and Mention (2011) believes that this form of co-operation between parties increases the likelihood that innovations will occur. All of these profess the importance of VCs to empower the open innovation approach.

2.2. Participation in VCs

VCs are rather dissimilar to their social network counterparts (such as MySpace, Facebook and Bebo) in that member participation in social networks is due to the increased social nature of interactions, and as such members of these networks require little motivation to participate (Adebanjo and Michaelides, 2010). In contrast, members of VCs generally require a substantial increase in stimulation in order to collaborate. This is generally due to a number of barriers potential members need to overcome before contributing to the community.

A major barrier for members is fear that their contribution is not relevant or a feeling that they do not have the correct level of expertise in order to post a relevant contribution (Williams and Cothrel, 2000). Similar to reasons of non-contribution in face-to-face communities, large egos within a VC can disrupt conversations, with personal attacks on members' contributions destroying participation all together (Wasko and Faraj, 2000). This is supported by Ardichvili et al. (2003) who found that many Caterpillar employees feared possible criticism or ridicule should their contributions be viewed as unimportant to the discussion. It was also discovered that new employees felt intimidated about posting as they believed they have not yet "earned the right" to post to a company-wide system.

The size of the VC can also become a barrier—a large number of members leads to a large number of contributions, making it a difficult and time consuming process to find information that is

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