



## New knowledge creation through leadership-based strategic community—a case of new product development in IT and multimedia business fields

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### Abstract

This paper provides new practical viewpoints in knowledge management and leadership theory of project management through an in-depth case study. It is argued that community leaders, particularly business community leaders, must recognize that a strategic business community comprises of diverse types of business and processes needed to achieve continuous business innovation. The community leaders serve an important function in creating a networked strategic communities (SCs).

The innovation of a telemedicine system in the field of veterinary medicine in Japan is taken as a case study. Here it is shown how a networked SCs of business and customers has been used to develop a new Integrated Video Transmission System using IT and multimedia technology. In particular, it shows how community leaders have created networked SCs in which the university, hospitals, private businesses and non-profit organizations have worked together to advance virtual networking in the field of veterinary medicine.

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### 1. Networks of strategic communities

Rapid progress in information and multimedia technologies is leading the way for gradual innovation in diverse areas including society, economy and industry. Ever increasing acceptance and use of Internet, Intranet and Extranet is generating flatter corporations with novel and improved communications platforms as well as creating new-business model, for inter-corporation transactions as championed by e-commerce. The Internet platform is poised to significantly change work practices and process in corporate settings in supporting the lifestyle of individuals in their day-to-day living. Furthermore, it is stimulating the proliferation of small offices and home offices (SOHOs). New business styles based on such concepts as virtual teams and virtual community are representative of such a trend. (cf. Bechard et al., 1996; Lipnack and Stamps, 1997).

Amid such a change of the times, the advent of the new 21st century networking generations will usher in major changes in individual's value systems, especially as they relate to living and working. At the same time, it is anticipated that increasing importance will accrue in the years to come to the manner of existence of, and new ways

of thinking about, the 'communities' represented by corporate entities and non-profit organizations, which constitute massive aggregates of individuals. In corporate settings, in particular, the knowledge management method, refined through rapid information technology sophistication, is being adopted to address internal particulars, bringing on structural renewals in affected areas (Hesselbein et al., 1998). But the important point here is that, no matter how information technology is taken in for business-handling innovation, a corporation's strategic behavior most importantly depends upon innovation of the value systems of the individuals concerned and of the knowledge accumulated by them. Leadership generative of business innovation on a continuous basis that strategically taps the knowledge of extra-corporate human resources including the customers will become important.

Toward such an end, it becomes most important for leaders of corporations to aggressively create strategic communities (SCs) tapping on their own organizations' as well as outside contacts, including customers, in leading positions for use in innovating their own in-house core knowledge while at the same time creating new values and offering them to their customers (Kodama, 2001, 2003).

SC is based on the concept of 'ba' as a shared space for emerging relationships that serves as a foundation for

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knowledge creation (Nonaka and Konno, 1998). *ba* is an interaction space involving language and communication. Knowledge is created through the interactions among individuals or between individuals and their environment. Participating in a *ba* means transcending one's own limited perspective or boundary and contributing to a dynamic process of knowledge creation. In an SC, members including customers who possess different values and knowledge consciously and strategically create a *ba* in a shared context that is always changing. They continually create new knowledge and competencies as a new *ba* by merging and integrating a single *ba* or multiple numbers of *ba* both organically and from multiple points of view.

In this paper, I define SC as both emergent and strategic, a collaborative, inter-organizational relationship that is negotiated and associated with creative yet strategic thinking and action in an ongoing communicative and collaborative process or involves several arrangements (e.g. strategic alliances, joint ventures, consortia, associations, and roundtables), which neither depends on market nor hierarchical mechanisms of control (Heide, 1994; Lawrence et al., 1999). From the practical aspect, I see the SC as an informal strategic organization possessing qualities with both a resource-based (or knowledge-based) view (Mintzberg et al., 1998) and a strategic view (Porter, 1980). The resource-based view is an emergent, learning view of the community in a shared context, while the strategic view is a planning view that aims to establish a desired position in the target market.

SC is applied, for instance, in cases where enterprises are in a management environment beset by numerous uncertainties, where predictions are difficult, and management is searching for valid strategies. The task of SC is to emergently and strategically form and implement concrete business concepts and ideas. Trial and error such as incubation is necessary, however, and SC takes the stance that a strategy will emerge from among the collaborative actions. For the most part, middle management is at the center of the SC. They form informal and virtual teams both inside and outside the company, including customers, and actively generate emergent, entrepreneurial strategies and create new knowledge. They then produce new demand that did not exist before which in turn results in the emergence of a new technology and market (Kodama, 2003).

On the other hand, the acquisition of resources and transfer of knowledge between strategic partners is different from the creation of new knowledge. Knowledge creation occurs in the context of a community that is fluid and evolving rather than tightly bound or static. The canonical formal organization, with its bureaucratic rigidities, is a poor vehicle for learning. Sources of innovation do not reside exclusively inside firms but between them.

Accordingly, knowledge creation is an extremely important issue that sees knowledge as a property of communities of practice (Brown and Duguid, 1991), *ba* (Nonaka and Konno, 1998), communities of creation (Sawhney and Prandelli, 2000), SC (Kodama, 2001, 2003; Storck and Patricia, 2000),

and networks of collaborating organizations (Powell and Brantley, 1992), rather than as a resource that can be generated and possessed by individuals. When the knowledge base of an industry is both complex and expending, and the sources of expertise are broadly dispersed, the locus of innovation will be found in networks of inter-organizational learning rather than in individual organizations (Powell et al., 1996). Connection through the networks of SC based on the inter-organizational collaborative relationships is thus an important origin of knowledge creation, and new knowledge grows out of the sort of ongoing social interaction that occurs in ongoing collaboration between SCs.

In this paper, I describe the development process in a big project in Japan that occurred over the past 6 years. This paper focuses on new knowledge creation process by synthesizing capability (Nonaka and Toyama, 2002) through dialectical leadership in the networked SCs. An example of the establishment of networked SCs is the business case of innovation of a telemedicine system in the field of veterinary medicine in Japan that makes use of information and multimedia technologies.

The innovation of a telemedicine system in the field of veterinary medicine in Japan is taken as a case study. Here a networked SCs of business and customers developed new systems using IT and multimedia technology. It shows how community leaders have created networked SCs in which the university, hospitals, private businesses and non-profit organizations take part in the advancement of virtual networking in the field of veterinary medicine.

The case examines how the network of SCs involving the university, hospitals, the private sector and non-profit organization implemented the new product development to create the world's first ever multimedia veterinary telemedicine system and the impact that the created networked has had on medical field from the standpoint of new knowledge creation process through the synthesis of various knowledge within the networked SCs.

In this in-depth case study, our analysis of knowledge creation focuses on the degree and process to which the networks of the SCs created new knowledge based on new technologies, social needs, customer needs and the various contents that were diffused beyond the boundaries of the SCs. The case is further analyzed from two standpoints described below.

The first angle analyzes the characteristics of SC networks that became the trigger causing the synthesis of knowledge diffused from the boundaries of individual SCs that were distributed from the three elements of their involvement in collaboration (DiMaggio and Powell, 1983), embeddedness in collaboration (Granovetter, 1985; Dacin et al., 1999) and resonance of values (Kodama, 2001) at which the SCs were formed.

The second angle discusses the synthesizing capability through dialectical leadership that the leadership-based SC comprising community leaders within networked SCs uses to dialectically synthesize the different knowledge of SCs

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