

Coopetition

Claudia Loebbecke

Department of Media Management, University of Cologne, Germany

Albert Angehrn

Centre for Advanced Learning Technologies (CALT), INSEAD, France

INTRODUCTION

Behind the emerging digital façade, companies have started to operate in a distributed fashion. The intricate connectivity among these firms implies the exchange of valuable resources like knowledge and information. Such cooperation or collaboration is what enables organizations and individuals to make decisions collectively, learn from one another, communicate effectively, and thus create knowledge (Brown & Duguid, 1991; Huber, 1991; McDonald, 1995; von Krogh & Roos, 1995).

However, cooperating organizations often simultaneously compete (coopetition). While reciprocal knowledge sharing may enhance the total and individual added value, inter-firm knowledge sharing may also affect the uniqueness and thus competitive contribution of a firm's knowledge repository. Opportunistic behavior of counterparts may erode anticipated benefits of cooperation and result in unevenly distributed value.

The inherent balancing act between cooperation and competition requires designing and implementing specific management processes to enable economic value maximization for participating individuals and firms. The value-driven balancing act is becoming increasingly relevant in business practice.

This article introduces the scientific literature on Knowledge Management Under Coopetition and then describes the concept of Coopetitive Learning and Knowledge Exchange Networks (CoLKENS), their components, and their generic structure. It reviews CoLKEN fundamentals and components, and suggests a CoLKEN taxonomy. Key research questions are followed by generalized key insights from studying CoLKENS as the setting for Knowledge Management Under Coopetition. The article then examines the levers for managing CoLKENS, and closes with future trends and brief conclusions.

BACKGROUND

The following literature review provides broad definitions and discussions relevant to knowledge management under coopetition.

Fundamental Components of Knowledge Management Under Coopetition

Knowledge is a complex concept and difficult to define, and when seen from a management perspective, it exhibits unique properties that are distinctly different from the ones of traditional corporate resources, such as land, labor, and capital. Intellectual resources are not naturally scarce (Suchmann, 1989); knowledge may increase in value the more it is used, with investment in knowledge and knowledge-creating capabilities characterized by increasing returns (Teece, 1998). These properties tend to make knowledge less amenable to management (Polanyi, 1966; Hedlund, 1994; Nonaka, 1994; Boisot, 1995).

Who are appropriate knowledge agents for Knowledge Management Under Coopetition? Who is intellectually capable, the organization or its individual employees? Does knowledge reside at individual and organizational levels? Among others, Drucker (1993) and Grant (1996) stress the predominant importance of individuals. Others (Nonaka & Takeuchi, 1995; Spender, 1996; Boisot, 1998; Lane & Lubatkin, 1998; Matusik & Hill, 1998; Crossan, Lane, & White, 1999; Inkpen, 2000) consider organizational cognition or organizations as cognitive entities a suitable unit of analysis. In the organization science literature, organizational learning is a central tenet (Huber, 1991; Simon, 1991; Argyris & Schön, 1996) and is believed to lead to competitive advantage (Senge, 1990; Moingeon & Edmondson, 1996). It is closely intertwined with inter-organizational learning (e.g., Larsson, Bengtsson, Henriksson, & Sparks, 1998), as the learning entities in both concepts positively affect each other (Doz & Hamel, 1998; Child, 2001; Holmquist, 2003).

Knowledge networks are commonly defined as formally set up mechanisms, structures, and behavioral patterns that connect knowledge agents who were not previously connected because of functional, hierarchical, or legal boundaries between organizations. Inter-organizational knowledge networks (e.g., Mowery, Oxley, & Silverman, 1996; Klein, 1996) provide the setting for Knowledge Management Under Coopetition.

Theoretical Underpinnings of Knowledge Management Under Coopetition

The “resource-based view of the firm,” along with its conceptual predecessor, the “industrial organization view,” and its extension, the “knowledge-based view of the firm,” have shed light on the question of why firms cooperate to learn from one another, share capabilities and knowledge, while—at the same time—manage knowledge as a valuable resource in the competitive environment.

Until the 1980s, competitive thinking—reflected in the “industrial organization view”—has generally been seen focusing on companies’ environments (e.g., Porter, 1980; Spender, 1996; Teece, Pisano, & Shuen, 1997). As such, it stands for an outward focus. Since the mid-1980s, the so-called “resource-based approach” (Wernerfelt, 1984; Rumelt, 1987; Prahalad & Hamel, 1990) has partially built on Penrose’s conception of the firm as a “collection of productive resources, both human and material” (Penrose, 1959, p. 31). The resource-based approach builds on two basic assumptions: (a) the firm’s ultimate objective is to achieve sustained, above normal returns; and (b) a set of resources and their combination transformed into competencies and capabilities are a precondition for sustained superior returns (Rugman & Verbeke, 2002). These resources are to be firm-specific (i.e., imperfectly mobile), valuable to customers, non-substitutable, difficult to imitate, and differently available to firms. Companies are seen as heterogeneous with respect to their resource and capability endowments (Teece et al., 1997). Assets such as knowledge are not readily tradable; they cannot equilibrate through factor input markets. Hence, critical resources can typically not be acquired via the market and consequently need to be developed internally. Competitive advantage is associated primarily with heterogeneous resource endowments of firms (Wernerfelt, 1984; Prahalad & Hamel, 1990; Hamel, 1991; Barney, 1991).

Recent extensions of the knowledge-based perspective (Grant, 1996) are centered around its application to a “network of firms,” rather than an individual firm (Hamel, 1991; Prahalad & Ramaswamy, 2000; Dyer & Nobeoka, 2000; Gulati, Nohria, & Zaheer, 2000; Doz, Santos, & Williamson, 2001; Grant & Baden-Fuller, 2004). As developed in the “relational view of the firm,” firms ought to look at inter-organizational networks as a source of sustainable competitive advantage (Liebeskind, Olivier, Zucker, & Brewer, 1996; Powell, Kogut, & Smith-Doerr, 1996; Powell, 1998; Dyer & Singh, 1998).

Different scholars hold different views on what criteria need to be applied to differentiate critical from non-critical resources. Barney (1991) proposes “value cre-

ation for the company,” “rarity compared to competition,” “imitability,” and “substitutability.” Prahalad and Hamel (1990) distinguish “core competencies” from “non-core competencies” by outlining core competencies as being suitable for application in many different markets, creating a significant contribution to customer value, and being difficult for competitors to imitate.

To specify resources that accommodate these criteria is equally controversial (Priem & Butler, 2001a, 2001b; Rugman & Verbeke, 2002). The literature offers a plethora of phrases such as “firm resources” (Barney, 1991, 2001), “invisible assets” (Itami, 1987), or “dynamic capabilities” (Teece et al., 1997).

Roos and Roos (1996) or Drucker (1993) proclaim that knowledge, whether referred to as invisible assets (Itami, 1987), absorptive capacity (Cohen & Levinthal, 1990), core competencies (Prahalad & Hamel, 1990), core capabilities (Kogut & Zander, 1996), or organizational knowledge (Nonaka & Takeuchi, 1995), can be seen as the only—or at least an important resource—that fulfils the foregoing criteria. Teece (1998) even argues that the essence of a firm is its ability to create, transfer, assemble, integrate, and exploit knowledge assets.

These lines of thought match the traditional analysis that both Ricardian and monopoly rent theorists derive in large part from intangible assets, with organizational learning and knowledge being among the most crucial ones (Penrose, 1959; Liebeskind, 1996; McGaughey, 2002). By stressing the outstanding importance of knowledge, they have given birth to the knowledge-based perspective as a special form of the resource-based one.

COOPETITIVE LEARNING AND KNOWLEDGE EXCHANGE NETWORKS (CoLKENS) AS THE SETTING FOR KNOWLEDGE MANAGEMENT UNDER COOPETITION

As outlined above, knowledge management has been increasingly considered as a key managerial function necessary for achieving competitive advantage (Tsang, 2002). Economic thinking leaves no doubt that scarcity is a precondition for property and thus commercial value of any resource. Consequently, it puts a question mark on generously sharing knowledge in an economic context. Thus, inter-organizational knowledge-sharing processes revolve around a formidable balancing act between borrowing knowledge assets from partners, while protecting one’s own assets (Loebbecke, van Fenema, & Powell, 1999). The challenge is to share enough skills to learn and create advantage vis-à-vis companies outside the net-

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