

The role of intrafirm coopetition in knowledge creation and innovation process

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This is a Author's accepted manuscript (AAM) version of a publication
published by Routledge
in Coopetition Strategy - Theory, Experiments and Cases

DOI:

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Please cite the publication as follows:

Ritala, P., Välimäki, K., Blomqvist, K., Henttonen, K. (2009) The role of intrafirm coopetition in knowledge creation and innovation process. In: Coopetition Strategy - Theory, Experiments and Cases. Routledge.

**This is a parallel published version of an original publication.
This version can differ from the original published article.**

4. INTRAFIRM COOPETITION, KNOWLEDGE CREATION AND ORGANIZATIONAL INNOVATIVENESS¹

Abstract

Coopetition (simultaneous competition and cooperation) has mainly been researched in the inter-firm context. However, there is only a scant literature addressing cooperation in intra-firm context and actually no studies linking cooperation to the knowledge creation process for innovation. Hence, the main question of our study is: what role does intra-firm cooperation play in the different phases of the knowledge creation process in innovation? To answer this question, we suggest a framework and a process model which describes the role competition and cooperation, and furthermore illustrates where these contradictory tensions are connected by unique logic of cooperation in the knowledge creation process for innovations.

Keywords: intrafirm cooperation, competition, cooperation, knowledge creation, innovation process.

¹ An earlier version of this paper was presented at the EIASM Workshop on Coopetition Strategy: Towards a New Kind of Interfirm Dynamics? in Catania, Italy, September 16–17, 2004. The authors would like to thank the participants and commentators for their suggestions. They are also grateful to Enzo Pisano from the University of Catania, and particularly to Professor Giovanni Dagnino Battista, Elena Rocco and two anonymous reviewers, for their insightful comments.

1. INTRODUCTION

Coopetition (i.e. simultaneous competition and cooperation) has emerged as a new phenomenon in both research and practice. After its initial introduction in research (Brandenburger, Nalebuff, 1996), coopetition has been a subject to an increasing scientific interest (see, e.g. a recent special issue on coopetition in *Int. Studies of Mgt. & Org.*, vol. 37, no. 2). After its introduction, coopetition has been studied as an *interfirm* phenomenon with only few exceptions (Tsai 2002, Luo 2004, 2005; Luo et al. 2006). In general, coopetition can be described as a situation where cooperation and competition co-exist in the same relationship. It is evident that this kind of co-existence can take place in interfirm context, but also in many contexts *inside an organization*, such as interpersonal, intergroup, interunit, and interdepartmental, for example. Thus, according to an extensive literature review on coopetition, Walley (2007) suggests that intrafirm coopetition could be an important avenue for further research. In the existing literature, intrafirm coopetition has been said to enhance customer and financial performance and innovativeness, which is mainly a result from knowledge sharing and the consequent learning between firm's units (Luo et al., 2006, Luo, 2004, 2005; Tsai, 2002). However, it remains quite unclear *how and by which processes* coopetition inside a firm actually translates into increased performance and innovation.

We suggest that our investigation on the knowledge creation processes in relation to innovation process may provide further insights on the phenomena of coopetition in intrafirm context. Thus, we describe a situation where firm's competitive advantage is tied to its ability to innovate better and faster than other firms (see e.g. Teece et al., 1997). Indeed, both cooperation and competition have been recognized as sources of organizational innovativeness. The current literature on knowledge creation and innovation strongly emphasizes cooperation as an enabling mechanism (e.g. Nonaka, d Takeuchi 1995; Inkpen 1996; Miles et al. 2000, Blomqvist, Levy 2006). In addition, the role of competition has also been recognized as a critical issue in organizational innovation (e.g., Birkinshaw 2001; Kusunoki 2004). Consequently, in order to create new knowledge and innovate, organizations need to utilize both competition and cooperation in their innovation processes. However, the extant literature has not yet

addressed how the co-existence of cooperation and competition (coopetition) affects the innovation process of a firm. Consequently, our research question is: *What role does intrafirm competition play in the different phases of the knowledge creation process for innovations?*

We focus on coopetition between innovation projects, which can be called “horizontal coopetition”. The focus is on knowledge creation processes aiming at innovations that are competing for their realization in the end markets and for the resources of the company, but also cooperate in order to benefit the firm and its overall innovativeness. Thus, we also contribute to the earlier literature by focusing on horizontal coopetition in intrafirm context, and not only to differentialized departments that compete for firm’s resources (as in Luo 2005; Luo et al., 2006).

In the following chapters we first discuss the theoretical basis of this paper. Thereafter we address the logics and differences between cooperation, competition and coopetition. The third chapter provides the description of a process model for intrafirm coopetition and this is followed by discussion and conclusions.

2. THE KNOWLEDGE-BASED FIRM AND INNOVATION

The very essence in *knowledge-based approaches of a firm* is their interest in the complex nature of knowledge (explicit, tacit, socially constructed etc.) as an important determinant in understanding firm organization and behaviour (Foss, 2005; Grant 1996; Spender 1996, Teece et al. 1997). Knowledge can be seen as “*a dynamic and tentative combination of data, meaning, and the ability to generate proficient practice*” (Spender, Marr, 2004). Due to the complex nature of knowledge we need to understand not only the nature of knowledge, but also closely related individual and organizational aspects containing also the emotional, moral and social elements (Spender, 2003; Spender, Scherer 2007) Integration and coordination of knowledge embedded in specialized individuals and groups are key processes for organizational knowledge creation (Grant, 1996; Spender, 2007). In this paper we take a step ahead to challenge the prevailing view on organizational knowledge creation as cooperative, harmonious and based on

consensus, but also arising out of competition, conflicts and dissonance. We propose that a “dialectical approach” to simultaneous existence cooperation and competition, i.e. intrafirm cooperation can be critical for understanding organizational knowledge creation and innovativeness. The dialectical approach assumes that there is a constant interplay and successful coexistence between the inconsistencies and contradictions. (Lewis, 2000; Poole, Van de Ven, 2004) The dialectical logic allows contrary tensions and this thinking can be characterized as “both/and” (here cooperation) in comparison the formal logic characterised by either/or –thinking (here choosing between collaboration and competition). (Ford et al., 1994). If managed well, this could become visible in managing knowledge creation as “a proficient practice” (Spender, Marr 2004).

We additionally build on the classical SECI process (Nonaka, Takeuchi, 1995) and the knowledge processes depicted by Teece, (1998) to explore the role and nature of intrafirm cooperation in organizational knowledge creation and subsequent innovation. According to Teece (1998), innovations are created through two separate but interconnected processes: the first one adds chaos by bringing in more knowledge and ideas, while the second one lessens chaos by combining existing ideas and knowledge into new innovations. Moreover, these processes are linked to cooperation: Knowledge-creating processes are linked with cooperation and knowledge-utilizing processes are linked with competition. In innovation process, these processes take turns, but also co-exist. In addition, according to Nonaka and Takeuchi (1995), there are four separate and interconnected phases in knowledge creation. Their *SECI model* consists of four phases, namely, socialization, externalization, combination and internalization. We support the model in principle, but – unlike Nonaka – we claim that knowledge generation could begin from existing knowledge, i.e., from internalization. This is because new knowledge is always based on existing knowledge, as a famous quote from Isaac Newton says: “I have been capable to see further than others because I stood on the shoulders of giants.”

In the following chapter, we utilize these insights from knowledge-based approaches of a firm, and discuss the roles of cooperation, competition, and cooperation in more depth.

3. THE ROLE OF COMPETITION, COOPERATION AND COOPETITION IN THE INNOVATION PROCESS

In the innovation process, competition and cooperation have distinct roles. In this chapter, we shortly discuss their roles and also their co-existence, i.e. intrafirm coopetition in organizational knowledge creation and innovation process.

3.1 The Role of Competition in the knowledge creation process

The role of competition in the knowledge creation process for innovation can be divided to different perspectives, presented by Birkinshaw (2001) and Kusunoki (2004).

Birkinshaw (2001) suggests selecting a winner amongst the created ideas, and going forward with them and abandoning the others. This selection process is determined by competition. In contrast, the view of Kusunoki (2004) encourages a synthesis, i.e., combining the best of the different ideas and approaches generated in the competition.

The previous literature claims that competition is used to challenge the status quo in cooperative situation. Birkinshaw (2001), for example, claimed that competition could provide the motivation for active experimentation and flexibility needed to keep up with changes in the business environment. Kusunoki (2004) also suggested that competition could be used in a knowledge-creating process in order to prevent one-eyed views or simple compromises. He called this *bounded cohabitation*. However, it is noteworthy, that excessive cooperation and teamwork may create the risk of suppressing the benefits of competition (see also Dyer, Song, 1998, Portes 1998). Birkinshaw (2001) noted, however, that also competition could be very damaging if it is allowed to proliferate uncontrolled. Internal competition might lead to redundancy, imbalance and excessive internal argumentation, and could even result in the uncontrolled coexistence of near-identical products under the same brand. (Birkinshaw, 2001). At its best, however, Kusunoki (2004) proposes that internal competition enhances value differentiation.

3.2 The Role of Cooperation in the Innovation Process

Cooperation is critical for the idea generation phase in the innovation process. The more knowledge flows, knowledge sharing and learning between different organizational parts (individuals, units) there is, the more opportunities there is for knowledge generation and combinations (e.g. Ellinger 2000; Tsai 2002; Inkpen 1996; Lööf, Heshmati 2002). In addition to cooperation with internal actors, cooperation is also needed with external actors to bring in non-redundant knowledge and ideas especially for more radical innovations. Continuous cooperation also reinforces actors' mutual commitment and reduces opportunistic behavior (Dagnino, Padula 2002).

Cooperative organizational culture and related capabilities are especially critical in a phase of the innovation process when best ideas from the competing innovation teams are integrated into a new team composed of best ideas and people. In sum, cooperation is the basis for producing new product innovations. Competition is, however, needed to challenge the status quo and prevent e.g. the second-best solutions or compromises to emerge. It is noteworthy, that cooperation and competition play different roles during the knowledge creation process. First, cooperation is used to enhance knowledge sharing and furthermore idea generation. After that competition is used to bring in several competing options, and finally, through constructive confrontation, cooperation is used to compose a superior concept (see Kusunoki, 2004).

3.3 The Coopetitive Logic

With respect to the discussion above, it is evident that both cooperation and competition entail elements that have different kinds of roles in the innovation process. However, we claim that cooperation and competition not only take turns in the innovation process – they also exist simultaneously quite often. When they are present at the same time, it can be proposed that by combining the positive aspects of both, “syncretic rents” (see Lado et al., 1997) can be achieved, if managed correctly. Thus, with respect to the discussion about the role of competition and cooperation, it can be proposed that

coopetition in knowledge creation can simultaneously help a firm to create and utilize knowledge.

According to the current knowledge, coopetition can enhance knowledge creation and innovation process in mainly two ways. First, competing units tend to be more knowledgeable about the context of each other, and thus they have better ability to absorb the knowledge and utilize it. Competing units tend to possess similar basic knowledge about the resources and capabilities of the firm, and also about the needs of the end markets in which they are aiming their innovations. This leads to an increased absorptive capacity with respect to each other (Tsai, 2002; see also Dussauge et al., 2000). Second, coopetition creates strong incentives for organizational units to understand each other (Luo et al., 2006; Tsai, 2002). According to Tsai (2002, 182), organizations units "want to discover what their competitors know so that they can benchmark themselves and prepare for the consequences of competition". The fact that there is an increased motivation to understand competing units inside a firm, further accelerates learning and utilization of absorptive capacity.

To sum up, by trying to move away from the perspective of choosing between the contradictory logics (competition and cooperation), we have proposed that "dialectical lenses" help us to understand the management and existence of coopetition in knowledge creation process for innovation. In the following we try to make the existence of cooperation and competition more evident and concentrate on their interrelation and co-existence.

4. THE IMPACT OF INTRAFIRM COOPETITION ON ORGANIZATIONAL INNOVATIVENESS: A PROCESS MODEL

We propose that innovations arise from continuous interplay between competition and cooperation, which affects all innovation-related knowledge processes. However, it is not only competition and cooperation separately that affect knowledge creation and innovativeness, but the frequent co-existence between these two. The proposed innovation process model (see Figure 1) illustrates how competition and cooperation

exist simultaneously and take turns during the knowledge creation during the innovation process.

During the different phases various people participate in the development and cultivation of knowledge in varying mixes of cooperation and competition on different levels: individuals, projects and the organization. The process also conforms to the earlier discussed Teece's knowledge processes (see Teece 1998) and to the SECI process (see Nonaka, Toyama 2004).

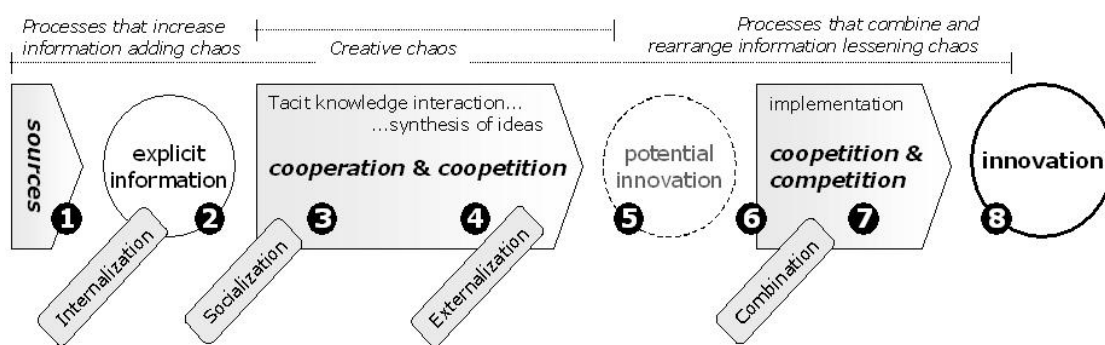


Figure 1. Dynamics of cooperation in the innovation process

The different phases set out in Figure 1 describing the dynamics and complementary relationship of cooperation and competition in cooperation in the innovation process are explained in the following.

First, knowledge and information flows from internal and external sources to the company (e.g., Miller, Morris 1999). Some of this knowledge is created in earlier cycles of the process.

Second, cooperation in the form of knowledge sharing makes existing explicit knowledge, information and data available (see Tsai 2002; Carayannis 1999). This is comparable to *Internalization* in the SECI process. Individuals having with access to information may internalize it to their tacit knowledge. In this phase the knowledge is being gathered throughout the organization, and competition between ideas has not yet emerged.

Third, cooperation and related interaction make it possible for individuals to discuss, question and process new ideas. New combinations of knowledge can be created, even if the emerging ideas may compete with each other. This represents the continuous interplay of seemingly opposite forces in the synthesizing process (Nonaka and Toyama 2004), and as such is comparable to Socialization in the SECI process. Individuals share their tacit knowledge, but they still have access to explicit knowledge that becomes tested, questioned, cultivated and combined with the tacit and implicit knowledge of the participants. The more cooperation and knowledge sharing there is the more novel the ideas and the more competition there may be between them. In this phase cooperative knowledge sharing is first affected by competition, and can thus be called the start of actual co-existence of cooperation and competition (coopetition).

Fourth, emerging new knowledge combinations are utilized by various teams, which compete with each other about how (and by whom) the new knowledge is best utilized. The backward loop may bring competing potential innovations back into the process, and ideas may be combined in cooperation in order to create greater value (see Kusunoki 2004; Nonaka and Takeuchi 1995; Miller and Morris 1999). This phase is comparable to *Externalization* in the SECI process. Individuals reflect the new ideas and knowledge, and may thus create new understanding and competencies for their group. In this phase, coopetition can be used to accelerate the innovation process by giving competing teams a possibility to cooperate in various ways.

Fifth, new potential innovations emerge. There may be backward loops sending near-identical or complementary ideas back into the process (see Miller and Morris 1999). This phase could be seen as an outcome of the previous one, or just as a bundle of suggestions, and is often considered the starting point of the innovation process itself. This can be seen as a point where coopetition fades away, giving room for pure competition for a best solution for potential innovation.

Sixth, at this point the company (board) selects (see Huckman 2003) which potential innovations are implemented and which projects to invest in. Here the potential

innovations compete for the company's limited resources, capital and the best people (see also Birkinshaw 2001).

Seventh, in this phase, the potential innovations are chosen and the company's resources are allocated to them. There are two options how the firm can utilize the knowledge created in the process this far. First, the best potential innovation can be selected, and thus the most eminent knowledge created in competitive process can be utilized (Birkinshaw, 2001). Second, in order to utilize the possibility of cooptation, the best of the different potential innovations can be synthesized by creating intensive cooperation between the competing projects. (Kusunoki, 2004). Thus, it can be claimed that this phase includes either competitive or cooptative logic. In both cases, the selection should be based on the company strategy. This resembles the Combination phase in the SECI process, where explicit knowledge created among several groups is used in building or combining new products for the company.

Finally, innovations are taken into the commercialization phase and to the markets.

Although depicted here as single-phase, the process is actually as repetitive as Nonaka's and Takeuchi's SECI, and furthermore involves not one but a multitude of processes of varying magnitude running concurrently. Therefore, the cooptative process of organizational innovativeness should be considered cyclic and multiple. In addition, it must be remembered that the proposed model describes the ideal, not always realized, cooperative, competitive and cooptative behavioral patterns.

In sum, it is proposed that increased cooperation facilitates knowledge creation, and when competition increases, it spurs increased utilization of knowledge. Thus both cooperation and competition enhance knowledge creation and organizational innovativeness, and when they exist simultaneously, they include a distinctive cooptative logic. In the figure 1 it can be seen that cooperation is mainly been emphasized in the beginning of the process, and competition at the end. However, cooptation emerges in both the beginning and the end, giving the firm an opportunity to utilize the both competition and cooperation simultaneously when needed.

5. DISCUSSION AND CONCLUSION

Our paper is one of the first attempts to understand the dynamics of intrafirm coopetition (see Walley, 2007). Thus, the issues described in this paper provide contribution in both theory and practice. In particular, our paper provides insights and understanding of the cooperative processes in knowledge creation and innovativeness, which has not been described in earlier literature.

As a theoretical result, we propose a conceptual process model and framework encompassing the interplay of cooperation and competition for knowledge creation in the innovation process. As a way of managing knowledge creation process, we suggested that cooperation could be used to fuel the knowledge creation process, and that competition could be used to further the knowledge utilization process. We further suggest that coopetition has an own distinct logic of increasing the benefits of knowledge sharing and utilization, which can be used in many parts of the innovation process.

Our study also provides a possibility to compare the results with coopetition literature in the interfirm context, which has been researched more extensively. In fact, there are many similarities in how coopetition manifests in intrafirm and interfirm contexts. First, in coopetition literature, it is often said that cooperation is emphasized in some points of coopetition, and competition in others (see e.g. Brandenburger, Nalebuff, 1996; Bengtsson, Kock, 2000; Walley, 2007). Our study is aligned with these observations, as we point out that cooperation can be used to enhance knowledge creation process and competition to knowledge utilization process. Second, we propose that cooperative paradigm to knowledge creation and innovation is too limited and competitive paradigm, and further cooperative paradigm, needs to be incorporated into theoretical understanding in order to get a holistic picture of the phenomenon. The same kind of propositions for incorporating competition into cooperative paradigm has recently emerged also in the context of interfirm coopetition (see Padula, Dagnino, 2007). Thus,

our results suggest, that coopetition is a phenomenon that has some distinctive features that are, in some extent, generic to multiple levels of analysis.

Managing the complex interrelationship between cooperation and competition, i.e. coopetition, is a challenge, as it requires rethinking of the previous practices and perceptions (see Lewis 2000). Thus, following Lewis (2000), we propose that managing coopetition requires commitment from organizational actors, who are challenged to examine their behaviours and perceptions. It further demands managerial understanding of how to deal with contradictions in organizational knowledge (see e.g. Spender, Marr, 2006). Our model provides first insights to this challenge by helping managers understand how cooperation and competition are not always separate concepts, but also simultaneously existing tensions that can be managed if their benefits are understood.

Our analysis suggests a need for empirical research to further test the model as presented. To encourage supplementary studies, we emphasize that innovation process is not only about knowledge creation and cooperation: it also involves intrafirm competition in terms of how to best exploit existing knowledge and ideas. Thus, for a more encompassing theory on organizational knowledge creation and innovation more research on the dynamics of intrafirm coopetition should be conducted.

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