 Factors Influencing the Success of R&D Coopetition

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Abstract
Operating in a dynamic business environment demands the simultaneous utilization of collaborative and competitive strategies. Close R&D relationships among competitive high-tech firms are common even if they seldom succeed. This study aims to elaborate on the factors influencing the success of dyadic R&D coopetition. Drawing upon a single case illustrating a coopetitive dyadic R&D relationship, the study identifies the challenges and the success factors of R&D coopetition as well as the R&D coopetition capabilities that help firms to overcome challenges and exploit success factors. The study provides theoretically important insights by addressing the issue of coopetition success. Moreover, it shows that firms can actively pursue coopetitive R&D relationships but success in doing so requires a profound understanding of the factors influencing the relationship success.

Keywords
Dyadic relationships, coopetition, R&D coopetition capabilities
Introduction

Markets are undergoing a great change as traditional, vertically-integrated organizations are rapidly being replaced by relationships and networks (Halinen & Törnroos 2005). Moreover, firms are increasingly utilizing collaborative and competitive strategies simultaneously (e.g. Lado, Boyd & Hanlon 1997). High-tech firms in particular are developing close R&D relationships with direct competitors, aware that such collaborative arrangements can have favorable effects on firms’ technological offerings and innovation capabilities (Ritala & Hurmelinna-Laukkanen 2009; Quintana-García & Benavides-Velasco 2004). The field of coopetition has received increasing attention from both scholars and practitioners (e.g. Bengtsson, Eriksson & Wincent 2010; Bengtsson & Kock 2000; Lado et al. 1997; Brandenburger & Nalebuff 1996). However, cooperation between competitors has not been covered in earlier research widely enough even though coopetitive arrangements hardly ever succeed (e.g. Draulans, deMan & Volberda 2003). Hence further research on coopetition in the context where it is most common, R&D, is required.

This study aims to elaborate on the factors influencing the success of dyadic R&D coopetition by focusing on the question of what affects the success of R&D coopetition. Examining the challenges and the success factors behind coopetition in R&D as well as the R&D coopetition capabilities that help firms to overcome challenges and exploit success factors increases our knowledge about how firms can successfully develop and manage coopetitive R&D relationships. Operating in a dynamic business environment demands both traditional business competences and the capability to manage strategic inter-organizational relationships and networks (Möller, Rajala & Svahn 2005). Further, as different types of business networks require distinct organizational arrangements and capabilities (Svahn & Westerlund 2007), exploring the factors influencing the coopetition success in R&D context is justified. However, as networks are composed of relationships of individual firms, the unit of analysis in this study is an academically interesting and managerially challenging dyad.

The study is organized as follows. First the characteristics of coopetitive R&D relationship are discussed. The second section outlines the nature of organizational capability and goes on to suggest a categorization of R&D coopetition capabilities. There follows a model of successful R&D coopetition that is presented along with the design of case study and its empirical results. The study concludes with an evaluation of the research quality and highlights the theoretical and managerial implications and suggestions for a future research.

Characteristics of a coopetitive R&D relationship

The term coopetition is defined here as simultaneous cooperation and competition between competitors (e.g. Bengtsson & Kock 2000). Scholars (e.g. Easton & Arajou 1992) exploring coopetition stress that competitors can be involved in direct relationships with each other in different ways. Furthermore, coopetitive relationships are usually understood through their value creation and appropriation because the additional value is jointly created but its appropriation is competed over (e.g. Ritala & Hurmelinna-Laukkanen 2009).
In vertical relationships partners have a mutual interest to interact (e.g. Morgan & Hunt 1994) whereas competitors are often forced in interaction with each other (Ring & Van De Ven 1992). Heterogeneity of firms’ resources leads to both intense rivalry between direct competitors and interdependence. As a result, coopetitive relationships are usually in conflict, as the interests of individual firms cannot be fulfilled simultaneously. (Bengtsson & Kock 2000.) Moreover, conflicts create challenges for trust development and further information and knowledge sharing because of the fear of opportunistic behavior. Competitors are presumed to pursue their own interests, while at the same time restraining this natural behavior in order to make their alliances work (Das & Teng 1998). Hence strategic fit and motivation are essential elements of a successful coopetitive relationship (Zineldin 1998).

Coopetitive R&D relationships are common between strongly R&D orientated high-tech firms that have high resource compatibility and weak competitiveness (Choi 2005; Miotti & Sachwald 2003). R&D relationships with competitors, focusing on sharing essential technological information and knowledge, are created to increase the influencing power (e.g. Ritala & Hurmelinna-Laukkanen 2009), to improve the absorptive capability of technological information (e.g. Ritala & Hurmelinna-Laukkanen 2009), and to strengthen the innovation capability of firms (e.g. Bengtsson & Kock 2000) as well as to decrease the costs and risks of new technological solutions (Zineldin 2004). Coopetitive relationships are built around diametrically different logics of interaction (Bengtsson & Kock 2000) which creates an arena for coopetitive dynamics with a variety of different combinations of cooperation and competition (Bengtsson et al. 2010). In the R&D context, competitors usually interact through pre-coopetitive projects which involve public funding and cooperation with non-competitive firms and public research institutions (Miotti & Sachwald 2003). Therefore, this study suggests that the challenges of R&D coopetition arise from both the coopetitive R&D relationship and the cooperation form of which the dyadic relationship is part.

Challenges and success factors widely affect the coopetitive R&D relationship. Based on the theoretical frame, the challenges surrounding R&D coopetition are trust development, conflict handling, information and knowledge sharing, and problems that arise from the involvement of public organizations. Success factors on the other hand concern anticipated benefits, the motivation for R&D coopetition, resource compatibility, reciprocal interdependence, R&D orientation, and weak competitiveness. Operating in a dynamic business environment does though require distinct cooperative capabilities (Möller et al. 2005) as gaining sustainable competitive advantage is often based on interaction between firms (Johnsen & Ford 2006). The following section discusses R&D coopetition capability by applying the studies of capabilities in the coopetitive R&D context.

**R&D coopetition capabilities**

The idea of organizational resources and capabilities stems from the resource-based view (Human & Naudè 2009) that explores the management of capabilities and resources inside firms (Gulati, Nohria & Zaheer 2000). In general organizational capability comprises a complex set of skills and collective learning, exercised through organizational processes to ensure superior coordination and functional activities (Day 1994). In this study, however,
R&D coopetition capability stands for know-how that facilitates the interaction, problem-solving and relationship development between the cooperative competitors (Croom 2001).

The dynamic capability view complements capability theory by showing how capabilities are modified in a dynamic environment. Teece, Pisano and Shuen (1997) assert that dynamic capabilities integrate, build, and reconfigure the internal and external competences of a firm. The approach emphasizes the role of management and therefore it should be connected with the challenges caused by operating in relationships (Möller, Svahn, Rajala & Tuominen 2002). R&D coopetition capabilities are here regarded as dynamic capabilities because dyadic R&D coopetition demands dynamism as both the coopetitive relationship and the R&D processes are dynamic (see Bengtsson et al. 2010; Zollo & Winter 2002; Eisenhardt & Martin 2000).

Earlier studies have suggested only a few capability frameworks for establishing and managing relationships and networks (e.g. Möller et al. 2005; Ritter & Gemünden 2003). Research has not tackled the capabilities that are required in coopetitive R&D relationships. In pursuit of identifying R&D coopetition capabilities, research on dynamic capabilities (e.g. Eisenhardt & Martin 2000; Teece et al. 1997), relational capabilities (e.g. Blomqvist & Levy 2006; Croom 2001; Lorenzoni & Lipparini 1999), technological know-how (e.g. Nerkar & Paruchuri 2005; Miotti & Sachwald 2003), and specialist skills (Ritter & Gemünden 2003) were explored and categorized into managerial capabilities, social capabilities, technological know-how, and specialist skills. Managerial capabilities are here regard as the activities required in establishing and maintaining a single relationship (Ritter & Gemünden 2003) whereas social capabilities are the exhibition of useful behavior in social settings (Helfert & Vith 1999). Specialist skills on the other hand concern the “technical side” of the relationship (Ritter & Gemünden 2003) while technological know-how is composed of the technological capabilities in which the firm specializes (Nerkar & Paruchuri 2005) and the capabilities of developing new competences, such as learning (Teece et al. 1997), innovation capability (Wang & Ahmed 2007), and absorptive capability (e.g. Miotti & Sachwald 2003).

Based on the theoretical framework, a case study was conducted in order to provide an empirical grounding for the model of successful R&D coopetition. The following section describes the empirical research design and examines its key results.

The case study

Research design

A case study approach was chosen because the method allows an in-depth exploration of a contemporary, complicated and social event strongly embedded in its context (Yin 2003, 13). Moreover, the case study is an appropriate method because it is used widely in examining the decisions and behavior of groups and individuals within organizations and inter-company relations (Halinen & Törnroos 2005). The study focuses on a single case, in which competing firms develop a virtual open source software platform. The case was chosen on the basis of the eventual learning derived from the case (see Stake 1995, 4), and as it was a good example
of a typical coopetitive R&D relationship (see Yin 2003, 41). The coopetition focuses on a pre-competitive project involving public funding and cooperation with public institutions (see Miotti & Sachwald 2003). Furthermore, the case was an example of a successful relationship as the project achieved its own goals by creating new business opportunities locally and supporting the growth of its core partners.

The empirical data were primarily gathered through five semi-structured interviews that provided an understanding of the factors influencing the success of R&D coopetition. The semi-structured form was chosen for the interviews because it is reasonably systematic and comprehensive (Eriksson & Kovalainen 2008, 82), while interviewees can still freely present their own thoughts (Flick 1998, 76) because the tone of the interview is kept informal (Eriksson & Kovalainen 2008, 82). As represented in Table 1, the interviewees were employees of competitive firms who were involved in the project from its inception. The exception was the project leader, who was not directly employed by either firm, and whose views provide another perspective on the relationship between the two competitors. All audiotaped interviews were held at the firms’ facilities or at the researchers’ university facilities. The secondary data consist of written documents that supplement the primary data. The empirical data is summarized in Table 1.

<table>
<thead>
<tr>
<th>Firm</th>
<th>Type</th>
<th>Interviewee</th>
<th>Occasion</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aku</td>
<td>Interview</td>
<td>Chief Executive Officer</td>
<td>07.03.2011</td>
<td>1 hour 40 minutes</td>
</tr>
<tr>
<td>Aku</td>
<td>Interview</td>
<td>Programmer</td>
<td>22.03.2011</td>
<td>1 hour 5 minutes</td>
</tr>
<tr>
<td>Mikki</td>
<td>Interview</td>
<td>Chief Executive Officer</td>
<td>15.03.2011</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Mikki</td>
<td>Interview</td>
<td>Programmer</td>
<td>28.03.2011</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Project X</td>
<td>Interview</td>
<td>Project leader</td>
<td>15.03.2011</td>
<td>1 hour 15 minutes</td>
</tr>
<tr>
<td>Aku</td>
<td>Home pages</td>
<td></td>
<td>March 2011</td>
<td></td>
</tr>
<tr>
<td>Mikki</td>
<td>Home pages</td>
<td></td>
<td>March 2011</td>
<td></td>
</tr>
<tr>
<td>Project X</td>
<td>Home pages, interest group magazine</td>
<td></td>
<td>April 2011</td>
<td></td>
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<tr>
<td>Public organization</td>
<td>Home pages</td>
<td></td>
<td>April 2011</td>
<td></td>
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</tbody>
</table>

Table 1. Empirical data of the study

The empirical data were analyzed and manually arranged into themes arising from the theoretical framework and the empirical data. This kind of abductive reasoning allowed us to make the best of both the theoretical knowledge and empirical data (see Kovács & Spens 2005). Moreover, the thematic analysis allowed examination of relevant content from the empirical data (see Eriksson & Kovalainen 2008, 219). Each interview was analyzed individually and then compared to discover common patterns. Primary importance was ascribed to the challenges and the success factors of R&D coopetition as well as to R&D coopetition capabilities. Following that step, the empirical data was carefully compiled as a
narrative story in order to provide an empirical grounding for the theoretical model. Generally, the empirical part of the study reinforced the existence of aspects included in the earlier theoretical framework and prompted the emergence of new aspects as well. The next section first provides a brief case description before presenting the analysis.

**Case description**

Project X, which aimed to develop a virtual open source software platform, began in the summer of 2007 when a private financier suggested for several local firms a cooperation to leverage their R&D know-how. Only two firms saw the proposition as relevant to their core business. Thus Aku, specializing in design and development of collaborative multiplayer games by harnessing high-end 3D game technologies, and its competitor Mikki, offering a full range of solutions and services for 3D virtual worlds, became the actors in Project X.

At first Project X consisted of experimental applications and was organized through an *ad hoc* structure. The idea for the platform came from existing technology and the development process began by designing new features into an old system. The general purpose of the project was to create an environment for both professionals and amateurs. In order to capture the potential of the platform, the principal organizer of the project was soon replaced by a public organization. Acting as an umbrella organization, the public agency handled the fundraising and general organization. The city of Oulu and a multinational telecom company with a local presence became the largest financiers. The decisions concerning Project X were made by a management group whose underlying goal was to support the creation of local know-how and new business opportunities.

During the project, three key changes occurred affecting the technological direction and competitiveness of the participating firms. The first change concerned the replacement of the existing virtual environment with an entirely new system. New virtual environment enabled the creation of a simpler and more coherent software platform without the problems inherent in its predecessor. The change was technically challenging and it forced the firms into close cooperation. Aku and Mikki were no longer developing single features for an existing platform but creating a whole new system. The second change occurred when Mikki merged with another firm, Pluto. This increased the competitiveness between the participating firms as their core focus areas became closer. Moreover, as a result of the merger, Mikki also became interested in the features that Aku had been focusing on from the beginning. In addition, Aku realized the importance of the features that Mikki had been suggesting all along. As a final change a fourth firm, Roope, joined the project at the end of the development process and changed the dynamics of decision-making. Project X ended in 2010 but the firms involved continued to develop the core technology into 2011.

**Research findings**

The research findings focus on the challenges and the success factors of R&D coopetition as well as on the R&D coopetition capabilities. We do, however, describe the R&D coopetition capabilities through the mirror of the challenges and success factors of R&D coopetition because separating the causal links between the factors would be extremely difficult.
**Success factors of R&D coopetition**

The idea for the R&D coopetition did not originate with the participating firms. However, the strong motivation for R&D coopetition at all organizational levels was emphasized. Withdrawals in the middle of the project could have created challenges that would have slowed down or changed the platform design.

> “Establishing a relationship should begin from a mutual desire to cooperate.”
> (Chief Executive Officer, Aku)

> “Of course someone withdrawing would have been a considerable slap in the face and nothing could have compensated for it.” (Project leader, Project X)

The commitment of firms was one factor that affected the success of the R&D relationship. The participating firms were not bound to the project through long contracts but through a highly developed enthusiasm. Specifically in the early stage of coopetition, long-term commitment was required as conflicts between rivals and a shortage of resources threatened continuation of the coopetitive relationship. As a consequence, in the future the firms will consider carefully the kind of R&D projects they will engage in and with whom. Overall, a partner identification capability may have enhanced the success of the coopetitive R&D relationship by ensuring the right choice of partner.

> “It is always a better situation if you can choose whether you cooperate or not, and with whom.” (Chief Executive Officer, Aku)

In Project X, anticipated benefits supported and led to R&D coopetition because the technology required in platform design was highly sophisticated and none of the participating firms could have created it alone. The coopetition was beneficial as it enabled the allocation of risks and costs and the absorption of essential know-how. Furthermore, better results were possible within a shorter period of time and cooperation with competitors brought credibility and visibility for the software, as no single firm owned the platform. In addition, the project brought rare and strongly required compatible technological capabilities together. Informants stressed the particular role of resource compatibility in ensuring individual responsibilities got divided. Resource compatibility and knowledge sharing created reciprocal interdependence which made replacing a partner difficult and strengthened coopetition.

Firms with a principal focus on R&D activities invariably improve their R&D skills. In Project X, a strong R&D orientation encouraged Aku and Mikki to attend to the coopetitive R&D relationship as the design of the platform created new R&D opportunities by improving the firms’ knowledge of 3D technology. Specifically, the need for the platform within the partner firms was quite general and intangible as neither of the firms used it in its final form. The platform design was only a foundation for the firms’ own applications and did not bring any competitive advantage in itself. The firms still needed an innovation capability to exploit the technology and gain competitive advantage.

The innovativeness of one firm strengthened the innovation activities of the other by stimulating technological capabilities. In practice the benefit of strengthened innovativeness
occurred after the cooperation stage, when intangible and quite general outcomes of the project were competed over. The project aimed to increase the influencing power of both firms and also other local firms. The platform was designed to be a general de facto standard for users to design their own technological content on, and they would then own, update and control that content on the platform. Hence the platform conferred independence and so increased the influencing power of individual firms. Moreover, that was an anticipated benefit which led to a coopetitive R&D relationship.

Aku and Mikki are specialized in different core areas. As a game research center, Aku focuses on visual elements and graphics whereas Mikki offers computing systems. Therefore, there was a weak competitiveness, which supported the emergence of a relationship, between the competitors. The specialization did however create conflicts, since both participants’ distinct ambitions could not be fulfilled at the same time. Tension between the partners hindered communication and interaction, despite their being located in the same city. Nonetheless, geographical proximity led to R&D coopetition because the fundamental goal of the project was to support local knowledge and that enabled dynamic interaction between the rivals.

“It is a good thing that they [Aku] are at the same city so that we can meet face-to-face.” (Programmer, Mikki)

Challenges of R&D coopetition

Challenges to the R&D coopetition arose from both the coopetitive R&D relationship and the cooperation form of which the dyadic relationship was part. In Project X the informants raised trust development as a difficult issue stemming from conflicts and both firms’ lack of experience of operating in a coopetitive R&D relationship. Conflicts arose partly because of the role of the public organization, which provided only general goals instead of specific requirements. All decisions concerning technological content were resolved between the firms, but their contrasting ambitions created some antipathy. In other words, the firms found objective setting difficult, which could have been solved partly by acquiring improved negotiation capabilities. Tension between the partners created a lack of communication and a situation where the firms developed overlapping designs that fitted only their own goals.

“As we had two firms doing the same thing, everyone had their own core ambitions… In the worst case, we had situations where both firms were going towards their own goals.” (Programmer, Aku)

The demand for interaction was reduced by identifying clear roles and responsibilities. Moreover, a resource coordination capability was used in problem solving as it calmed the inflamed situation.

“Of course, if it gets really bad, assertive dividing of responsibilities calmed the situation down.” (Chief Executive Officer, Aku)

The role of the public organization was considered to mainly be that of a fundraiser, filling a gap in the other partners’ capability to gather enough funding for the development process.
Hence economic competences were required from the project leader who raised and allocated funds between the firms.

Both firms pointed out the importance of communication and interaction capabilities because of their positive effect on the coopetitive relationship. Particularly at the operational level, communication was important because it supported efficient design activity. Programmers were interacting and sharing knowledge through meetings, e-mails, chat-rooms, and in the course of updating the common database. Having a resource mobilization capability was important because flexible sharing of technological information and knowledge increased the learning of individual programmers and the firms as a whole. Learning was seen as vital to improve firms’ technological and innovation capabilities and provide an advantage in subsequent result appropriation, which was otherwise seen as challenging. Alongside a learning capability, exploiting the knowledge demanded an absorptive capability.

Communication reduced the incidence of confrontations and helped with the overall conflict handling which was considered a challenge. Furthermore, a problem-solving capability was seen as fundamental because it steered the relationship in the right direction. The project leader was responsible for administrative tasks as well as the management of the coopetitive relationship, and in disputes assumed an administrative and supportive role. It is clear that the project leader required a project management capability and a relationship development and maintenance capability.

“The project leader organized the cooperation between the different organizations and ensured that the development proceeded and the funds were allocated correctly.” (Programmer, Aku)

“As a project leader I only tried to keep the wheels rolling.” (Project leader, Project X)

The partner firms handled the problems and disputes by using a negotiating capability and capability for empathy too.

“The most important thing in cooperation is that you can arbitrate and cooperate… and you must be capable of compromises.” (Project leader, Project X)

“We talked about the disagreements.” (Chief Executive Officer, Aku)

After the disputes were resolved and the level of trust and commitment increased, the partners felt that the cooperative atmosphere improved. Hence a capability of developing trust and commitment proved an important factor in the relationship between competitors. However, partners still found technological information and knowledge sharing challenging because they did not know exactly what information they could or should share. Sharing important technological knowledge may also be protected because of the immaterial rights involved. Therefore certain legal skills are important in R&D coopetition. The effect on relationship success, though, seemed quite insignificant.
Summary of factors influencing the success of R&D coopetition

In Project X, the coopetitive R&D relationship was built between R&D orientated firms that had a high resource compatibility, weak competitiveness, and geographic proximity. The resource compatibility created reciprocal interdependence as the new platform could not be devised by one firm alone. Additionally, the fact that the firms were motivated to pursue coopetitive R&D relationship by the anticipated benefits proved a prerequisite for a successful relationship. The anticipated benefits of the R&D coopetition focused on increasing the influencing power, improving the absorption and innovation capabilities as well as decreasing the costs and risks of new innovations and enhancing the credibility of the resultant solution. All in all, as Figure 1 shows, the success factors were elements which supported the coopetitive R&D relationship but also led to a dynamic interaction between rivals.

Figure 1. Factors influencing the success of R&D coopetition
As suggested in the theoretical framework, challenges affecting the R&D coopetition arose from both the coopetitive R&D relationship and the cooperation form of which the dyadic relationship was part. In the coopetitive R&D relationship, setting the objectives and result appropriation was affected by the role of the public organization, since its purpose was limited to achieving rather intangible results by its choice to set only general objectives. In addition, the distinct interests of rivals created conflicts and further complicated trust development and technological information and knowledge sharing.

R&D coopetition capabilities, categorized as managerial capabilities, social capabilities, technological know-how, and specialist skills, facilitated the success of R&D coopetition. However, the case made it clear that a third actor in the interaction process can contribute capabilities required for a successful coopetitive R&D relationship. The R&D coopetition capabilities are summarized in Table 2.

<table>
<thead>
<tr>
<th>Managerial capabilities</th>
<th>Social capabilities</th>
<th>Technological know-how</th>
<th>Specialist skills</th>
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<tbody>
<tr>
<td>Partner identification capability</td>
<td>Capability of developing trust and commitment</td>
<td>Technological capabilities</td>
<td>Economic competences</td>
</tr>
<tr>
<td>Project management capability</td>
<td>Communication and interaction capabilities</td>
<td>Innovation capability</td>
<td>Legal skills</td>
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<tr>
<td>Resource coordination and mobilization capabilities</td>
<td>Negotiation capability</td>
<td>Absorptive capability</td>
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<tr>
<td>Relationship development and maintenance capability</td>
<td>Problem-solving capability</td>
<td>Learning</td>
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<td>Empathy</td>
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Table 2. R&D coopetition capabilities

Starting with managerial capabilities; it was clear that the ability to identify the right partner as well as relationship development and maintenance were essential. A prerequisite was that firms were motivated to work together throughout in order to make the relationship a success. Successful R&D coopetition required further efficient resource coordination and mobilization and development of project management capability as well as communication and interaction capabilities. Continuous interaction along with the capabilities to empathize and negotiate helped trust development and problem-solving activity. Through their communication and interaction firms showed the commitment which improved the possibility of success.

A productive coopetitive R&D relationship demands technological know-how. Potential coopetition partners targeting industry-wide solutions should have compatible technological capabilities. On the other hand, as the results of coopetitive relationships were general,
learning and absorptive and as well as innovation capabilities are evidently essential. Targets achieved in the coopetitive R&D project were just a foundation for firms’ own innovation processes. Finally some economic competences and legal skills were required to allocate funding efficiently and manage the issues of immaterial rights. However, specialist skills did not seem as significant as other R&D coopetition capabilities.

Conclusions

The study aimed to elaborate on the factors influencing the success of dyadic R&D coopetition by answering the question of *what affects the success of R&D coopetition*. Specifically, the study identified the challenges and the success factors of R&D coopetition as well as the R&D coopetition capabilities that could help firms to overcome challenges and exploit success factors. Prior theoretical discussion has stressed that coopetitive relationships hardly ever succeed (e.g. Draulans et al. 2003). However, this study shows that understanding the challenges and the success factors of R&D coopetition as much as possessing R&D coopetition capabilities could help firms to benefit from their coopetitive R&D relationships. Hence this study supports the finding that firms can simultaneously exploit both cooperative and competitive strategies (e.g. Bengtsson & Kock 2000; Lado et al. 1997). The study contributes to the earlier research by identifying the factors influencing the success of dyadic R&D coopetition.

Competitors usually enter R&D relationships through public projects (Miotti & Sachwald 2003). Thus the challenges of R&D coopetition arise from the R&D relationship as well as from the collaborative form of which the dyadic relationship is part. Prior literature on coopetition has described coopetitive relationships as difficult; and that difficulty as stemming from the competitiveness between the partners (Bengtsson & Kock 2000). On the contrary, this study argues that any antipathy may arise from contradictory objectives and from difficulties in trust development. Moreover, the tension between the rivals affects the sharing of technological information and knowledge, the importance of which is strongly expressed in earlier studies (e.g. Ritala & Hurmelinna-Laukkanen 2009; Zineldin 2004). Success factors of R&D coopetition, on the other hand, were identified as elements which supported the coopetition as much as they lead to a dynamic interaction between the competitors. This study confirmed the success factors recognized in prior research (see Gnyawali & Park 2011; Choi 2005; Miotti & Sachwald 2003; Zineldin 1998) but also introduced geographic proximity as a new factor positively affecting the coopetitive R&D relationship analyzed.

Scholars have suggested that operating in a dynamic environment demands both traditional business competences and the capability to manage inter-organizational relationships (Möller et al. 2005). In this study we argue that R&D coopetition capabilities are essential, as such skills will help firms to overcome challenges and exploit success factors of R&D coopetition. Researchers have recently emphasized the role of coopetitive capability in terms of coopetition success (Gnyawali & Park 2011). This study contributes to the theoretical discussion by identifying R&D coopetition capabilities and categorizing them as managerial capabilities (see also Ritter & Gemünden 2003), social capabilities (see also Ritter & Gemünden 2003; Helfert & Vith 1999), technological know-how (see also Wang & Ahmed
2007; Nerkar & Paruchuri 2005; Miotti & Sachwald, 2003; Teece et al. 1997), and specialist skills (see also Ritter & Gemünden 2003). Moreover, the study increases the knowledge of academics and practitioners by suggesting that a third actor in the interaction process can contribute capabilities vital to a successful R&D relationship.

Today, organizations cannot avoid interaction with direct competitors and thus coopetitive relationships have become a new strategy to address the challenges of the dynamic business environment. This study provides management with an understanding of the ways in which firms can succeed in coopetitive R&D relationships. Furthermore, it encourages firms to actively seek such relationships to gain competitive advantage through improved innovations. However, as coopetitive relationships are challenging, firms should focus on finding the right partner and developing close interaction as a basis for a successful relationship.

The quality of this study has been enhanced by choosing the empirical case carefully and enabling the study to be repeated by describing the research design in detail. The study is however based on a single case and that constitutes its main limitation. Future research should be conducted in different contexts and industries with a network approach and multiple cases. Moreover, studies that concern direct coopetitive relationships are reckoned.

References


