

Understanding relational and network capabilities – a critical review

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Abstract

The aim of the paper is to present a critical review of the rather scattered literature on network and relational capabilities. Extant studies on relational, alliance and network capability and their theoretical foundations are discussed. A summary of the elements of which the various frameworks have been constructed is presented. Drawing on this, conclusions for future relational and network conceptualizations are made.

Keywords

relational capability, network capability

Network scholars seem to agree that networking capability is one of the core competences of firms (e.g. Ritter, Wilkinson and Johnston, 2004; Sivadas and Dwyer, 2000; Walter, Auer and Ritter, 2006). Yet only a few studies to date (Ritter, 1999, Äyväri, 2006) have focused on conceptualising network capability. However, relational capabilities (e.g. Jarratt, 2004; Johnson and Sohi, 2003; Lorenzoni and Lipparini, 1999) and alliance capabilities (Kale, Dyer and Singh, 2002; Draulans, deMan and Volberda, 2003; Lambe, Spekman and Hunt, 2002; Spekman, Isabella and MacAvoy, 2000) have been analysed more often. In addition, some scholars have identified the capabilities needed in managing strategic nets (e.g. Möller & Halinen, 1999; Möller & Svahn, 2003, Möller, Rajala and Svahn, 2005).

We argue that in order to further develop the framework of network capability, we first need to carefully analyse the extant conceptualisations and their premises. Hence the aim of our paper is to present a critical review of the rather scattered literature on network and relational capability, and suggest directions for future research.

We start with introducing the extant studies and their theoretical foundations. Then we move along to analyse the levels the conceptualizations have been made. We continue by presenting the elements or factors of which the reviewed frameworks have been constructed. We close by discussing the main issues that ought to be taken into consideration in future studies.

The concepts used in extant studies and their theoretical foundations

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The studies included in this review were categorized into three groups (see Tables 1–3): (1) relational capability and related concepts, (2) alliance capability and related concepts, (3) network competence and other related studies in capabilities by IMP scholars. As relationships construct nets and networks, the frameworks on relational competence are relevant: they include those capabilities needed in constructing close collaborative arrangements with other firms. Alliances have similar kinds of characteristics as network relationships: trust between partners, mutual adaptation, and the development of the relationship is perceived as a learning process. Thus the alliance capability frameworks are applicable as well when developing our understanding on the network competence concept.

One of the striking features of the extant literature on relational, alliance, and network competence is the wide array of concepts used to refer to the same phenomenon (see Tables 1–3) due to the different theoretical foundations the reviewed studies rely on. Therefore the following tables 1–3 present the main theoretical backgrounds of each study. Most of the reviewed studies explicated the main theories or literature on which the concepts and the frameworks are based on. However, there are some more empirically-oriented studies where the reviewers had to make assumptions of the theoretical background on the basis of the reference list.

Studies on relational capability and related concepts

The first table on the next page introduces the studies on relational capability. Eight of the reviewed eleven studies refer to the focal phenomenon of the study as “a capability” or “capabilities”. However, there seems to be no agreement on the exact concept, nor agreement on whether it is a question of *a capability* (Lorenzoni and Lipparini, 1999: relational capability; Blomqvist and Levy, 2004: collaboration capability; Jarratt, 2004: relationship management capability; Johnsen and Ford, 2006: interaction capability) or *capabilities* (Croom and Watt, 2000; Croom, 2001: interaction-based capabilities; Möller and Törrönen, 2003: relational capabilities; Ling-yee and Ogunmokon, 2001: interfirm relational capabilities).

In most of the studies mentioned above the theoretical foundation is at least to some extent based on the resource-based view, the knowledge-based theory of the firm, and the dynamic capability view. The first of the studies by Lorenzoni and Lipparini (1999) argued that the capability to interact with other companies, that is relational capability, accelerates the firm’s knowledge access and transfer with relevant effects on company growth and innovativeness. Organizational learning literature has influenced the conceptualization by Jarratt (2004) as well.

Two of the reviewed studies refer to the focal phenomenon as *competence*, either as interfirm partnering competence (Johnson and Sohi, 2003) or as relational competence (Phan, Styles and Patterson, 2005). The theoretical backgrounds of these studies differ from each other. While Johnson and Sohi (2003) construct their framework of interfirm partnering competence on the ideas of organizational learning literature (Cohen and Levinthal, 1990; Hamel, 1991; Slater and Narver, 1995), the relational competence framework by Phan et al. (2005) relies on social psychology, relationship marketing and relationship quality literature. The differences in theoretical backgrounds are motivated by the different levels of conceptualizations. Interfirm partnering competence (Johnson and Sohi, 2003) is a firm-level concept but the relational competence framework by Phan et al. (2005) captures an individual-level competence. However, the definitions of the concepts are very similar although the level is different. Johnson and Sohi (2003) maintain that interfirm partnering competence refers to the ability (or capability) to build and maintain high-quality and productive interfirm relationships – and Phan et al. (2005) propose that relational competence consists of the characteristics of the individual that facilitate the acquisition, development and maintenance of mutually satisfying relationships. Walter (1999) has also conceptualized relational capability on an individual level.

AUTHORS	CONCEPT	THEORETICAL BACKGROUND
Lorenzoni and Lipparini, 1999	Relational capability	Organizational learning (Cohen and Levinthal, 1990), the knowledge-based view of the firm (Kogut and Zander, 1992)
Walter, 1999. See also Walter and Gemünden, 2000	Relational power sources of relationship promoters	The relevant studies on power sources (Boje & Whetten, 1981), characteristics of effective marketing-oriented boundary spanners (Crosby et al., 1990), sociological and psychological literature (Granovetter, 1985; Huston and Levinger, 1978) ²
Croom and Watt, 2000	Relational capabilities	Customer-supplier literature, small-firm networks, the concept of trust.
Croom, 2001	Dyadic capability	Customer-supplier literature, network literature, strategic capabilities
Ling-yee and Ogunmokon, 2001	Interfirm relational capabilities	The resource-based view of the firm, the knowledge-based theory of the firm, the export channel literature.
Johnson and Sohi, 2003	Interfirm partnering competence	Organizational learning literature
Möller and Törrönen, 2003	Relational capabilities Networking capabilities	The resource-based view, dynamic capabilities approach, supply chain management, interaction and network perspective
Blomqvist and Levy, 2004	Collaboration capability	The resource-based view, knowledge-based view, the dynamic capability view, and the competence-based view.
Jarratt, 2004	Relationship management capability	Resource-based view, evolutionary economics, the resource-advantage theory, organizational capability structures, learning theory
Phan, Styles and Patterson, 2005	Relational competence	Social psychology, relationship marketing, relationship quality
Johnsen and Ford, 2006	Interaction capability	The resource-based and strategic management literature, Leonard-Barton's (1992) capability framework, IMP literature

Table 1. Studies on relational capability and related concepts

² All the references mentioned here are to be found in Walter (1999).

Studies on alliance capability and related concepts

Studies on alliance capability have been motivated by the fact that roughly half the alliances formed end up failing (Kale et al., 2002), and that firms are heterogeneous in their overall alliance success rates (Kale and Singh, 2007). Dyer and Singh (1998) were among the first researchers to discuss relational capability in the context of alliances. According to their definition relational capability refers to a firm's willingness and ability to partner. The focus of the study (Dyer and Singh, 1998) was, however, to identify the sources of interorganizational competitive advantage³. Table 2 presents all the studies on alliance capability or competence included in this review.

Alliance capability frameworks (Kale et al., 2002; Draulans et al., 2003; Heimeriks and Duysters, 2007) are all based on evolutionary economics (Nelson and Winter, 1982), resource-based view (e.g. Wernerfelt, 1984; Barney, 1991) knowledge-based view of the firm (e.g. Grant, 1996) or dynamic capability approach (e.g. Teece, Pisano and Shuen, 1997), and organizational learning literature. The research questions asked in these three studies are of similar type; what factors influence firms' ability to build alliance capability (Kale et al., 2002), which kind of management techniques strengthen the organization's alliance capability (Draulans et al., 2003), how differences in sources of alliance capabilities explain performance heterogeneity (Heimeriks and Duysters, 2007). Hence, these studies emphasize the importance of identifying the building blocks underlying the process of alliance capability development. These building blocks may be similar to the sources of interorganizational competitive advantage in the study by Dyer and Singh (1998). In recent studies (Heimeriks and Duysters, 2007; Kale and Singh, 2007) it has been stressed that an alliance capability is a higher-order resource which consists of or is captured by learning mechanisms.

AUTHORS	CONCEPT	THEORETICAL BACKGROUND
Dyer and Singh, 1998	Relational capability	Strategic management literature, sources of competitive advantage
Siwadas and Dwyer, 2000	Cooperative competency Partnering capability	Organizational theory, strategic management literature
Spekman, Isabella and MacAvoy, 2000	Alliance competence	Strategic management literature
Kale, Dyer and Singh, 2002, see also Kale and Singh, 2007	Alliance capability	Evolutionary economics, the knowledge-based view of the firm, organizational learning
Lambe, Spekman and Hunt, 2002	Alliance competence	Strategic management literature, competence-based competition, resource-advantage theory
Draulans, deMan and Volberda, 2003	Alliance capability	Evolutionary economics, resource-based view, dynamic capabilities; the study is based on Kale et al., 2002.
Heimeriks and Duysters, 2007	Alliance capability	Resource-based view, organizational learning, evolutionary economics

Table 2. Studies on alliance capability and related concepts

Partnering capability is the concept used by Siwadas and Dwyer (2000) who suggest that partnering capability would involve, among other things, selecting the right partner, using appropriate administrative mechanisms, and providing appropriate institutional support. The concept *alliance competence* refers to the same phenomenon: "an organizational ability for finding, developing and managing alliances" (Lambe et al., 2002). The conceptualizations of partnering (Siwadas and Dyer,

³ Dyer and Singh (1998) identified four potential sources of interorganizational competitive advantage: (1) relation-specific assets, (2) knowledge sharing routines, (3) complementary resources/capabilities, (4) effective governance.

2000) and alliance competence (Spekman et al., 2000; Lambe et al., 2002) are mainly based on strategic management literature. Lambe et al. (2002) emphasise that alliance competence is a higher order resource that is a distinct combination, or composite, of more basic lower order resources. Thus alliance competence should enhance the ability of firms to use alliances as strategic option for pooling and deploying partner firms' basic resources to compete in their marketplace (Lambe et al., 2002).

The foundations for *cooperative competency* are established in organization theory, and the concept refers to the ability of interacting units (within or across firms) to adjust mutually (Siwadas and Dyer, 2000).

Studies on network competence and related concepts

The pioneers in addressing the issue of network competence have been Möller and Halinen (1999) and Ritter (1999). These frameworks rely mainly on IMP (or industrial networks) and relationship marketing literature. The first definition on network competence by Gemünden and Ritter (1997: 297) is the following: "We define network competence as the resources and activities of a focal company to generate, develop, and manage networks in order to take advantage of single relationships and the network as a whole".

AUTHORS	CONCEPT	THEORETICAL BACKGROUND
Möller and Halinen, 1999	Network management capabilities	IMP, relationship marketing, supply chain management, strategic alliance literature
Ritter 1999; Ritter, Wilkinson and Johnston 2002, 2004; Ritter and Gemünden, 2003, 2004	Network competence	IMP, relationship marketing
Möller and Svahn, 2003, see also Möller, Rajala and Svahn, 2005	Net management capabilities	Industrial networks approach, strategic management, dynamic capabilities view
Mort and Weerawardena, 2006	Networking capability	Dynamic capability literature, mainly Eisenhardt & Martin, 2000, Teece et al., 1997, international entrepreneurship
Walter, Auer and Ritter, 2006	Network capabilities	Dynamic capability perspective
Äyväri, 2006; Äyväri and Jyrämä, 2007	Networking abilities	IMP and entrepreneurial networks literature

Table 3. Studies on network competence and related concepts

In the table 3 there are three studies (Möller and Svahn, 2003; Mort and Weerawardena, 2006; Walter, Auer and Ritter, 2006) that are all based on the dynamic capabilities literature. Hence they all use the concept of a capability or capabilities. However, Möller and Svahn (2003, see also Möller et al., 2005) discuss *net management capabilities*, Mort and Weerawardena (2006) *networking capability*, and Walter with his colleagues discuss *network capabilities*. Interestingly, Mort and Weerawardena (2006) have chosen the verb form, networking, in the context of born globals, but Walter et al. (2006) use the noun form, network, in the context of university spin-offs. The former study focuses more on an individual-level (an entrepreneurial owner-manager) capability, and the latter on a firm-level capability. The context of the framework by Möller and his colleagues is limited to strategic nets only, and thus the concept of net management capabilities is appropriate. In

the last study (Äyväri, 2006; Äyväri and Jyrämä, 2007) mentioned in the table 3 the framework of networking abilities has its roots in industrial networks and entrepreneurial networks literature.

A firm-level capability, the competence of a relationship, or individual skills?

Most frameworks understand relational capability, alliance capability and network competence as a *firm-level capability or a firm-level competence* (see Tables 4–6 in Appendix 1). This seems to be quite obvious as most of the studies reviewed have their theoretical backgrounds in resource-based view and/or dynamic capability approach, and in strategic management literature focusing on the competitive advantages of the firm.

There are two frameworks that consist of both firm-level competences and individual-level skills. Spekman et al. (2000) have identified (1) types of alliance competence on the firm-level, (2) business skills needed in managing alliances and (3) key relationship skills. In the similar vein Ritter (1999: 471) defines a company's degree of network competence as the degree of network management task execution and the degree of network management qualification possessed by the people handling a company's relationships.

Although some of the reviewed studies rely on relationship marketing, industrial, small firms and entrepreneurial networks literature, there are very few considerations whether it would be possible to conceptualise relational capability or network competence *on the level of a relationship or a dyad* in the context of networks.

As was mentioned earlier, Dyer and Singh (1998) proposed a relational view of competitive advantage. In order to generate relational rents both partners of the dyad (and all the partners in the network) must possess complementary strategic resources and a relational capability. Relational rents are a property of the dyad or network, and thus, a relational capability of one firm is not a sufficient condition for realizing relational rents.

The concept “cooperative competency” suggested by Siwadas and Dwyer (2000) is an interesting exception in the reviewed articles. It is argued that cooperative competency is a relationship property which refers to the ability of interacting units (within or across firms) to adjust mutually (Siwadas and Dwyer, 2000). Cooperative competency manifests itself through effective exchange of information (communication) and the negotiation and design of activities and roles (coordination). It is manifested in trust, communication, and coordination and is greater than any of these three concepts independently (ibid). These authors suggest that a high partnering capability (i.e. a firm-level capability) alone will not ensure high levels of cooperative competency and new product development success which was the context of their study.

The concept “collaboration capability” proposed by Blomqvist and Levy (2004) seems to be to some extent similar to the concept cooperative competency. Collaboration capability is defined as “actor's capability to build and manage network relationships based on mutual trust, communication and commitment” (Blomqvist and Levy, 2004). However, the authors maintain that collaboration concept is a useful cross-level concept to both understand, and analyse relational interaction at different levels: individual, team, intraorganizational and interorganizational levels. In addition they suggest that the collaboration capability of the system is augmented by the capabilities of its parts (ibid., cf. Dyer and Singh, 1998).

Johnsen and Ford (2006) provide a relationship-specific framework of interaction capabilities with which to evaluate a firm's capability development in relationships between small suppliers and large customers. In this sense Johnsen and Ford (2006) offer a new perspective on the theory of dynamic capabilities; relationships are understood as the context of firm-level capability development instead of a firm – but they retain the idea of firm-level capabilities only.

Although also Lambe, Spekman and Hunt (2000) understand alliance competence as a firm-level competence they argue that in order to achieve joint alliance success *a joint alliance competence* is needed. A joint alliance competence is conceptualised as the degree to which both partners have an organizational ability for finding, developing and managing alliances. The results of the study show that the greater the degree of joint alliance competence, the greater the degree of joint alliance success (Lambe et al., 2000). These authors do not, however, propose that an alliance itself might have alliance competence.

The review includes three studies (Walter, 1999; Phan et al., 2005; Äyväri, 2006) where relational or network competence has been conceptualized as *an individual-level phenomenon*. The network competence framework by Äyväri (2006) has been constructed in the context of small and micro-sized firms, and it is argued that the owner-manager of a small firm and the firm are inseparable. Hence the firm- and individual-level abilities are the same.

Next we will present the elements of the frameworks reviewed. Short summaries of the studies are presented in tables 4–6 in Appendix 1. Those studies where these capabilities were not the main issue, were left out of the tables in Appendix. In the following we will not make the difference whether some element is part of a relational, alliance or network competence framework. Due to the limited space we will neither explicate whether some element is proposed to be a factor playing a role in the development of capability or whether it is suggested to be a competence or ability itself. Appendix 1 gives more specific information of the studies in this respect, too. However, we have to point out that quite many of the studies reviewed did not elaborate the nature of capabilities or competences. We start with firm-level elements of the frameworks and continue with individual-level elements.

Firm-level elements of the frameworks

The analyses of the extant literature revealed the wide variety of factors or elements relational and network competence frameworks are suggested to consist of. We have categorized them as follows:

- firm-level systems, processes, functions and tasks
- inter-firm-level systems
- personnel resources
- firm-level orientation towards collaborative arrangements
- experience
- firm-level learning capability (incl. information transfer inside the firm), absorptive capacity of the firm
- visioning capability
- ability to identify potential partners.

Firm-level systems, processes, functions and tasks. This category includes relationship management systems (Jarratt 2004), a dedicated alliance function improving internal coordination and resource support of alliances and monitoring and evaluating alliance performance (Kale et al., 2002), control and management processes (Heimeriks and Duysters, 2007), evaluation methods (Draulans et al. 2003), use of appropriate administrative mechanisms and provision of appropriate institutional support (Siwadas and Dwyer, 2000) and working key-account management and communication system supporting the maintenance of network relationships (Möller and Törrönen, 2003). Ritter and Gemünden (2003) included the following to the network management tasks: a) relationship-specific tasks: initiation, exchange, coordination, b) cross-relational tasks: planning, organizing, staffing, and controlling.

Inter-firm level systems. Information systems integration has been suggested to be an example of relational capabilities (Möller and Törrönen, 2003, Möller and Svahn, 2003). Technological interaction capability is one of the elements in interaction capability set constructed by Johnsen and

Ford (2006), and it includes integrated technical systems and procedures across supplier and customer, and bilateral identification of technological requirements of each party. Also Lorenzoni and Lipparini (1999) emphasize the ability to combine and coordinate the technical systems of large number of firms. Johnsen and Ford's (2006) managerial systems integration capability includes bilateral development of supplier's and customer's structures, strategies and relationships.

Personnel resources. "Bench-depth" as a factor in alliance competence means that a firm has sufficient managerial talent with alliance relevant skills to be placed in alliance positions (Spekman et al., 2000). Alliance manager development capability (Lambe et al., 2002) and alliance training (Draulans et al., 2003; Heimeriks and Duysters, 2007) have also been included in the frameworks. In addition some elements refer to personnel's knowhow (deep understanding of the subject area, Spekman et al., 2000), especially to qualified technological support personnel, personnel with team-working skills (Möller and Törrönen, 2003) and with relational skills (Walter et al., 2006).

Firm-level orientation towards collaborative arrangements is included in two firm-level conceptualizations: an alliance mindset is an element of alliance competence according to Spekman and his colleagues (2000), and Möller and Törrönen (2003) propose organization-wide relational orientation as one of the indicators of relational capabilities.

Experience of collaborative arrangements (Kale et al., 2002; Lambe et al. 2002, Draulans et al., 2003; Jarratt, 2004) is posited to be a building block of capabilities or a representation of capabilities especially in the context of alliances.

Firm-level learning capability and absorptive capacity of the firm are one of the main elements in relational and alliance capability development according to Lorenzoni and Lipparini (1999), Spekman et al. (2000), Kale et al. (2002), Johnson and Sohi (2003), Möller and Törrönen (2003) and Jarratt (2004). Heimeriks and Duysters (2007) emphasize that learning mechanisms are the building blocks of routines which form the basis of a firm's alliance capabilities. Information dissemination on the relationships and shared interpretation of the information within a firm has been identified as a relevant factor in interfirm partnering competence by Johnson and Sohi (2003), in alliance competence by Spekman et al. (2000) and in network capabilities by Walter et al. (2006).

Visioning capability as a firm-level capability refers to management's skills and competencies in creating valid views of networks and their potential evolution (Möller and Halinen, 1999; Möller and Svahn, 2003). It has been proposed that the visioning capability is closely related to the organizational learning construct and is manifested in a firm's capability to systematically generate and evaluate the information on different networks, relevant for its current and future operations (Möller and Halinen, 1999).

Ability to identify potential partners is one of the three facets of an alliance capability according to Lambe et al. (2002). Also Siwadas and Dwyer suggest that partnering capability would involve among other things selecting the right partner.

Individual-level abilities and skills

Social competence is an essential element in individual-level conceptualizations of relational, alliance and network competence. Walter (1999) presents a long list of social or interaction skills: communication skills, extraversion, conflict management skills, empathy, emotional stability, the ability to motivate, responsibility, flexibility, self-reflectiveness, and sense of justice. He suggests that social competence can be considered as an outcome of these skills. Almost the same list of social skills is presented by Ritter (1999) who argues that these abilities are the social qualifications included in network management qualifications. Spekman et al. (2000) have identified two bundles of individual skills: key business skills needed in managing alliances and key relationship skills.

These bundles include various interaction skills (e.g. strategic conversation skills, collaborative negotiation skills, an ability to collaborate in teams across partners, good radar, trust building skills, see more in see Appendix 1.)

Also Phan et al. (2005) propose that four dimensions of relational competence are of high importance in international business partnerships: instrumental competence, intimacy, trusting ability, and interpersonal sensitivity. Äyväri (2006) found entrepreneurs' contact-seeking ability an essential element in the bundle of abilities needed in establishing relationships. She argues that an ability to take the interests of business partners into consideration is a fundamental ability in maintaining relationships and nets. Her framework includes social skills as well.

In addition to social competence Walter (1999) regards network knowledge (see also Ritter, 1999, who regards network knowledge as one of the specialist qualifications in network management qualifications) and relationship portfolio as central power sources of relationship promoters. In Äyväri's (2006) study these are considered as manifestations or outcomes of network competence, rather than elements of competence.

In addition to the elements presented above, there are factors that have been mentioned only in one study or that are context-specific. Appendix 1 gives more detailed information on the conceptualizations of relational and network competence.

Discussion and conclusions

The literature analysis revealed several problematic aspects in the current literature of relational and network capability but also a number of well-founded conceptual frameworks and insights. Here, we focus mainly on the critical issues concerning our knowledge of relational and network capabilities and suggest directions for future research needed for developing a better integrated theory of relational and network capabilities. The discussion is structured with the help of three themes: "location and level of network capability", "type and character of network capability", and "dynamics of network capability".

Before commencing the discussion it is, however, useful to clarify some minor issues. The terminological pluralism identified is partly irrelevant but partly denotes differences between the underlying phenomena. For example, the use of "competence" versus "capability" terms generally refers to a same underlying phenomenon, an actor's capacity to carry out specific value activities. The distinction is primarily due to the differing history of the authors contributing to the resource-based view. In the following discussion the capability term is employed. Another issue is the relatively liberal use of the concept network capability/-ties, as many studies actually address a relational or dyadic capability. In the following, we use the network capability term for brevity, and make a distinction when it is primarily referring to a relational capability.

"Location" and "level" of network capability

Network capability as intra-organizational phenomenon. An important issue concerning the study of network capability (NC for short) is the "location" of the capability, who are the creators and holders of the capability and potential sub-dimensions or elements. Most of the studies – either explicitly or implicitly – take an organizational view to this question. Companies or organizations are primarily regarded as the constructors and holders of the NC. This intra-organizational view is natural as the majority of identified studies draw on the resource-based view and its dynamic capabilities extension, as well as on organizational learning studies, all initially organization-based schools of thought. Depending on the view point this intra-organizational NC can have a basically relational or

dyadic character, as in the alliance capability studies, or a network capability orientation, as in the studies of strategic nets.

The question how this organizational network capability (ONC) is composed of and manifested in an organization has received relatively scant attention. Ritter and his colleagues distinguish between individual level qualifications and organization level competencies (Ritter, 1999; Ritter et al., 2002, 2004; Ritter and Gemünden, 2003, 2004); and in the similar vein, Spekman, Isabella and MacAvoy (2000) distinguish individual level business and relationship skills from firm level alliance competence. One alternative to pursue this issue in the future would be to utilize the structural view of organizational capabilities espoused by Grant. In Grant's (1995, p.126) terms “organizational capabilities refer to a firm's capacity to undertake a particular activity”. In this context, developing and coordinating relational partnerships, network relationships, and strategic nets. According to Grant, capabilities range from single-task capabilities (e.g. sales person's interaction skills), through specialized capabilities (key account management), activity-based capabilities (joint information system development and maintenance), and broad functional capabilities (joint brand management) to cross-functional capabilities (e.g. alliance management capability, interaction capability or net management capability in the context of our study).

One should note that there is no unified view of the classification, or even a definition of capabilities. For the sake of simplicity, we adopt here the view and definition provided by Grant (1995) because it emphasizes the embeddedness of capabilities, ranging from an individual person, through groups and functions to organization-wide competences. This is illustrated in Figure 1.

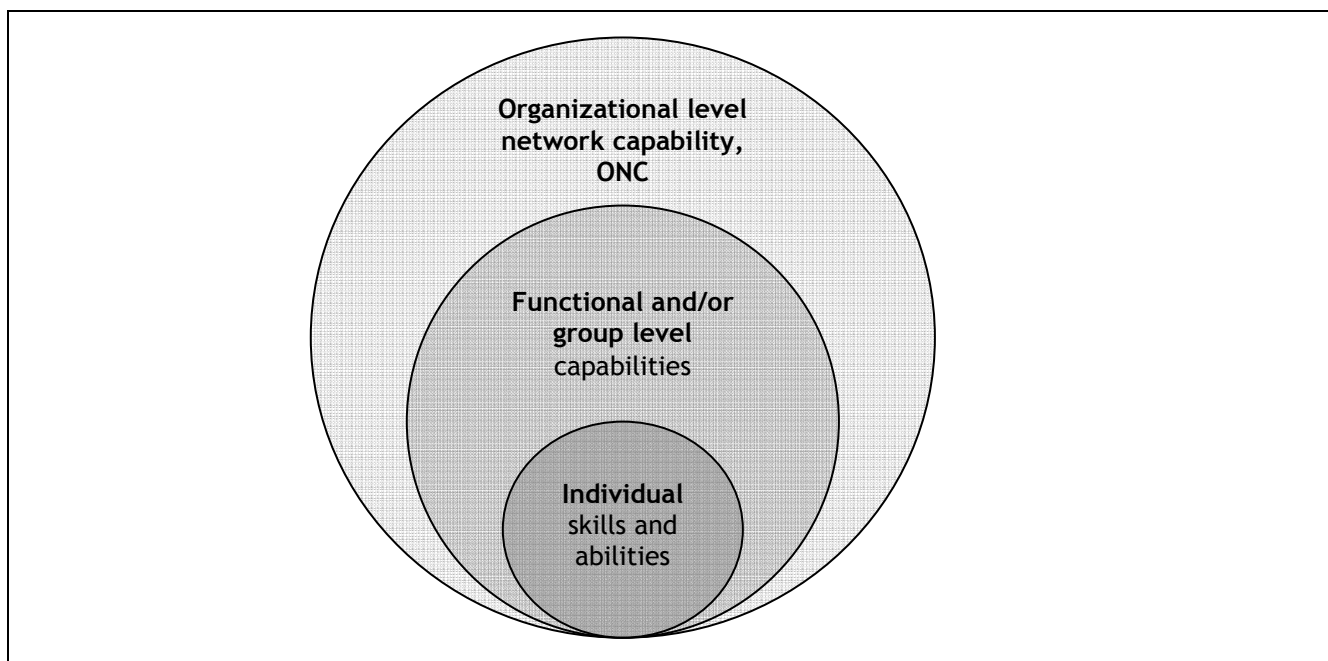


Figure 1. Intra-organizational perspective to network capability

According to this view organizational network capability (ONC) is “the sum” or the combination of lower level capabilities and skill sets. Several questions follow: How is the ONC constructed from the lower-level capabilities? Is there a generic ONC or does it have varying dimensions or elements? For example, Ritter, Wilkinson and Johnston (2002) tested the original NetComp instrument developed in Germany in English-speaking contexts, namely among MBA students with Western and Malaysian backgrounds. The results show that the measurement of network competence is valid and that the same relations between network competence and performance measures found in the German research hold (idid.). However, Human (2007) tested the same scale in business-to-business markets in South Africa, and found that the validity of NetCompTest scale could not be confirmed.

On the other hand, Möller and his colleagues see the network capabilities to be contingent upon the type of the supplier-customer relationship (see Möller and Törrönen, 2003) or the type of strategic net in question (Möller and Svahn, 2003; Möller and Rajala, 2007). They primarily argue that the capability sets required are dependent on the goals of the relationship or net, and the subsequent value-creation system and its logic that is needed to achieve the goal (Möller et al., 2005; Möller and Svahn, 2006).

An interesting mediating view between generic versus contingent capabilities is the idea of a common core supplemented with a contextually conditioned – and changing – supportive set of network capabilities. This view is not only theoretically appealing but has received empirical support in a recent study of network brand management capabilities (Moilanen, 2008).

Network capability as interorganizational phenomenon. Is the network capability only an intra-organizational phenomenon or does there exist an interorganizational network capability, as implied by the researchers arguing for interorganizational extension of learning theory (e.g. Holmqvist, 2003; Larsson et al., 1998) and the strong interaction view espoused by the IMP research (Ford, Håkansson and Johanson, 1986; Holmlund and Törnroos, 1995; Håkansson and Snehota, 1995). It is evident that the development of any relational and network capability draws from the experiences companies have on network relationships. As such the issues and questions that are faced in developing and maintaining economic exchange in networks is the source of experiences through which solutions are crafted and capabilities developed.

It is important to reflect how interorganizational network capability(ties) (IONC) would differ from the ONC. It seems that the IONC would be relationship specific (Siwadas and Dwyer, 2000, see also Lambe et al., 2002), emerging from the interorganizational exchange and interaction as joint solutions (structures and processes) and culture to coordinate (manage) the relationship (see Figure 2). One would expect, according to the contingency view, that the goals and the related task(s) that the organizations are targeting influences the requirements of the IONC. The relative “easiness” of developing this required IONC is then influenced by the availability and quality of the ONC of the actors.

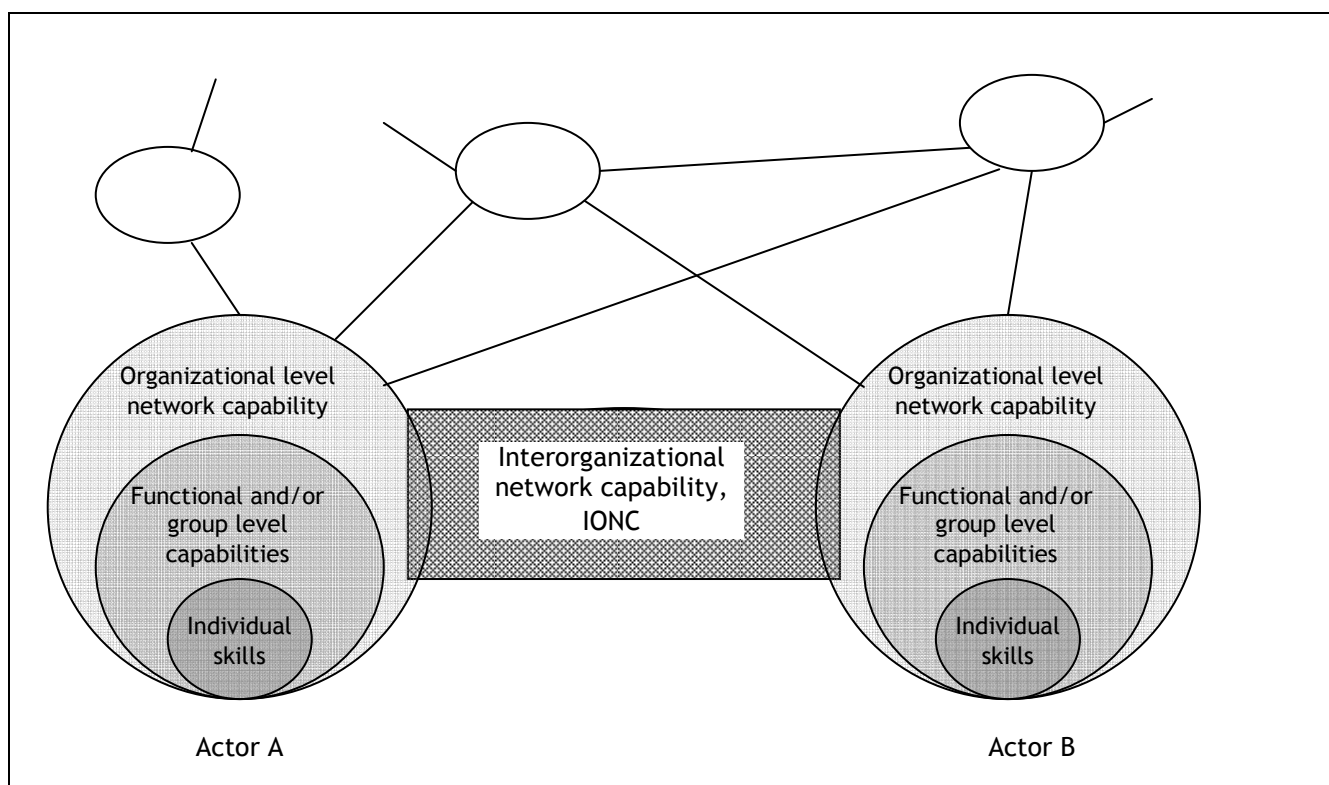


Figure 2. Interorganizational perspective to network capability

Does the constructed IONC, however, reside in a relationship or will it become embedded in the participating actors ONC? Although it is fashionable to talk loosely that “knowledge is in the relationships and networks”, we contend that capabilities, although partly evolved and crafted as results of interorganizational relationships are residing with the actors.

It is suggested that the relationship specific interaction experience and the processual routines and the organizational structures created “transform” to organization level network capability. Some aspects strengthen the “generic” core of the ONC, some build up context specific capability – “in these type of relationships we behave so-and-so”.

Network capability as a network level phenomenon. The next question concerns the existence of a network level network capability (NNC). Can one distinguish such a capability and what is its content beyond the interorganizational level capability just discussed? It seems that the elements of NCC are primarily extensions of the IONC. We suggest the NCC should primarily be investigated among intentionally created network organizations, often called nets. Members of a net have to create collaborative structures, e.g., joint coordination directorates or forums. These may involve complex strategic issues in terms of negotiating the roles and responsibilities of the actors, including investments and risk and revenue sharing. Also the coordination of the value activities within a net generally involves joint creation, running and maintenance of new support systems and processes. These undertakings involve multiparty and multifunctional development projects which require specific capabilities (see e.g., de Man, 2004; Möller et al., 2005; Möller and Svahn, 2006).

The discussed strategic net -level network capability, although very demanding, does not seem to represent a major qualitative change from the IONC. This is a preliminary view, however. It may be that dealing with a larger set of net partners with different roles, views and inherent ONCs makes much higher demands on the shared or joint network capability of the organizations involved than being involved in basically dyadic partnerships

Theme: the type and character of network capability/-ties and their relevance in value creation

An important issue in analyzing NCs is their relative importance for the value creation potential of an organization, relationship, or a net. In a sense, the more commonplace the network governance of business becomes the more established and widely shared should the NCs become. This leads to the question, can one identify a set of ONCs, IONCs and even NCCs, that have become ordinary? That is, capabilities which are so widely held that organizations cannot be usefully distinguished by them.

Consequently one should also be able to identify NCs that are still both rare and highly relevant for the value creation and capture of the unit examined. The evidence available from the alliance capability studies (Draulans et al., 2003; Kale et al., 2002, cf. Kale and Singh, 2007) suggest that those firms that have been able to develop a systemic “alliance management capability” with structures, processes, and trained personnel enjoy a much higher rate of alliance success. Similar, case study based, evidence is available from strategic nets (Möller and Svahn, 2003; Möller and Rajala, 2007).

An interesting research question would be to compare the type and sophistication of ONCs, IONCs and NNCs across industries differing in their use of partnerships, alliances, and networks and see if this difference in the general governance modes is indeed manifested in different networking capability profiles.

Another, but related aspect to the issue of the character of network capability is to what extent the capabilities identified in the extant literature represent dynamic capabilities versus “ordinary” or

substantive (Zahra, Sapienza and Davidsson, 2006) capabilities. In this context the dynamic capabilities perspective refers to such capabilities through which an organization, a dyadic partnership or a net of actors can create and renew its network capabilities (see Zahra et al., 2006 for more elaboration on substantive and dynamic capabilities). As pointed out by Zollo and Winter (2002) and Zahra and George (2002), this is essentially a question of the learning capacity of the organization unit.

Again, one would expect to find more developed NC-related learning mechanisms (dynamic capabilities) in fields that are characterized by rapid technological change and “high velocity markets”; see Zollo and Winter, 2002, and Möller and Svahn 2003, 2006.

Theme – “Dynamics of Network Capability” – process perspective

The literature analysis revealed that there are inconsistencies and discrepancies whether certain elements are building blocks of or constitute network capability or whether they are outcomes of network capability (e.g. network knowledge, experience). Thus, we argue that we need much more evidence on the processes how organizational network capability emerges, and how it can be consciously developed. The process from antecedents or building blocks to NC and its elements to outcomes needs further modeling. So far only the most recent studies on alliance capability have focused on the process perspective: the role of the alliance learning process in alliance capability and firm-level alliance success (Heimeriks and Duysters, 2007; Kale and Singh, 2007).

Organizational learning theory and studies in knowledge management, and especially their more rare extensions to interorganizational learning provide a good starting point. Some suggestions and insights are provided by Kogut and his colleagues (Kogut and Zander 1997; Kogut et al., 1993); Knight (2002); and Möller and Svahn (2006). Especially we need much more studies on the processes how IONC and NCC emerge.

Future research

While all the discussed aspects need more research, we suggest that more specifically we should have more systematic knowledge on the following issues:

- How does organizational network capability emerge and through what efforts ONC can be systematically constructed?
- The differences between ONC and interorganizational network capability? Key forms of IONCs.
- How IONCs emerge and through what efforts they can be systematically constructed?
- The differences between IONC and network or strategic net -level network capability? Key forms of NCCs.
- The distinction between substantive network capabilities and dynamic network capabilities.
- Relationship between ONCs, IONCs, NCCs and the performance.
- Type of business specific differences in NCc.
- Type of industry specific differences in NCs.

We hope that IMP scholars will take up the challenge of further exploring these issues. The results of the studies will be of high relevance to managers as well.

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AUTHORS	CONCEPT	LEVEL
Lorenzoni & Lipparini 1999	A relational capability	A firm
Walter 1999, Walter & Gemünden 2000	Relational power sources of relationship promoters	An individual
Johnson & Sohi 2003	Interfirm partnering competence	A firm
Möller & Törrönen 2003	Relational capabilities Networking capabilities	A firm
AUTHORS	CONCEPT	LEVEL
Jarratt 2004	A relationship management capability	A firm

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Table 1. Summary of the conceptualiza

AUTHORS	CONCEPT	LEVEL
Dyer & Singh 1998	A relational capability	A firm
Siwadas & Dwyer 2000	A cooperative competency	A relationship (between units within a firm and across firms)
	A partnering capability	A firm
Spekman, Isabella & MacAvoy 2000	An alliance competence	A firm
	Key business skills needed in managing alliances	An individual
	Key relationship skills	An individual
Kale, Dyer & Singh 2002 (see also Kale & Singh 2007)	An alliance capability	A firm

AUTHORS	CONCEPT	LEVEL	DEFINITION
Lambe, Spekman & Hunt 2002	An alliance competence	A firm	A firm developed An alliance A joint

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Table 2. Summary of the conceptualiza

AUTHORS	CONCEPT	LEVEL
Möller & Halinen 1999	Network management capabilities	A firm
Ritter 1999, Ritter, Wilkinson & Johnston 2002, 2004, Ritter & Gemünden 2003, 2004, also Gemünden & Ritter 1997.	Network competence	A firm and an individual
Möller & Svahn 2003. See also Möller, Rajala & Svahn 2005	Net management capabilities	A firm
Walter, Auer & Ritter 2006	Network capabilities	A firm
Äyväri 2006 Äyväri & Jyrämä 2007	Networking abilities, also network competence	An individual, an entrepreneur

Table 3. Summary of the conceptualization