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Managing in complex business networks

Thomas Ritter[a,*], Ian F. Wilkinson[b,1], Wesley J. Johnston[c,2]

[a]Department of International Economics and Management, Copenhagen Business School, Howitzvej 60, DK - 2000 Frederiksberg, Denmark
[b]School of Marketing, Faculty of Commerce and Economics University of New South Wales, Sydney, NSW 2052, Australia
[c]Center for Business and Industrial Marketing, Georgia State University, Atlanta, GA 30303-3083, USA

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Abstract

For many years, research and management thinking has focused on understanding business relationships and networks. Now, the focus is shifting to managing business relationships and networks. This new approach focus poses two questions. Since networks are loosely coupled systems, to what extent are business networks manageable? Furthermore, how can a firm's ability to manage a network be characterized and measured? This paper addresses these two questions by synthesizing the current state of knowledge on management issues in networks and the contribution to managerial abilities in complex relationships. The discussion leads to a set of propositions describing the abilities firms will need to successfully manage complex business networks.

Keywords: Relationships; Networks; Complexity; Ability; Management

1. Introduction

A firm is embedded in a network of ongoing business and nonbusiness relationships, which both enable and constrain its performance. "A business enterprise looks more like a linking unit where its strategic attributes lie in how it connects other market participants to each other. Thus, the picture of both the possibilities and the means to manage the business enterprise become quite different" (Håkansson & Snehota, 1995). As such, firms should not be seen in isolation but as being connected in business systems.

Focusing on any one single firm cannot provide a significant understanding of the processes of business (Johnston, 1981). A firm's relationships "are one of the most valuable resources that a company possesses" (Håkansson, 1987). They provide direct benefits in terms of the many valued functions they perform and the resources they help create and provide access to, including knowledge and markets. They also provide indirect benefits because they grant access to other relations, organizations, resources, and competencies (Håkansson & Snehota, 1995; Walter, Ritter, & Gemünden, 2001). Therefore, managing business relationships and being able to manage in business networks is very important. However, effectively doing so appears to be a difficult issue, given that an estimated 60% of partnerships fail (Spekman, Isabella, & MacAvoy, 1999).

Furthermore, the firm itself is nothing more than a complex network of internal relationships among people, departments, and functional units that form the basis of its ability to develop and implement its strategies. Consequently, firms are confronted with the management and integration of these internal and external relationships. Firms are seldom in total control of all these relationships and are subject to the control and influence of others within and around the relationship. As a result, business networks are not generally under the control of an individual firm but are self-organizing systems, in which order emerges in a bottom–up fashion from the local interactions taking place among firms in the relationships in which they are involved (Wilkinson & Young, 2002). This situation presents a challenge and a dilemma for management in terms of developing and implementing strategies.

While the study of relationships and networks in business has a long history (Wilkinson, 2001), their role and importance in value creation and delivery is the subject of increasing attention in the marketing and business literature.

* Corresponding author. Tel.: +45-3815-2518; fax: +45-3815-2500.
E-mail addresses: ritter@cbs.dk (T. Ritter), i.wilkinson@unsw.edu.au (I.F. Wilkinson), wesleyj@gsu.edu (W.J. Johnston).
[1] Tel.: +61-2-9385-3652; fax: +61-2-9663-1985.
[2] Tel.: +1-404-6514-184; fax: +1-404-6514-198.

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Examples of this are the development of concepts of collaborative advantage (Kanter, 1994); the role and importance of cooperative strategies and alliances (Contractor & Lorange, 2002); cooperation and competitive advantage (Dyer & Singh (1998); Wilkinson & Young, 2002); the development of the Industrial Marketing and Purchasing (IMP) Group and the markets-as-networks tradition (Johanson & Mattsson, 1994; Håkansson & Snehota, 2000); the rise of relationship marketing in marketing management theory (Möller & Halinen, 1999; Sheth & Parvatiyar, 2000); focus on the network properties of markets and economies (Achrol & Kotler, 1999; Fligstein, 2001); and advances in logistics and supply chain management (Harland & Knight, 2001; Peck & Jüttner, 2000).

Besides this long-standing interest in understanding networks, interest in managerial aspects of networking is fairly new and diverse. A firm's ability to develop and manage successfully its relationships with other firms may be viewed as a core competence, which varies among firms (Dodgson, 1993; Sivadas & Dwyer, 2000) and which is an important source of competitive advantage (Day, 2000). But what exactly is this ability and how can it be conceptualized? An answer to this question is important for both academics and managers. Academics need to find a common ground for discussion to produce a comprehensive understanding of the phenomena. Managers who invest a lot of resources in networking, partnering, and alliances can only be offered guidance when issues are made explicit and research is conclusive. This, in turn, requires an overall conceptual understanding of the networking ability of firms.

In this paper, we discuss the nature and components of firms' networking ability. First, we consider the types of relationships in which a firm is embedded and the meaning of the terms relationship management and network management. Hereby, we address our first question: To what extent can a firm manage its network? We distinguish between managing of versus management in relationships and networks and between the proactive and reactive roles firms can play. We then present previous research focused on relationship and network management in various contexts to identify the key components of firms' network ability. This section will present propositions on how relationship and network management can be characterized and classified based on today's understanding of the concept. The final section examines the management and research implications.

2. Types of business relationships

A business relationship can be defined as a process where two firms or other types of organizations "form strong and extensive social, economic, service and technical ties over time, with the intent of lowering total costs and/or increasing value, thereby achieving mutual benefit" (Anderson & Narus, 1991, p. 96). The notion of a process suggests that relationships may vary in their properties (Day, 2000; Ford, 1980). In carrying out their business activities, firms may develop relationships with various types of firms and other types of organizations because they affect, directly or indirectly, their performance. One study reports that, on average, firms have 10 important business relationships (Håkansson & Henders, 1992). The different types of potential relationship partners may be conceptualized in terms of the firm's value net (Brandenburger & Nalebuff, 1997).

The value net identifies four types of firms and organizations that affect a firm's ability to produce and deliver value to an intermediate or final customer: suppliers, other customers, competitors, and complementors. We have extended the model of Brandenburgers and Nalebuff (1997) by incorporating intrafirm relations, both within the focal firm and other firms (Fig. 1). This is an important consideration given that (1) firms interact with other organizations through its networks of internal interpersonal and cross-functional relations, and (2) an important strategic issue confronting management is the interfacing of intra- and interfirm relationships (Kanter, 1994; Webster, 1992). In addition to the types of actors in the value net, there are also governmental agencies, research and development institutions, educational institutions, and industry associations.

Business relationships may be formed with any of the types of actors depicted in the value net. The range of relationships a firm participates in represents its relationship portfolio. This overall portfolio, sometimes also called net, is made up of a number of subportfolios concerning each type of relationship partner. Thus, we can talk about a firm's supplier, customer, complementor and competitor portfolio. These business relationships can perform a variety of functions for those involved (Håkansson & Snehota, 1993; Walter et al., 2001), through the activity links, actor bonds, resource ties, and schema couplings that result (Håkansson & Snehota, 1995; Welch & Wilkinson, 2002):

• Relationships with customers: Developing good working relationships with customers is a means by which a firm

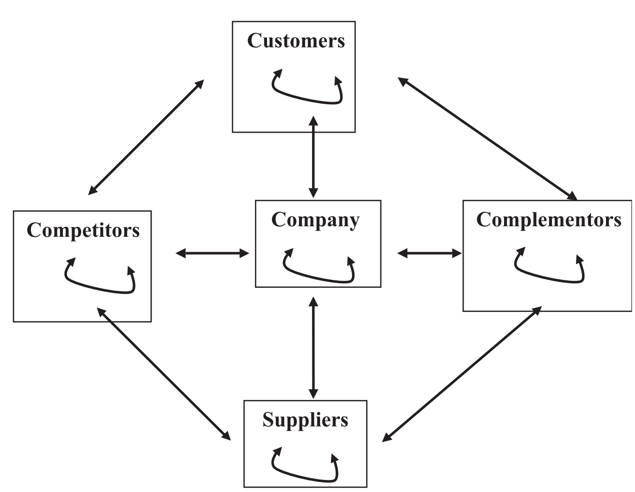

Fig. 1. A firm's value net (adapted from Brandenburger & Nalebuff, 1997).

understands and serves customers' needs and codevelops new products and services. Relationships with intermediate as well as final customers are included here, such as those with distributors and ECR systems but also relationships to prospective customers.

• Relationships with suppliers: Relationships with suppliers of strategically valuable products and services can be an important and durable source of competitive advantage and one that is hard for others to imitate or steal Dyer & Singh, (1998). Firms are embedded in production networks involving various chains of suppliers specializing in different aspects of the value creation process. The functioning of these networks depends on the capabilities of the actors as well as on the working relationships between them.

• Relationships with complementors: Firms develop relationships with many other types of firms whose outputs or functions increase the value of their own outputs. One example is joint marketing schemes, whereby firms cooperate in reaching out to customers in the form of joint promotion and distribution agreements, such as Lego teaming with Hewlett Packard to serve the children's toy market and Procter and Gamble teaming up with complementary product suppliers (Coca Cola or Pizza Hut) in promotion campaigns. Suppliers of complementary products and services may also be innovation partners, as new products can arise from recombining their outputs in productive ways. Lastly, these relationships include relationships with government agencies that can be important in entering new markets or in keeping informed about legislative developments.

• Relationships with competitors: Cooperative relationships among competitors may be developed for various purposes, beyond the typical collusion to control and subvert competition. For instance, competitors collaborate to develop product and technology standards, such as the 3G mobile telephone (Grundstrom & Wilkinson, in press). Collaboration among competitors from one country to enter and develop new international markets is another form of cooperative relationship among competitors (Welch, Welch, Wilkinson, & Young, 1996).

We can also distinguish a firms' subnetworks along the different functions they may perform, for example, production networks, innovation networks and distribution networks (Möller & Svahn, 2003). The value net focuses on the relationships in which the focal firm is a direct participant. But all these relationships are themselves connected to other relationships forming various types of overlapping value chains.

3. Managing or being managed in networks

There has been a long debate on the nature and possibility of management in networks. Some authors have argued that firms are in control of themselves and even of their surrounding firms (Jarillo, 1988). Such "controllers" have been termed "hub firms" and the networks involved "strategic networks."

Others have continually argued that firms are not in total control over their resources as other actors influence or restrict the actions taken by a given firm (Ford, 1997; Håkansson & Ford, 2001; Wilkinson & Young, 1994, 2002). "There is no 'invisible hand' creating a situation of efficiency and health. Instead there are several 'visible hands' that try to create situations that are beneficial to themselves" (Håkansson, 1987, p. 89). In this view, firms and networks of firms are seen as complex adaptive systems that are not centrally directed. Instead, firms are seen to comprise complex interacting sets of business and social relationships among people and units that are not completely orchestrated by top management (Stacy, 1997). In business networks, firms participate in a self-organizing process in which order emerges in a bottom–up manner from the microinteractions taking place among firms involved (Easton, Wilkinson, & Georgieva, 1997; Wilkinson & Young, 2002). From this point of view, networks are unmanageable, in the sense of being controlled and directed by a single participant firm. All firms are simultaneously involved in the ongoing management of the network, and the resulting structure and performance is coproduced by their actions. This raises important issues for the meaning of the term management, and the extent to which firms can and should try to "manage" their relationships and networks.

The differences between these two points of view have been attributed recently to the difference between intentional and unintentional networking, whereby the former is a deliberate activity and the latter is an emergent activity (Möller & Svahn, 2003). We argue that both these points of view are relevant and that firms confront different types of relationship and network management situations, including those when they are in a powerful and controlling position, those when they are the subject of others control, and those in which multiple parties have strong influence over each other. All these situations require relationship and network management and draw on the skills and competencies of a firm or individual to handle the kinds of interactions taking place in the best interests of their firms and themselves. At one extreme, we have the management of relationships, when a firm is able to choose its relationship partners and control and direct the way the relationship operates. This may arise when a monopolist, such as a government utility provider, deals with its customers and distributors or when a franchisor controls and directs its franchisees. But more typically, there is some degree of mutual interdependence such that each party has some ability to influence the other. The management challenge is that of management in relationships. The firm has to cope with managing the interactions taking place in a relationship, which may be with a partner not entirely of the firms choosing; have been in operation for some time and, therefore, has a history that exerts an influence on how things are done; and a relationship in which the counterpart has complementary, competing and conflicting views and agendas. In a similar manner, we progress from the relationship level to the network level where (1) a firm is in control of a network of other firms and operates as a hub firm, channel, or network captain, and is concerned with the management of the network, and (2) management in networks, where the firm operates as one of many having an influence on the structure and functioning of the network.

Table 1 presents a simple typology of network situations based on how dependent each firm is upon the other and is similar to classification schemes proposed by Alajoutsijärvi, Möller, and Rosenbröijer (1999) and Campbell (1985).

If firm A is highly dependent on firm B, B has substantial power over A because power stems from the dependence of one firm on another (Emerson, 1962). Similarly, B's dependence on A can be high or low, and this affects A's power over B. If neither A nor B are dependent on the other, there is no relationship to be managed. This may be the case in perfectly competitive markets, with numerous similar customers and suppliers and low switching costs. A firm's purchases of consumables, such as paper and pens, may be of this type. But if firms enter into a long-term purchase agreement or establish e-procurement systems, the situation changes to one of greater mutual dependence.

Followship relationships are those in which a firm is highly dependent on another firm, but the other is not very dependent on the firm. In this case, the nondependent firm is free to choose with whom they transact and to exert considerable influence over the way the relationship develops. The dependent firm must become a follower and adapt to the wishes of the more powerful firm. But the less powerful actor is not without means of influence and faces the problem of how best to manage its interactions with the more powerful firm. From the perspective of the powerful actor, the relationship is a leadership relation.

The last type of relationship involves mutual dependence, in which no firm is clearly more powerful. Each depends on the other for important inputs. Here, some form of collaborative relationship may be established, or one firm may take the initiative in directing the relationship with the agreement of the other, so long as their needs are also considered.

Relationships do not always fit neatly into these ideal types, but rather, they involve mixtures of interdependencies that can vary across issues and over time. In addition, the form of the interdependence can be both positive and negative. Positive dependence is when another firm's actions help a firm achieve its objectives, which is typical of relationships with customers, suppliers, and complementors. Negative dependence is when another firm's actions hinder a firm from achieving its objectives, as is typical of relationships with competitors. All relationships will have a mixture of both positive and negative dependencies containing cooperative, competitive, and conflictual elements.

Table 1
Types of relationship situations

		B's perceived power over A (A's perceived dependence on B)	
		Low	High
A's perceived power over B	Low	(a) No relationship	(c) Followship relationship
B's perceived dependence on A	High	(b) Leadership relationship	(d) Mutual relationship

From this discussion, we can see that network and relationship management is as much about "being manageable" as it is about managing (Wilkinson & Young, 1994, 2002). They simultaneously involve both proactive and reactive elements. They involve initiating and responding, acting and reacting, leading and following, influencing and being influenced, planning and coping, strategizing and improvising, forcing and adapting. As such, networking happens in a space of paradoxes (Håkansson & Ford, 2001), and the mix and balance of these elements will vary over time in a given relationship, as circumstances change across relationships. In short, relationship and network management is about managing interactions with others, not about managing others. This is a two-way process and involves influencing others and letting others have influence over you: "the extent to which a company will allow others to influence its nominally internal activities and will seek to involve itself within others is an important issue of managerial decision-making and control" (Ford & Saren, 1996, p. 48).

The term "to manage" has two meanings[3], which nicely reflects the above distinction between the proactive and reactive elements of relationship and network management. On one hand, to manage means to lead, to determine, to organize ("I am managing this firm"). On the other hand, to manage means one can cope with a given situation ("I can manage this situation").

This discussion leads us to our first proposition:

Proposition 1: *(a): The management of interactions with other firms and organizations both directly and indirectly is a key part of a firm's managerial activities.(b): The ability to effectively manage such interactions is critical for achieving economic goals and as such is a core competency of a firm and its personnel.(c): The management of interactions in relationships is matched to relationship conditions, including the different types of relative dependencies that exist between relationship partners.*

4. The components of relationship and network management

The tasks of managing in relationships and networks have been discussed in various ways in the literature, using

[3] We thank Jens Geersbro for pointing out this distinction.

a number of different concepts. To structure these contributions, it is helpful to distinguish between several levels of management. These are depicted in Fig. 2, where each dot represents an individual actor, which could be a person, business unit, firm, or other type of organization.

The first level of management is the individual actor viewed in isolation, which is similar to most resource-based theories of firms. But as we have pointed out, a firm is not an island but is connected to other firms and organizations in important ways that require management attention. In addition, within each firm, there are still networks of relationships among people and business units that determine how firms can and do behave.

The second level is that of the individual dyad. This has been the focus of much research attention in the study of buyer–seller relationships in business markets and distribution systems (see Wilkinson, 2001 for a review). The management of individual relationships has been referred to as the management of micropositions in networks (Johanson & Mattsson, 1987, 1992; Mattsson, 1985) and corresponds to Möller and Halinen (1999) relationship management level 1. But relationships, like firms, are not isolated from each other but are interconnected forming networks (Anderson, Håkansson, & Johanson, 1994; Wilkinson & Young, 2002). This leads to various types or levels of network management, including management within and between relationships (Ford & McDowell, 1999; Möller & Halinen, 1999).

One form of connection between relationships centers on an individual actor or firm, which is simultaneously involved in a number of relationships. These constitute an actor or firm's relationship portfolio and the set of tasks involved in managing such a set of relationships, which is described by Mattsson (1997) as the "extended interpretation" of relationship marketing. The tasks involved include the problem of allocating resources to different relationships and managing interactions within each relationship (Easton, 1992; Ford, 1980; Håkansson, Johanson, & Wootz, 1976). It also includes the management of positive and negative interactions among portfolio relationships, such as the management of supplier relationships and cross-functional relationships to enable the management of interactions with customers.

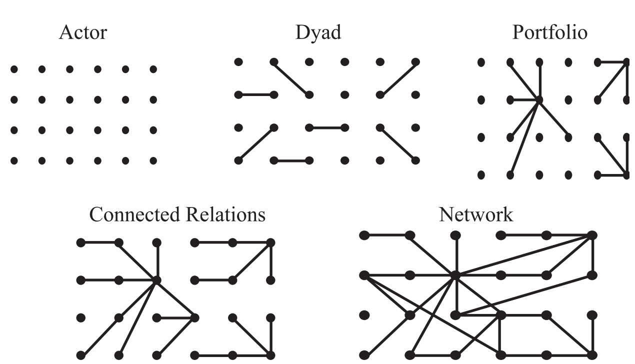

Fig. 2. Levels of relationship and network management.

The third level of management is that of connected relationships in which the actor is not directly involved, such as the indirect connections between a firm and its customer's customers or supplier's suppliers (Anderson et al., 1994). The management problem here involves dealing with the indirect effects of management action in one relationship on other relationships in the network, including responding to opportunities and problems arising from action taking place in connected relationships. Here, the role of relationships as bridges or conduits to other relationships becomes important, giving rise to various types of indirect network functions of relationships (Håkansson & Snehota, 1995; Walter et al., 2001). The strength of weak ties as important potential bridges to different types of actors and knowledge becomes relevant (Granovetter, 1985).

The final level of management is that of the network itself. Here, the concepts of network or macroposition (Johanson & Mattsson, 1987, 1992; Mattsson, 1985) and network identity (Anderson et al., 1994) become relevant. These arise as a result of the interactions taking place among actors in the network, from the various micropositions of actors, including interaction between and within firms and other types of organizations (government actors), and business and nonbusiness interactions (Håkansson & Snehota, 1995; Welch & Wilkinson, 2002).

Several propositions arise from this conceptualization of levels of relationship and network management:

Proposition 2: *Management in business relationships and networks arises at the individual, group, or business unit and firm level and these levels are interrelated.*

Proposition 3: *Management in business relationships and networks involves relationship-specific and cross-relational tasks.*

4.1. Relationship-specific tasks

Under this heading are all activities aimed at managing interactions in one relationship, including the initiation of relationships. Möller and Halinen (1999, p. 419) talk about "relationship management capability," which "refers to a firm's competence in handling individual exchange relationships." Walter (1999) suggests five tasks on this level: (1) searching for appropriate actors in the two firms, (2) bringing these actors together, (3) exchanging information, (4) coordinating activities between the two firms, and (5) getting negotiation results. Helfert and Gemünden (1998) develop a set of three relationship tasks: exchange, coordination, and adaptation activities. Ling-yee and Ogunmokun (2001) operationalize "relational capabilities" in terms of substantial cooperation, communication and involvement. The importance of communication (i.e., exchange of information) and coordination is also highlighted by Sivadas and Dwyer (2000) as a "cooperative competency" of a relationship, and by Day (2000). In a nutshell, all these contributions suggest that activities are aimed at exchanging goods, services, finances, information, etc. and at coordinating different activities between firms, that is, synchronizing efforts of different actors which goes beyond pure exchange. In terms of the IMP interaction framework, this synchronization is conceptualized in terms of the actor bonds, resource ties, and activity links, which develop over time in relationships (Håkansson, 1982; Håkansson & Snehota, 1995), as well as the schema couplings or mutually adapted theories that arise among relationship partners (Welch & Wilkinson, 2002). Since relational activities develop relationships through phases (Dwyer, Schur, & Oh, 1987; Ford, 1980), exchange and coordination are aimed at initiation, developing (including adapting), using, routinizing, or dissolving a relationship. In a way, dyadic interaction ability (interpreted as the performance of exchange and coordination) enables a firm to develop relationships.

Support for this understanding can be also found in the literature on marketing competence and orientation. In their operationalization, Tuominen, Möller, and Anttila (1999) relate marketing capability to information exchange, involving shared objectives and plans and operational interfaces. The literature on market orientation argues that the exchange and accumulation of information about customers and competitors are based on certain activities. More recently, market knowledge competence has been defined as a set of activities aimed at interacting with customers and competitors (Li & Calantone, 1998). Research on the pattern of development of relationships over time identifies various contributing processes including the development of trust and understanding (Dwyer et al., 1987; Ford, 1980). The initiation of a relationship is part of relationship development. This is a two-way process that includes locating and choosing partners and also getting chosen (Wilkinson et al., 2003). Other contributions stress the importance of relationship dissolution and the relationship aftermath as a strategic issue in relationship management (Dwyer et al., 1987; Havila & Wilkinson, 2002). Research on key account management has also identified a number of the key tasks of such managers (Millman & Wilson, 1999). Thus, we suggest:

Proposition 4: *Relationship-specific tasks are exchange and coordination aimed at initiating, using, developing, routinizing, and dissolving the relationship.*

4.2. Cross-relational tasks

Compared with the relationship-specific tasks, cross-relational tasks have been largely neglected in the literature. These tasks focus on the simultaneous management of several relationships and management of interconnections among relations. A number of portfolio models have been derived (Freytag, 2001; Turnbull & Zolkiewski, 1996). However, a major critique of these is that nearly all treat relationships as unconnected and derive strategies for the individual relationship and not for the network (Ritter, 2000; Wilkinson & Young, 2002).

Based on task classifications in general management literature (Carroll & Gillen, 1987; Koontz & O'Donnell, 1984), four cross-relational tasks are suggested: planning, organizing, staffing, and controlling (Ritter, 1999; Ritter & Gemünden, 2003; Ritter, Wilkinson, & Johnston, 2002). Planning refers to the development of an overall strategy, keeping in mind the strategic window restrictions discussed above. The main argument for planning is that there is a need for integration of the contributions offered by different actors in the network. Only if there is a synergy between relationships can the full potential be achieved. Since relationships are connected, a cross-relational plan is needed.

Organizing deals with the implementation of the plan. As such, the definition of particular aims for individual relationships and the allocation of financial resources to specific relationships is part of organizing. These overall plans for individual relationships are cross-relational issues because decisions made do have an impact on all relationships. However, the fact is acknowledged that these issues need to be communicated and coordinated within the dyads.

Staffing is the task of dealing with human resources. The allocation of personnel to relationships and management of responsibilities and conflicts between the people involved in relationships is part of this exercise.

In accordance with the management literature, controlling is seen as the final step of this cycle, as it reviews the results of the former steps. At the same time, it is the starting point for the process as the review of results provides inputs into the planning phase.

Proposition 5: *Cross-relational tasks are planning, organizing, staffing, and controlling aimed at dividing the overall value creation system into work packages and coordinating and integrating those.*

It is important to note that dyadic and cross-relational management tasks are ongoing and part of a continuous process of interaction taking place within and between relations. Networks are "living, ever-changing organisms" (Easton, 1992), and a firm's network management abilities affect its performance and development (Day, 1994; Drucker, 1985; Li & Calantone, 1998; Prahalad & Hamel, 1990; Ritter & Gemünden, 2003). As with any competence, it can erode. Knight (2000) argues that individuals and organizations can learn to collaborate, and they can also unlearn or forget.

Network management involves marrying the external network of relationships to and via the internal network of relationships. For example, Ritter and Gemünden (2003) highlight an integrated internal communication structure as an important part for the development of a firm's networking ability. In addition, the literature on market orientation highlights the role of interfunctional communication coor-

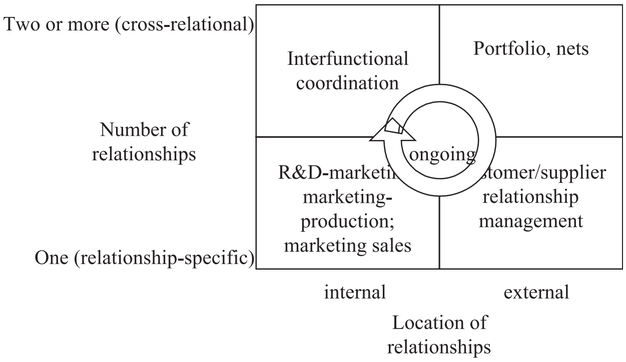

Fig. 3. Overview of network management tasks.

dination as a necessary part of a firm's ability to identify and respond effectively to customer requirements (Jaworski & Kohli, 1993; Narver & Slater, 1990). Fig. 3 summarizes the various network tasks and their ongoing and interrelated nature.

Proposition 6. *A firm's networking ability can only be understood in an ongoing, firm-wide process.*

5. Summary and conclusions

We have reviewed the nature and components of relationship and network management and identified this as a key characteristic of firms. The ability to develop and maintain effective and productive relationships with other members of their ecosystem is a fundamental property of any living organism. This ability varies between firms. We have developed some propositions out of the existing marketing literature, which sheds some light on the nature of networking ability. However, the current understanding of network management is limited, which poses implications for managers and researchers alike.

The challenge for managers is to develop a networking ability that enables them to connect their resources to those of other actors. This development is hindered by the lack of understanding of the construct, but this does not mean that networking cannot be developed or is unimportant. We see the major challenge in cross-relational task development and in organizational development towards an open, networked firm.

Regarding research, the task ahead is to fine-tune our understanding of networking capabilities, to develop good measures of them, and to empirically examine how they contribute to relationship and network development and the firms performance in different relationship and network contexts (Ritter, 1999; Ritter et al., 2002). There are also some particular areas that have traditionally not been addressed in much detail. One issue is the interplay between external, interorganizational relationships and interorganizational, cross-departmental relationships. These subjects have been researched separately, but the network approach demands an integrated understanding of these. This is particularly true with the recent trend in outsourcing, as formerly internal relationships progressively become interorganizational relationships.

We also need to develop better ways to teach and nurture such competencies in people and firms and to highlight the importance of network relationships in basic marketing and business (dis)courses. This relates back to the implications for business practice and the challenge to develop better capabilities.

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Thomas Ritter is Associate Professor at the Copenhagen Business School, Denmark. His research deals with managing business relationships and industrial networks, particularly focusing on firms' capabilities and competencies, mutual value creation, and information technology. He has published works in *Industrial Marketing Management*, *Journal of Business Research*, *International Journal of Research in Marketing*, *European Marketing Journal*, *Journal of Business and Industrial Marketing*, among others.

Ian Wilkinson is Professor of Marketing at the University of New South Wales. He was educated in the UK and Australia and has held academic posts at various American, European, as well as Australian, universities. His current work focuses on the evolution and management of interfirm relations and networks in domestic and international business.

Wesley J. Johnston is the CBIM RoundTable Professor of Marketing and the director of the Center for Business and Industrial Marketing in the Robinson College of Business at the Georgia State University. His MBA and PhD are from the University of Pittsburgh. He is currently involved in series of seminars for numerous companies dealing with networking and selling value.