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## **Managing Network Goals: The Interplay of Network and Firm Levels**

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## **Abstract**

This article provides several contributions to the general understanding of governance in networks and the achievement of private and common goals. A simple, integrated framework for understanding why firms collaborate and under which conditions they establish durable networks that succeed in achieving goals is provided. Network theory is extended by explicitly distinguishing between dyadic-level governance and network-level governance conditions, and by identifying exchange conditions that promote governance. This way issues as how networks evolve, how they are governed, and ultimately, how collective outcomes might be generated can be better comprehended. This is especially relevant to policy planners and those having a perspective that goes beyond the performance of individual organizations.

## **1. Introduction**

Earlier studies on management of interfirm relationships in business networks (e.g. (Anderson, Hakansson, & Johanson, 1994; Ritter, Wilkinson, & Johnston, 2004; Wathne & Heide, 2004) have explicitly emphasized that the effectuation of goals set in a network depends on the extent to which relationships are connected and organized. Moreover, proponents of the relational view suggest that advantages of an individual firm are often linked to the advantages of the network of relationships in which the firm is embedded (Dyer & Singh, 1998). Accordingly, interfirm relationships and relationship management issues are receiving considerable attention.

The predominant focus in much of the existing research has been on individual dyadic relationships between firms, such as those between supplier and buyer. For example, (Provan, Fish, & Sydow, 2007) in their extensive review on whole networks have found only 26 studies of approximately 50.000 in total dealing with issues at the network level of analysis. However, to understand fully the nature of interfirm relationships, greater attention must be directed to the larger network in which relationships exist otherwise the soundness of inferences drawn from the existing research is disputable (e.g. (Anderson et al., 1994; Iacobucci, 1996; Jones, Hesterley, & Borgatti, 1997; Wathne & Heide, 2004).

With regard to this concern, a two level perspective is adopted (Provan et al., 2007). The first perspective refers to the dyadic level and the second refers to the network level. Although

different, these perspectives are complementary and important to distinguish to gain a better understanding of interfirm relationships (Kilduff & Tsai, 2003). Building on these perspectives, we focus on governance and show how governance mechanisms *and* governance conditions create an exchange system where cooperation and coordination among firms in a network allow the achievement of firm goals. In greater detail, we scrutinize governance through the lens of their ability to facilitate the achievement of firms' private and common goals since both types of goals are inherent in networks (Ritter et al., 2004). Moreover, we focus on relational governance (i.e. excluding contractual agreements) as this type has been observed as increasingly important (Dyer & Singh, 1998; Jones et al., 1997; Ring & Van de Ven, 1994; Van de Ven, 1992). At the dyadic level, we specify governance as the firm's effort to build strong working relationships and to perform coordination practices (i.e. planning, monitoring, control) with its first tier relationships. Both play an important role in governing dyadic (i.e. direct) exchange relationships (Dyer & Singh, 1998). At the network level, we specify governance as conditions (i.e. social mechanisms: restricted access to exchange, macroculture, collective sanctioning and reputation) that influence adaptation, coordination and safeguarding exchanges between related and not related firm's (i.e. indirect) (Jones et al., 1997). We posit that the attainment of private and common goals depends on the intertwinement of governance and governance conditions.

We seek to make the following contribution to the literature: First, from a theoretical standpoint, we want to broaden the existing models of network governance by expanding the unit of analysis relative to extant governance research. More specifically, we examine how dyadic governance (i.e. routines deployed) and network governance conditions (i.e. social mechanisms) affect the attainment of private and common goals. Second, from a practical standpoint, firms are increasingly recognizing that relationship management involves more than managing a single relationship. For example, many food manufactures are recognizing that their downstream relationship is constrained by the relationship elsewhere in the larger network. Adopting a two level perspective can facilitate an understanding of how networks of firms can evolve and how they attain private and common goals.

The remainder of this article is organized as follows. First, we will present our theoretical foundations, and then we will discuss private and common goals followed by a discussion of governance and governance conditions. Finally, we will discuss our contribution and provide some practical implications and directions for future research.

## **2. Theoretical foundations**

Based on the principles of the Resource Based View, rents can only be generated if the accumulated resources and capabilities are rare, valuable, nonsubstitutable, and difficult to imitate (Barney, 1991). This also applies to those critical resources that extend beyond firm boundaries. As such, productivity gains in the value chain network are possible when trading firms are willing to make relation-specific investments and combine resources in unique ways to create relational rents (Dyer & Singh, 1998). It means that firms who combine resources in unique ways may realize an advantage over competing firms who are unwilling or unable to do so (Dyer & Singh, 1998). This suggests that networks generate relational rents only as they move away from the attributes of market relationships. We refer to this as complex exchange relationships (Jones et al., 1997).

The ability to generate relational rents will depend on the extent to which appropriate governance is employed. Although governance may generate relational rents by lowering transaction cost, governance issues cut across each of the sources of relational rents (i.e. what relational investments will be made, knowledge to be shared, etc.) (Dyer & Singh, 1998). Governance is widely acknowledged and seen as producing important economic benefits (Uzzi, 1996) and constitutes a distinct form of coordinating economic activity, which contrasts (and competes) with markets and hierarchies (Jones et al., 1997). Moreover, firms do not have only relationships at a dyad level, but are also linked indirectly to third parties. Therefore, we posit that governance emerges along two lines. First, it will emerge by means of the mechanisms employed by firms at the dyadic level and, second, it will be conditioned by the social mechanisms that have emerged at the network level. Our argument is based on the principles of alliance capability theories and social network theories.

Alliance capability theories (e.g. (Dyer, Kale, & Singh, 2001; Heimeriks & Duysters, 2007; Kale, Dyer, & Singh, 2002; Simonin, 1997) argue that firms that possess the skills and abilities to manage relationships will gain more from their relationships. They are better in setting up routines that facilitate the governance of the collaboration process (i.e. information gathering, communication, decision-making, conflict resolution) between firms (Zollo, Reuer, & Singh, 2002). Recent studies suggest that relation-specific routines can explain differences in relationship performance (Dyer & Singh, 1998; Zollo et al., 2002). The better these capabilities are developed, the more likely governance will emerge at the dyadic level

and the more likely firms will attain private and common goals (Schreiner, Kale, & Corsten, 2009).

Social network theories (e.g. (Burt, 1992; Coleman, 1990; Granovetter, 1985) argue that actors within a network interact because of decoupling, subcontractors and frequent movement of professionals among firms. This links different groups together and spreads information about third parties among those within the network, which allows information, norms, and common understandings move across boundaries (Granovetter, 1985; Jones et al., 1997). The more interaction between members of a network the more information each member of the network knows about all of the other members and the more constraints there are on each player's behavior (Burt, 1992; Jones et al., 1997). This allows social mechanisms of governance to emerge and provide comparative advantage over other governance forms for these complex exchange conditions (Dyer & Singh, 1998; Jones et al., 1997; Ring & Van de Ven, 1994).

### **3. Entwinement of firm-level and network-level goals and governance**

Firms have exchange relationships in pursuit of self-interest; private goals (Medlin, 2006). However, their exchange relationships (first tier relationship) are contingent on or has consequences for the exchange relationship in other relationships (2...n tier relationship) (Wathne & Heide, 2004). Consequently, there are common interests involved. Thus, private and common goals have simultaneously to be examined. This implies that interactions related to resource allocation as well as planning and control require that the focus is on the network as a whole (Provan et al., 2007). These common goals or network goals are defined as the set of outcomes that are shared by all network members and can only be achieved as all network members work together. Examples of network goals in the food industry include various aspects of food safety and quality addressing primarily the increasing consumers' demands and the risk of food scandals, e.g. goals such as total chain quality, end-consumer satisfaction, etc. Resolution of such complex, rather non-pecuniary issues involves tight collaboration of all network members (Hingley, 2005).

The achievement of both private and common goals requires governance and draws on the skills and competencies of a firm to handle the kinds of interactions taking place in its best interests. At one extreme, there is the governance of relationships, when a firm is able to choose its relationship partners and control and direct the way the relationship operates. 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 governance in relationships (Ritter et al., 2004). The firm has to cope with managing the interactions taking place in a relationship, which may be with a partner not entirely of the firm's 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 (Ritter et al., 2004). As a result, the achievement of goals of network members requires members to consent on procedures to achieve goals as well as on goals themselves. In this manner, we proceed from the firm level to the network level where (1) a firm is in control of a network of other firms and operates as a focal company, and is concerned with the governance of the network, (2) governance in networks, where the firm operates as one of many having an influence on the structure and functioning of the network (Ritter et al., 2004), and (3) governance where an administrative organization is concerned with the governance of the network (Provan et al., 2007).

Notwithstanding these different governance models, one has to distinguish dyad-level governance and network level governance conditions that together create an exchange system where cooperation and coordination among network members determine the attainment of private and network goals. Dyadic-level governance is defined as those mechanisms deployed by firms at the dyad level to establish cooperation and coordination. Its focus is on facilitating exchange (i.e. alignment of interests, information, and decision-making) between dyadic relationships in order to attain private and common goals. However, as a network comprises multiple dyadic relationships the attainment of goals will depend on how these dyadic relationships are connected, organized (Jap & Ganesan, 2000; Wathne & Heide, 2004). This creates an exchange system, where social coordination and control mechanisms have developed (network governance conditions) that affect coordination and cooperation within a network (Jones et al., 1997). Next, we will elaborate on both types of governance mechanisms.

### **3.1. Dyadic-level governance**

Governance at the dyadic-level is defined as those routines used to manage dyadic relationship. Moreover, as routines are the actions firms engage in to accomplish some (business) goal we distinguish two specific inter-firm routines being *relational capital* and *coordination practices*. These develop during the lifecycle of the relationship, are

idiosyncratic to that relationship, and play an important role in the achievement of the goals set (Dyer & Singh, 1998). Relational capital is defined as the result of a firm's effort to build strong working relationships with a specific partnering firm (Ariño, de la Torre, & Ring, 2001). Coordination practices are defined as pre-specified tasks to be performed (Gittell, 2002), it involves the planning, coordination and monitoring of a firm's specific relationship. Next both mechanisms are elaborated.

### *Relational capital*

Relational capital facilitates partners to engage in cooperative behaviors, which is critical for effectuating the relationship's potential value into real value (Madhok & Tallman, 1998). It is a broader construct than trust as it involves factors such as the degree of compatibility of firm's cultures and decision-making styles, a convergence of business views, and other organizational characteristics (Ariño et al., 2001). Higher levels of relational capital prompt trust, commitment, and the absence of conflicts (Ariño et al., 2001; Kauser & Shaw, 2004) so that firms gain confidence in the reliability and integrity of their partner (Morgan & Hunt, 1994). Such capital further facilitates the effective functioning of the relationship on a day-to-day basis (Palay, 1985), enables organizations to gather high-quality information about each other, creates strong disincentives for opportunistic behaviors (Larson, 1992; Uzzi, 1996) and reduces contracting costs caused by information asymmetries (Sarkar, Echambadi, Cavusgil, & Aulakh, 2001). Extant empirical interfirm relationship studies (i.e. dyadic) support the positive effect of relational factors on performance (Aulakh, Kotabe, & Sahay, 1996; Inkpen & Birkenshaw, 1994; Kauser & Shaw, 2004; Lambe, Spekman, & Hunt, 2002; Lane, Salk, & Lyles, 2001; Sarkar et al., 2001).

**Proposition 1: Relational capital has a positive effect on the attainment of private and common goals.**

### *Coordination practices*

Coordination practices relate to specific interfirm tasks to be performed, such as determining the relationship's goal (Ireland, Hitt, & Vaidyanath, 2002; Khanna, 1998), allocating resources, implementing appropriate organizational control mechanisms (Geringer & Hebert, 1989; Kumar & Seth, 1998) and maintaining and achieving alignment between partner firms (Douma, Bilderbeek, Idenburg, & Looise, 2000).

Determining a relationship's scope is one of the most comprehensive critical tasks. Decisions regarding product categories, brands, technologies to be shared, and the ownership and application of both tangible and intangible assets produced by the relationship, help shape the relationship (Khanna, 1998). Next, an appropriate partner has to be selected that has the ability and motivation to support the firm's strategy (Hitt, Dacin, Levitas, Arregle, & Borza, 2000; Ireland et al., 2002; Wathne & Heide, 2004). A less suitable partner can diminish the relationship's potential rents (Dyer & Singh, 1998; Hitt, Dacin, Tyler, & Park, 1997). After the partner is selected, appropriate organizational planning and control has to be implemented to enable the relationship's functioning (Barringer & Harrison, 2000). It includes decisions regarding the locus point through which a partner's information and knowledge-based inquiries are to be channeled for analysis and subsequent actions, the staffing of the locus point to verify the personnel possesses the skills needed to disseminate information, while simultaneously protecting competitively sensitive information, and procedures for monitoring the relationship in order to achieve alignment and prevent conflicts (Ireland et al., 2002; Kumar & Seth, 1998). In general terms, all these activities are aimed at optimizing the firm's relationship potential. A firm completing these tasks in a superior manner will be able to extract value from its relationships and to create competitive advantage (Doz & Hamel, 1998). Empirical studies support the positive effect of coordination practices on goal attainment (Day, 1995; Dyer et al., 2001; Kumar & Seth, 1998; Ziggers & Henseler, 2009).

**Proposition 2: Coordinative practices have a positive effect on the attainment of private and common goals.**

### **3.2. Network-level governance conditions**

Governance conditions at the network level involves the social mechanisms (i.e. restricted access to exchange; macroculture; collective sanctioning) that influence adaptation, coordination and safeguarding exchanges between not related firm's (i.e. indirect) (Jones et al., 1997). Social mechanisms of network governance provide comparative advantage over other governance forms for achieving coordination and safeguarding (Dyer & Singh, 1998; Jones et al., 1997). Next, we will briefly discuss each mechanism.

#### *Restricted access to exchange partners*

Restricted access to exchange partners is a reduction of the number of available partners within the network. It is a result of relational contracting at the firm level (i.e. coordination

practices), because firms are avoiding potential partners where they face potential relational and/or performance risks (Das & Teng, 1996). Even firms with the skills and abilities to develop relationships have difficulties (i.e. managing cultural differences, sharing information, dedicated investment, and coordinating activities) to work with partners that do not have these skills and abilities (Lambe et al., 2002; Ziggers & Duysters, 2004). As a consequence, firms will seek for partners with a high level of congruence and will rely on fewer partners. For example, in Japan firms work with fewer suppliers than American firms do (McMillan, 1990). Here, dyadic-level governance and network-level governance conditions interact. As a result of a firm's coordination practices a firm will have an exchange relationship with firms that have the ability and motivation to support the firm's strategy.

Restricted access reduces coordination costs, and fewer partners increase interaction frequency, which can increase both the firm's motivation and ability to coordinate smoothly. First of all, having fewer partners who interact more often reduces variance in expectations, skills, goals that parties bring to exchanges, and facilitates mutual adjustments. In addition, having fewer firms who interact more often increases identification among them and provides the conditions for developing strong ties among those involved. The actors involved tend to see their interests and needs as aligned rather than in opposition which reduces the incentives for opportunism (Jones et al., 1997; Provan & Gassenheimer, 1994).

**Proposition 3: Restricted access to exchange partners enhances the achievement of private and common goals.**

#### *Macroculture*

Macroculture is a system of widely shared assumptions and values comprising industry-specific knowledge that guide actions and create typical behaviour patterns among independent firms (Jones et al., 1997). Macroculture is something that is shared by all participants of a network. It specifies roles, role relationships and accepted approaches, solutions to problems, and coordinates interdependent activities among independent firms so that tasks may be completed. (Jones et al., 1997). The more firms in a network are connected and interact with one another, the more widely they share their values, assumptions and role understandings (Abrahamson & Fombrun, 1992). In Silicon Valley, for instance, industry norms and understandings have emerged from and are reinforced by frequent strategic

alliances, subcontracting, and job hopping of individuals among firms, all of which extend the boundaries between independent firms (Saxenian, 1990).

Macroculture is critical to understanding network governance, for its goals, shared social processes and structures enable effective exchange among independent firms. It facilitates efficient exchange among parties because the ground rules do not have to be re-created for each interaction (Jones et al., 1997). Although macroculture enhances network governance in emerging and thriving, it is difficult to establish. Because networks involve disseminating cultural beliefs and values among many autonomous firms, it may take decades to establish the shared understandings, routines, and conventions for complex tasks. For example, in Silicon Valley the network developed from second-sourcing agreements among initial semiconductor manufacturers (Saxenian, 1990). It also takes third-party institutions, such as guilds, professional schools or associations to institutionalize common approaches and understanding by socializing new members. In general, macrocultures are enhanced by close geographic proximity, because the of the increased likelihood and ease of interaction and tend to rise in areas as Silicon Valley's semiconductors (Saxenian, 1990), Prato, Italy's fashion textiles (Lazerson, 1995); and Westland, Dutch horticulture centre.

**Proposition 4: The presence of a macroculture enhances the achievement of private and common goals.**

#### *Collective sanctioning and reputation*

Collective sanctions involve group members punishing other members who violate group norms, values, or goals and range from gossip and rumors to exclusion. They define and reinforce the parameters of acceptable behaviors by demonstrating the consequences and violating norms and values (Jones et al., 1997). One's reputation is hurt when one recommends someone whose performance does not meet expected standards. Moreover, reputations have economic consequences for participants in networks

In fact, collective sanctioning and reputation are critical for deciding who gets repeat exchanges. For example, in the film industry those with successful performances and track records move ahead in their careers, those with moderate reputations do not, and those with poor reputations experience employment difficulties (Faulkner & Anderson, 1987).

Collective sanctioning and reputation have limitations in their use. For example, one is often unable to discern intentional opportunism from a genuine misunderstanding, especially with complex tasks under high uncertainty. As uncertainty increases, it becomes increasingly difficult to tell when parties have met or not their obligations to one another. However, over time both may lead to effectively shutting out players that are very different (Jones et al., 1997).

**Proposition 5: The presence of collective sanctioning and reputation risks enhance the achievement of private and common goals.**

#### **4. Discussion, implications, and future research**

In this article we provide several contributions to the general understanding of governance in networks and the achievement of private and common goals. We provide a simple, integrated framework for understanding why firms collaborate and under which conditions they establish durable networks that succeed in achieving goals. We extend network theory by explicitly distinguishing between dyadic-level governance and network-level governance conditions, and by identifying exchange conditions that promote governance and enhance knowledge available in the extant network literature. Although we identify a few key governance mechanisms, we acknowledge that these are not an exhaustive set, and we expect future research to identify other governance mechanisms and network governance conditions.

As of now, one can speak of intertwinement of dyadic-level governance and network-level governance conditions. This intertwinement can be generally observed via three media – structures, processes, and network participants (Winkler, 2006). Structures play an important role in networks since they influence key aspects like the influence on the network agenda, the power to act and the relevance of resources. Processes defined as the instruments by which a network's communication takes place on the one hand provide resources for the network members to communicate. On the other hand, to control these resources enables network members to influence the collaboration. Governance by participants means that any network member who has the power and know-how to influence and enact a network agenda may take the lead (Winkler, 2006, p. 119). The three media are clearly interlinked (Huxham & Vangen, 2000). Structures influence processes and network members' behavior. Processes

influence the emergence of structures and, thus, who can set agendas. Participants influence the design of both structures and processes.

Very often membership of the network is discussed. Because governance at the firm and network levels exists to complete a project, product and/or service, this goal is an organizing principle around which the network is shaped. Network membership may be defined in terms of the firm's relationship to the attainment of this goal rather than on characteristics (i.e. size, SIC-codes, geographical location). From a research point of view, then, network membership is operationally defined by the direct and indirect relations an organization has with other firms in the network, rather than by an attribute of the firm itself. It also implies that it is not justified to consider an industry or a region a network without examining relations among the firms and how these relations achieve a certain goal (Jones et al., 1997). Consequently, governance in networks is not only enacted by network members but also by structures and communication processes embedded within the network. Furthermore, governance is generally based on intertwinement of structures, processes and participants, i.e. the focus on the whole network involves dyadic- and network-level governance.

Only by examining the whole network we can understand such issues as how networks evolve, how they are governed, and ultimately, how collective outcomes might be generated. This last point is especially relevant to policy planners and those having a perspective that goes beyond the performance of individual organizations. For instance, an examination of whole networks can facilitate an understanding of how multifirm innovation can be enhanced (Powell, White, Koput, & Owen-Smith, 2005), how clusters of small firms can more effectively compete (Human & Provan, 2000), and how standards (i.e. food safety, ISO) can be more effectively implemented.

It also can have important implications for individual firms as part of the network. For instance, as firms continue to outsource business activities, they are realizing that they are part of a network and practicing relationship management involves more than managing an individual relationship (Wathne & Heide, 2004). By focusing only on the members themselves and their interactions with others, the importance of individual organizations tend to be exaggerated and the importance of collective behavior underestimated (Provan et al., 2007).

A significant topic for future research is to specify in greater detail the range of governance mechanisms that can be used to manage networks and the properties of each mechanism with respect to specific governance. Also an interesting topic for future research is to examine how governance types emerge and how they become institutionalized. For example, it may be that a hub type of governance typically changes as the network grows and matures, or instead it may be that, once established, a particular type becomes reinforced despite changing external conditions (Provan et al., 2007). Another significant topic for future research is in-depth analysis of how dyadic-level governance and network-level governance conditions are intertwined. As heterogeneity exists in the knowledge and skills firms have in managing relationships, it will exclude some firms from participation in the network (Ziggers & Duysters, 2004). This may have an effect on the access to and availability of exchange partners in the network or the effectuation of network goals. Another research issue is how governance and governance conditions contribute to the attainment of common goals in the context of simple and complex exchange conditions (i.e. branded foods, food quality). Finally, we hope that future research will be directed towards extending the unit of analysis in network research in this and other directions.

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