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## Network Governance at the Firm and Network Level: Goals, Routines, and Social Mechanisms

<sup>1</sup>Gerrit W. Ziggers, <sup>2</sup>Taras Gagalyuk, and <sup>3</sup>Jon Hanf

<sup>1</sup>Radboud University, The Netherlands, <sup>2</sup>Assoc. Ukrainian Agribusiness Club, Ukraine, <sup>3</sup>University of Applied Science Geisenheim, Germany  
*g.ziggers@fm.ru.nl; gagalyuk@agribusiness.kiev.ua; jon.hanf@hs-rm.de*

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### ABSTRACT

This article contributes to the general understanding of governance in networks and the achievement of private and common goals. Integrating transaction costs and social network theory, a simple integrated framework is provided for understanding why firms collaborate and under which conditions they establish durable networks that succeed in achieving goals. Network theory is extended by explicitly distinguishing between firm and network level governance, and by identifying governance mechanisms that adapt, coordinate, and safeguard customized exchanges. 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.

*Keywords: network governance, social network theory, governance mechanisms.*

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### 1 Introduction

Perhaps even more than in any other industry, firms in the agribusiness and food industry are interdependent to address and meet the various challenges of food quality and safety. It encompasses very often complex, rather non-pecuniary issues that require tight collaboration of all firms involved (Hingley, 2005) and goes beyond dyadic relationships. We view such a group of connected firms as a network. The relationships among members are primarily nonhierarchical, and often have substantial operating autonomy. They can be linked by many types of connections (i.e. through formalized contracts or informal and totally trust based), flows (e.g. information, materials, financial resources, services and social support)(Provan, Fish and Sydow, 2007), and attainment of private and common goals.

Contrary to the predominant focus on individual dyadic relationships in network research (e.g. buyer-supplier relationships, alliances), attention should be directed to the network in order to fully understand the nature of such networks, and otherwise the soundness of inferences drawn from that research is disputable (Iacobucci, 1996; Jones et al., 1997; Wathne and Heide, 2004). Only by studying the entire network we can understand such issues as how networks evolve, how they are governed, and ultimately, how individual and collective outcomes might be generated (Provan et al., 2007). Theorizing about networks can generally be thought of as coming from two different but complementary views that are important in gaining a better understanding of inter-firm relationships: the firm level and the network level (Kilduff and Tsai, 2003).

Building on these views and the envisioned concern our study is focusing on governance and discusses how governance mechanisms adapt, coordinate and safeguard exchanges. In greater detail, we scrutinize governance through the lens of its 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, the network we discuss is formally established and governed and goal directed rather than occurring serendipitously. From the firm level's perspective, we define governance as the firm's routines deployed aiming at building strong working relationships and coordination of activities. Both are important for governing dyadic relationships (Dyer and Singh, 1998). From the network perspective we define governance as the social mechanisms that influence adaptation, coordination and safeguarding exchanges in the network (Jones et al., 1997). We posit that performance (i.e. effectuating private and common goals) is dependent on the entwinement of firm and network governance.

Our study attempts to provide a contribution to a topic that has received generally limited attention (see Provan et al., 2007). More specifically, by adopting a firm-level and network level view we examine when network governance is likely to occur, and how governance mechanisms help resolve problems of adapting, coordinating, and safeguarding exchanges (i.e. the attainment of private and common goals). From a practical standpoint examining a whole network can facilitate an understanding of how and why networks are effective (or not) (e.g. more competitive or innovative), but also how and why individual network members are effective (or not) (e.g. the structure of the network may hinder or facilitate the attainment of private goals).

The remainder of this article is organized as follows. First, we will present our theoretical foundations, and then we will discuss the emergence of network governance and how it relates to private and common goals. The following section will discuss governance mechanisms. Finally, we will discuss our contribution and provide some practical implications and directions for future research.

## 2 Theoretical foundations

Our theoretical foundation is based on integrating TCE and social network theory. TCE provides a comparative framework for assessing alternative governance forms, while social network theory addresses social structures. Prior work (Dwyer et al., 1987; Noordewier et al., 1990; Williamson, 1991) within the TCE framework has shown that relational contracting is the basis for an alternative governance form between markets and hierarchies. Such contracts are based on particular contracting norms that enable parties to overcome planning gaps and adapt in a flexible manner as circumstances change. These studies, mostly focusing on dyad exchanges are important, but rarely define network governance and do not address how network governance resolves fundamental problems of adapting, coordinating, and safeguarding exchanges. Without referring to the nature of other ties in the network or how well they fit together one cannot adequately show how the network structure influences exchanges (Jones et al., 1997; Wathne and Heide, 2004).

Social network theories e.g. (Burt, 1992; Coleman, 1990; Granovetter, 1985) argue that firms within a network interact because of decoupling, subcontractors, and frequent movement of professionals among firms. This links 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). The exchange relationships become embedded in webs of social attachments that change the distributive bargaining logic by which market transactions take place (Uzzi and Gillespie, 2002). Embedded ties promote expectations of trust and reciprocity that provide the safeguards and logic for resource transfers between firms (Uzzi and Gillespie, 2002). This social context is also referred to as structural embeddedness (Granovetter, 1992) which is akin to Williamson's notion of atmosphere, which also emphasizes social control by facilitating informal group influences, group disciplinary actions and stronger informal infrastructure (Williamson, 1975).

Thus, to gain a better understanding of network governance both the firm level and the network level have to be included in the analysis (Kilduff and Tsai, 2003). At the firm level firms can deploy specific relationship mechanisms or routines to adapt, coordinate, and safeguard exchanges effectively (i.e. information gathering, communication, decision-making, conflict resolution). Recent studies suggest that heterogeneity among firms' capabilities in deploying these specific relationship routines explains differences in dyadic performance (Dyer and Singh, 1998; Ethiraj et al., 2005; Zollo et al., 2002). As a dyadic relationship is connected to a larger network of relationships the ability to adapt, coordinate, and safeguard the exchange in one relationship will depend in part on a firm having deployed particular routines in another (Wathne and Heide, 2004). At the network level, structural embeddedness is critical to

our understanding of how social mechanisms (i.e. restricted access to exchanges, macroculture, collective sanctioning, and reputation) adapt, coordinate and safeguard exchanges, for it diffuses values and norms that enhance coordination among autonomous firms, and it diffuses information about firm's behaviors and strategies (Jones et al., 1997; Ring and Van de Ven, 1994). Both levels interact with one and another. For example a firm that has the ability to develop effective relationships will bring in the best exchange partner to effectuate its goals (Day, 1995). In turn, gossip about being a cooperative partner by third parties significantly affects the willingness and likelihood of parties to establish exchange relationships (Gulati, 1995).

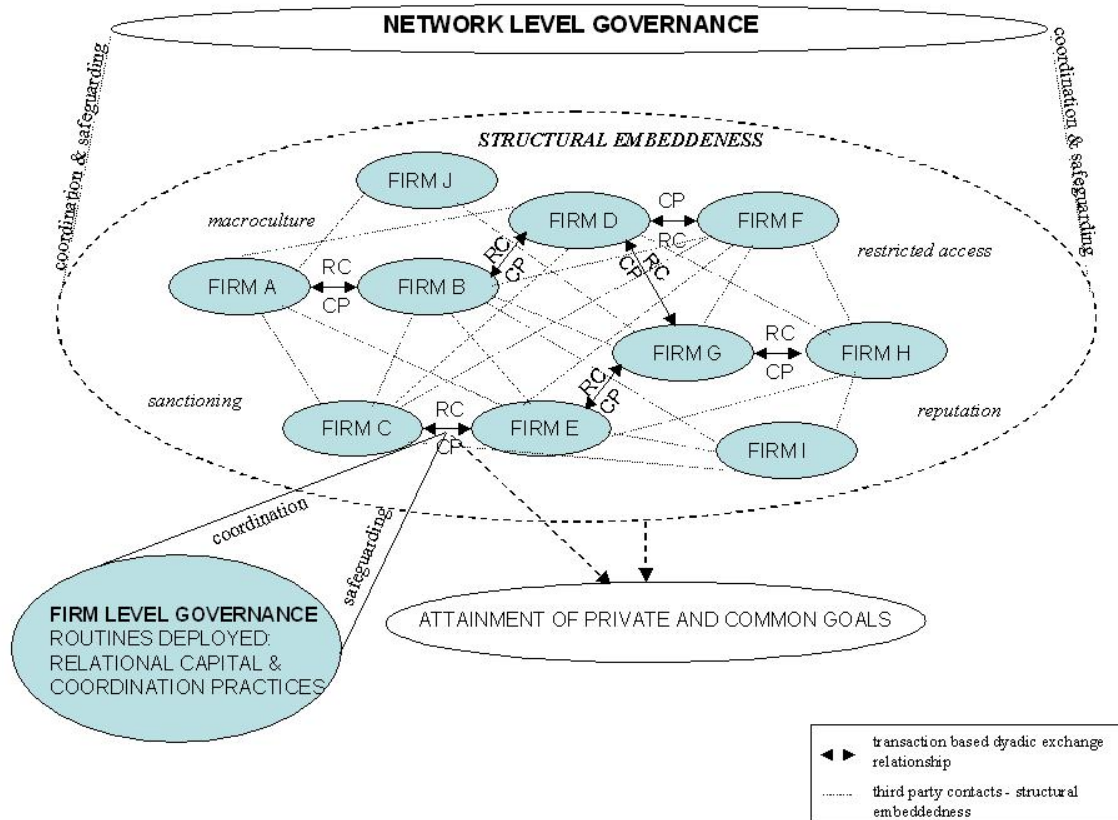
### **3 Entwinement of firm-level and network level goals and governance**

For a governance form to emerge and thrive, it must address problems of adapting, coordinating, and safeguarding exchanges more efficiently than other governance forms (Williamson, 1991). Less efficient modes of organizing are at a comparative disadvantage and will not be selected in the long run. From a TCE perspective three exchange conditions - uncertainty, asset specificity, and frequency- determine which governance mode is more efficient. Understanding the sources of uncertainty is important since this influence what governance form is used to coordinate and safeguard exchanges. Research has shown that in essence firms that face demand uncertainty with relative stable supply disaggregate into autonomous units, primarily through outsourcing or subcontracting (e.g. Acheson, 1985; Balakrishnan and Wernerfelt, 1986; Helfat and Teece, 1987). It increases their ability to respond to a wide range of contingencies, because resource bundles are now exchanged or rented and can be reallocated cheaply to meet changing environmental demands. Asset specific exchanges (i.e. customization) create dependencies between parties and increase the need for coordination between parties. Customization is common among firms in a network (Miles and Snow, 1992) and involves human asset specificity (Williamson, 1985) and/or task complexity (Pfeffer and Salancik, 1978). Customized exchanges with high levels of human asset and/or task specificity require an organizational form that enhances cooperation, proximity, and repeated exchanges to transfer effectively tacit knowledge among parties. These conditions make networks as a governance form likely to emerge and thriving exchanges (Jones et al., 1997).

Many of the exchanges within the food-industry are meeting these exchange conditions. Examples in the food industry include various aspects of food safety and quality addressing primarily the risk of food scandals and the increasing consumers' demands (e.g. total chain quality, organic produced, animal welfare). Resolution of such non-pecuniary issues involves tight collaboration of all chain or network members (Hingley, 2005). This implies that, besides firms having exchange relationships in pursuit of self-interest private goals (Medlin, 2006), there are common goals involved that are shared by all network members that require coordination and safeguarding.

The extent to which both private and common goals are effectuated draws on the skills and competencies of a firm to manage its relationships (dyadic). However, its exchange relationship (first tier relationship) is contingent on or has consequences for the exchange in other relationships (second ....n tier relationship). Typically there will be some degree of mutual interdependence, such that each party has some ability to influence the other (Ritter et al., 2004). A firm may have to cope with partnering firms that not entirely are the firm's choosing; have a history that exerts an influence on how things are done; a relationship in which the counterpart has complementary, competing and conflicting views and agendas (Ritter et al., 2004). As a result, besides the effectuation of private goals, the effectuation of network members' common goals requires members to consent on procedures to effectuate these goals as well as on the goals themselves.

Notwithstanding these different modes of adaptation, coordination and safeguarding, one has to distinguish firm-level and network level governance mechanisms that jointly create an exchange system that determines the attainment of private and common goals. At the firm level firms deploy routines to manage their dyadic relationships. As such a network comprises multiple dyadic relationships and the attainment of both private and common goals will depend on how these dyadic relationships are connected and organized (Jap and Ganesan, 2000; Wathne and Heide, 2004). Moreover, these exchange relationships are embedded in a social context that provides social mechanisms that in turn also will affect exchanges (Jones et al., 1997) (see figure 1). Next, we will elaborate on both types of governance.



**Figure 1.**  
How firm and network governance coordinate and safeguard exchanges

**3.1 Firm-level governance: firm level routines**

Firm level governance of customized exchanges is defined as the routines deployed to manage dyadic relationship. These routines are idiosyncratic to the relationship and are the actions firms engage in to accomplish some private and common goal (Dyer and Singh, 1998). We distinguish two specific inter-firm routines: relational capital and coordination practices. 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 and Ring, 2001) and involves the partner’s signaling to each other and the interpretation and response to this signaling in the relationship. Coordination practices are defined as pre-specified tasks to be performed (Gittell, 2002) and involve 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 and 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. Higher levels of relational capital prompt trust, commitment, and the absence of conflicts (Ariño, et al., 2001; Kauser and Shaw, 2004) so that firms gain confidence in the reliability and integrity of their partner (Morgan and Hunt, 1994). It 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 et al., 2001). Extant empirical interfirm relationship studies (i.e. dyadic) support the positive effect of relational factors on performance.(e.g. Sarkar et al., 2001; Aulakh et al., 1996; Inkpen and Birkenshaw, 1994; Kauser and Shaw, 2004; Lambe et al., 2002).

**Proposition 1: The presence of relational capital enhances the likelihood to adapt, coordinate and safeguard customized exchanges and will have 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 et al., 2002; Khanna, 1998), allocating resources, implementing appropriate organizational control mechanisms (Geringer and Hebert, 1989; Kumar and Seth, 1998) and maintaining and achieving alignment between partner firms (Douma et al., 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 et al., 2000; Ireland et al., 2002; Wathne and Heide, 2004). A less suitable partner can diminish the relationship's potential rents (Dyer and Singh, 1998; Hitt et al., 1997). After the partner is selected, appropriate organizational planning and control has to be implemented to enable the relationship's functioning (Barringer and 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 and 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 and Hamel, 1998). Empirical studies support the positive effect of coordination practices on goal attainment and performance (Day, 1995; Dyer et al., 2001; Ziggers and Henseler, 2009).

**Proposition 2: : The presence of coordination practices enhances the likelihood to adapt, coordinate and safeguard customized exchanges and will have a positive effect on the attainment of private and common goals.**

### **3.2 Network-level governance: social mechanisms**

Governance at the network level refers to structural embeddedness and the social mechanisms derived from it (i.e. restricted access to exchange; macro-culture; collective sanctioning) that influence adaptation, coordination and safeguarding of customized exchanges within the exchange system (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 and 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 are lacking these skills and abilities (Lambe et al., 2002; Ziggers and 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, firm level governance and network-level governance 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 and Gassenheimer, 1994).

The exchange benefits of restricted access generally relate to trust and reciprocity between partners, but redundant contacts within the network can reduce information benefits and brokerage opportunities that accrue to individual firms (Coleman, 1990; Walker et al., 1997). However, in the case of customized exchanges, network settings require significant resource pooling and information sharing. It means the flexibility of firms to attract complementary resources with firms that have a cooperative intent, the willingness to share information and that have common goals that are widely acknowledged and promoted (Soh, 2010).

**Proposition 3: Restricted access to exchange partners in the context of customized exchanges enhances the likelihood in effectuating 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 behavior 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 and other, the more widely they share their values, assumptions and role understandings (Abrahamson and 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 understand network governance, for its goals, shared social processes and structures enable effective exchange among independent firms, 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 exchanges, it is difficult to establish. It involves disseminating cultural beliefs and values among many autonomous firms and it may take decades to establish the shared understandings, routines, and conventions for complex tasks. It also takes third-party institutions, such as guilds, professional schools or associations to institutionalize common approaches and understandings by socializing new members. In general, macroculture is enhanced by close geographic proximity, because of the increased likelihood and ease of interaction and tend to lead to business centers to develop such as Silicon Valley's semiconductors (Saxenian, 1990), Prato, Italy's fashion textiles (Lazerson, 1995), and Westland's, Dutch horticulture center.

**Proposition 4: The presence of a macroculture in the context of customized exchanges enhances the likelihood in effectuating 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 and 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 in the context of customized exchanges enhances the likelihood in effectuating private and common goals.**

Too much structural embeddedness may create its own set of problems. Reliance on strong ties tends to develop tight, relatively isolated cliques that are not well integrated with the rest of the industry (Jones et al., 1997) or new or newly accentuated practices will not penetrate and diffuse the network when they are not aligned with the existing dominating norms, values and beliefs (Windeler and Sydow, 2001). However, changes in the network are recursively interrelated and embedded in multi-level processes of co-evolutionary changes (the intertwinement of firm-level and network-level governance). Newly accentuated practices do not simply penetrate and diffuse the network. They are subject to the dominating structures and have to be assimilated. This will depend on the practice's significance, legitimacy, and domination (Windeler and Sydow, 2001).

#### **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 may establish durable networks that succeed in achieving both private and common goals. We extend network theory by extending existing models of network governance, and enhance knowledge available in the extant network literature. Although we identified a few key governance mechanisms, we acknowledge that this is not an exhaustive set, and we expect future research to identify other governance mechanisms.

As of now, one can speak of intertwinement of firm-level and network-level governance mechanisms. This intertwinement can be generally observed along three lines – 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 involve the routines that facilitate the effective functioning of the relationships and network and enable network members to influence collaboration. 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). These three lines are clearly interlinked (Huxham and 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, and 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 firm and network 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 multi-firm innovation can be enhanced (Powell et al., 2005), how clusters of small firms can more effectively compete 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 and Heide, 2004). By focusing only on the members themselves and their interactions with others, the importance of individual organizations tends to be exaggerated and the importance of collective behavior underestimated (Provan et al., 2007).

An important 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 future research may 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). Future research may also conduct an in-depth analysis of how firm governance and network governance 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 and Duysters, 2004). This may have an effect on the access to and availability of exchange partners in the network and the effectuation of network goals. Another research issue is how governance at both levels contributes 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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