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Modes of Network Governance: Structure, Management, and Effectiveness

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ABSTRACT

This article examines the governance of organizational networks and the impact of governance on network effectiveness. Three basic models, or forms, of network governance are developed focusing on their distinct structural properties. Propositions are formulated examining conditions for the effectiveness of each form. The tensions inherent in each form are then discussed, followed by the role that management may play in addressing these tensions. Finally, the evolution of governance is explored.

Networks have been widely recognized by both scholars and practitioners as an important form of multi-organizational governance. The advantages of network coordination in both public and private sectors are considerable, including enhanced learning, more efficient use of resources, increased capacity to plan for and address complex problems, greater competitiveness, and better services for clients and customers (see Alter and Hage 1993; Brass et al. 2004; Huxham and Vangen 2005). However, despite much progress made by researchers studying networks of organizations over the past 15 years and more, there is still a considerable discrepancy between the acclamation and attention networks receive and the knowledge we have about the overall functioning of networks. By network functioning, we refer to the process by which certain network conditions lead to various network-level outcomes. Understanding the functioning of networks is important since only then can we better understand why networks produce certain outcomes, irrespective of whether networks result from bottom-up processes or are the product of strategic decisions made by network participants or government officials.

This article addresses these issues by focusing on the critical role of network governance and its impact on network effectiveness. We recognize that the study of effectiveness has been problematic at both organizational (Goodman and Pennings 1977) and network (Provan and Milward 2001) levels, especially regarding the key question, "effectiveness for whom?". Yet despite problems regarding conceptualization and measurement,

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effectiveness is a critical concept, for both researchers and practitioners, that cannot simply be ignored. Network effectiveness is defined here as the attainment of positive network-level outcomes that could not normally be achieved by individual organizational participants acting independently. Although individual organizational participants may, and probably should benefit as well, effectiveness is viewed here at the network level. The specific type of network-level outcome considered is not, however, defined by us but depends on the particular constituency assessing the functioning of the network (see Provan and Milward 2001). This implies that we do not consider a certain outcome a priori as the correct one because each presents a potentially valid point of view. Such outcomes might include strengthened community capacity to solve public problems like crime, homelessness, or health care; improved integration of critical services to vulnerable populations; regional economic development; and responsiveness to natural or made-made disasters.

Although networks have been studied from a variety of perspectives, surprisingly little attention has been paid to the governance of whole organizational networks. This broader focus is what Powell et al. (2005, 1133) recently referred to as "illuminating the structure of collective action." In part, the reason for adopting a more narrow perspective may simply be that organizational scholars are used to studying organizations, not multi-organizational arrangements (Salancik 1995). In addition, developing a deep understanding of network governance requires collection of data on multiple networks, which can be time consuming and costly. Although there is a growing literature on networks as a unit of analysis, the majority of this work has been descriptive (cf. Agranoff and McGuire 2003; Goldsmith and Eggers 2004; Huxham and Vangen 2005; van Bueren, Klijn, and Koppenjan 2003). Finally, there seems to be some reluctance among many who study networks to discuss formal mechanisms of control. A common assumption is that since networks are collaborative arrangements, governance, which implies hierarchy and control, is inappropriate (Kenis and Provan 2006).

ORGANIZATIONAL VERSUS NETWORK GOVERNANCE

Governance is a topic that has long been studied by organizational scholars (cf. Mizruchi 1983; Westphal and Zajac 1995). Traditionally, governance in business firms has focused on the role of boards of directors in representing and protecting the interests of shareholders (Fama and Jensen 1983). Governance has also been studied in the nonprofit context, although the focus here has generally been on the role of boards of trustees, as representing and protecting the interests of community members or other politically important constituencies (Provan 1980). In public management, governance refers not to the activities of boards, but mainly, to the funding and oversight roles of government agencies, especially regarding the activities of private organizations that have been contracted to provide public services (Hill and Lynn 2005). A critical role for governance in all these sectors, and consistent with principal-agent theory, is to monitor and control the behavior of management, who are hired to preside over the day-to-day activities of running the organization (Eisenhardt 1989; Fama and Jensen 1983). Although there is much recent evidence that boards do not necessarily take their responsibilities seriously enough (i.e., Enron Corporation), board members do have a legal obligation to perform their duties and are liable if the organization they represent engages in illegal or irresponsible behavior.

With some exceptions (cf. Goldsmith and Eggers 2004; Imperial 2005; Jones, Hesterly, and Borgatti 1997; Moynihan 2005; Park 1996), most literature on organizational

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networks does not explicitly address governance. The most obvious reason is that networks are comprised of autonomous organizations and, thus, are essentially cooperative endeavors. Since networks are not legal entities (we do not consider joint ventures and equity-based alliances to be true networks), the legal imperative for governance is simply not present as it is for organizations. For goal-directed organizational networks with a distinct identity, however, some form of governance is necessary to ensure that participants engage in collective and mutually supportive action, that conflict is addressed, and that network resources are acquired and utilized efficiently and effectively. Although all networks comprise a range of interactions among participants, a focus on governance involves the use of institutions and structures of authority and collaboration to allocate resources and to coordinate and control joint action across the network as a whole. These interactions are distinct from operational links, which are often dyad based including referrals, sharing of information, and joint programs. Even when mechanisms for governance have been discussed in the literature, they are generally discussed in terms of specific activities performed for a particular network, rather than in a comparative way. As a result, there has been no theory on the various forms of governance that exist, the rationale for adopting one form versus another, and the impact of each form on network outcomes. This is our focus.

We define the term "network" narrowly. Our focus is on groups of three or more legally autonomous organizations that work together to achieve not only their own goals but also a collective goal. Such networks may be self-initiated, by network members themselves, or may be mandated or contracted, as is often the case in the public sector. When defined in this way, as multilateral collectivities, networks can become extremely complex entities that require explanations that go well beyond the dyadic approaches that have been traditionally discussed in the organization theory and strategic management literatures. Our definition focuses on what Kilduff and Tsai (2003) refer to as "goal-directed," as opposed to "serendipitous" networks. Although goal-directed networks occur less frequently, they have become extremely important as formal mechanisms for achieving multi-organizational outcomes, especially in the public and nonprofit sectors where collective action is often required for problem solving (cf. Agranoff and McGuire 2003; Imperial 2005; Lemieux-Charles et al. 2005; Provan, Isett, and Milward 2004; Provan and Milward 1995). Especially in the European literature, which is less based on an individualistic fiction (Coleman 1990, 300–05), a substantial number of cases of goal-directed networks have been empirically described (Acevedo and Common 2006; Daguerre 2000; Entwistle et al. 2007; Sydow 2004; Teisman and Klijn 2002). Serendipitous interactions, of course, occur within goal-directed networks, resulting in coevolutionary trajectories that may prove advantageous or detrimental to network outcomes. However, unlike serendipitous networks, which develop opportunistically, goal-directed networks are set up with a specific purpose, either by those who participate in the network or through mandate, and evolve largely through conscious efforts to build coordination.

Addressing complex issues that demand multilateral coordination, as is often the case in the public and nonprofit sectors (to deal with major disasters, increase economic activity in the region, address critical and complex health or human service needs, etc.), requires more than just achieving the goals of individual organizations (O'Toole 1997). It requires collective action and the governance of these activities. Although network governance may not be a legal issue, as with organizational governance, we argue that it is critical for effectiveness. Unlike organizations, networks must be governed without benefit of hierarchy

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or ownership. In addition, network participants typically have limited formal accountability to network-level goals and conformity to rules and procedures is purely voluntary.

Most research on organizational networks can be broadly characterized by two basic approaches: the "network analytical" approach and the "network as a form of governance" approach, both of which are limited when it comes to analyzing network-level functioning and governance. Network analytical approaches focus mainly on micro-level, egocentric aspects of networks, building largely on work done by sociologists studying networks of individuals. This perspective has had a long history (Moreno 1934). Scholars have contributed especially to the description and explanation of network structural characteristics using such concepts as density, centrality, and structural holes (Burt 1992; Wasserman and Faust 1994). The units of observation are a set of objects called nodes, positions, or actors, and a set of present or absent relations among these objects referred to as edges, ties, or links (Knoke 1990). In network analytical approaches, the main objective can be either to describe, explain, or compare relational configurations or to use these configurations to explain certain outcomes.

The functioning of organizational networks can be partially addressed using this approach, since we defined functioning as the process by which certain network conditions lead to network outcomes. The problem, however, is that for the most part, what gets analyzed and explained is not the network itself, but the "nodes" and "relations" that comprise the network (cf. Graddy and Chen 2006; O'Toole and Meier 2006). Apart from some notable exceptions (e.g., Owen-Smith and Powell 2004; Powell et al. 2005; Provan and Milward 1995; van Raaij 2006), the unit of analysis (i.e., the phenomenon to be investigated) in this literature is not the complete network but a node (ego) or a dyad. In these studies, findings are related to questions of whether or not the way an actor is embedded in a network has an effect on the outcomes of the actor (such as level of innovation, performance, and learning) (Ahuja 2000) or on describing and explaining the birth, death, effectiveness, etc. of dyadic relationships (cf. Larson 1992; Ring and Van de Ven 1994; Uzzi 1997). Consequently, this literature tells us little about the functioning of networks, because networks are seldom treated as the unit of analysis.

The network as a form of governance approach, in contrast, does treat networks as the unit of analysis. Network is viewed as a mechanism of coordination, or what has often been referred to as network governance. Starting with Williamson's (1975) *Markets and Hierarchies*, a rich literature has developed on different forms of governance over the last two decades. As seen from an economic perspective, this literature challenged the conventional wisdom that the market is the only efficient system of nonhierarchical coordination. From an organization and administrative science perspective, the most innovative aspect of this literature is that it made clear that organizations cannot be taken as something for granted (see Perrow 1986) and that other forms of coordination, such as networks, can equally achieve goals. Consequently, a discussion unfolded as to whether networks are simply a combination of elements of market and hierarchy, and could, therefore, be placed on a continuum between market and hierarchy, or whether they would be better understood as unique forms of governance in their own right (see Powell 1990). This literature moved toward treating networks as discrete forms of governance, characterizing them as having unique structural characteristics, modes of conflict resolution, bases of legitimacy, etc. (cf. Jones et al. 1998; Raab 2004).

Although the governance approach considers networks as the unit of analysis, the tradition has been for networks to be treated as undifferentiated forms, as if they all could

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be characterized in the same general way (e.g., Jones, Hesterly, and Borgatti 1997; Powell 1990). This may be due to the fact that for the most part, networks were seen as a "new" and "positive" mode of coordination that needed to be distinguished from markets and hierarchies. A functionalist argument dominated, claiming that networks are a response to failures of markets, failures of hierarchical coordination, and to societal and technological developments. The implication was, and continues to be, that despite problems, networks in general can produce positive outcomes that would not be possible in a market or a hierarchy.

What we propose here is to combine the network analytical and "governance" perspectives. The governance perspective is valuable in that the network itself is considered to be the unit of analysis. Networks are forms of social organization, which are more than the sum of the actors and their links and which deserve to be studied in their own right (O'Toole 1997). The network analytical perspective contributes another central idea to our work—that networks are a set of actors or nodes, with relationships between these nodes as being either present or absent. Thus, networks are considered to vary with regard to their structural patterns of relations.

Consistent with this logic, we view network as a variable, examining different network governance configurations and the conditions for the effectiveness of each form. Only by demonstrating that networks with different configurations have different network-level effects can a rationale for developing network-level theories be established. To build our case, we formulate a number of propositions about the relationship between the configuration of network governance and network effects. We also argue that the role of management is critical for effective network governance, especially regarding the handling of tensions inherent in each governance form. Essentially, our focus is not on networks as a means of governance, but on the governance and management of networks themselves.

The article proceeds as follows. First, three basic forms of network governance are identified. Second, we focus on development of four contingency conditions that are likely to affect the successful adoption of each governance form. Specific propositions are developed. Although many factors can contribute to network effectiveness, our arguments are built around the assumption that there is a rationale for utilizing one form over another and that there are consequences for selection of each form of governance. Network managers must recognize these consequences and address them appropriately if positive network outcomes are to be realized.

Next, we focus on three tensions that result from choice of network governance form. We outline these tensions and discuss which specific tensions are likely to be most prevalent for each of the three forms. Finally, we discuss the evolution of network governance. If the effectiveness of a form is tied strongly to a set of critical contingencies, then what happens when these contingencies change? We explore the pattern of change from one form to another.

FORMS OF NETWORK GOVERNANCE

Based on a review of the literature on whole networks (rather than dyad-based network relationships; cf. Provan, Fish, and Sydow 2007), coupled with our own extensive observations, network governance forms can be categorized along two different dimensions. First, network governance may or may not be brokered. At one extreme, networks may be governed completely by the organizations that comprise the network. Every organization

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would interact with every other organization to govern the network, resulting in a dense and highly decentralized form. This is what we call shared governance. At the other extreme, the network may be highly brokered, with few direct organization-to-organization interactions, except regarding operational issues such as the transfer of business, clients, information on services, and the like. Instead, network governance would occur by and through a single organization, acting as a highly centralized network broker, or lead organization, regarding issues that are critical for overall network maintenance and survival. At the mid-range, a single organization might take on some key governance activities while leaving others to network members. Alternatively, network members may divide governance responsibilities among various subsets, or cliques of network members, with no single organization taking on significant governance tasks.

A second distinction regarding governance can be made in brokered networks by focusing on whether the network is participant governed or externally governed. As discussed below, participant-governed networks are, at one extreme, governed either collectively by the members themselves (i.e., shared), or at the other extreme, by a single network participant that takes on the role of a lead organization. Externally governed networks are governed by a unique network administrative organization (NAO), as discussed below, which may be either voluntarily established by network members or mandated as part of the network formation process. Each of these forms has certain key structural characteristics, which we identify below. Each form is utilized in practice for a variety of reasons, and no one model is universally superior or effective. Rather, each form has its own particular strengths and weaknesses, leading to outcomes that are likely to depend on the form chosen.

Participant-Governed Networks

The simplest and most common form is participant governance. This form is governed by the network members themselves with no separate and unique governance entity. Governance in this form can be accomplished either formally; for instance, through regular meetings of designated organizational representatives, or more informally, through the ongoing but typically uncoordinated efforts of those who have a stake in network success. At one extreme, participant-governed networks can be highly decentralized, involving most or all network members interacting on a relatively equal basis in the process of governance. This is what we refer to as shared participant governance. At the other extreme, the network may be highly centralized, governed by and through a lead organization that is a network member.

Shared participant-governed networks depend exclusively on the involvement and commitment of all, or a significant subset of the organizations that comprise the network. Network participants are themselves responsible for managing internal network relationships and operations as well as external relations with such groups as funders, government, and customers. In health and human services, shared-governance networks are common, in part because networks are often considered to be an important way of building "community capacity" (Chaskin et al. 2001). Only by having all network members participate, on an equal basis, will participants be committed to the goals of the network. In business, shared governance may be used in smaller, multi-firm strategic alliances and partnerships (where multi-firm ownership is not involved) designed to develop new products or to attract new business in ways that could not be otherwise accomplished through the

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independent efforts of network members (Venkatraman and Lee 2004). The form has also been used in multilateral relations among investment banking firms and venture capitalists working to assemble a financial package for a project or business (Eccles and Crane 1988).

When network governance is shared, it is the collectivity of partners themselves that make all the decisions and manage network activities. Power in the network, at least regarding network-level decisions, is more or less symmetrical, even though there may be differences in organizational size, resource capabilities, and performance. There is no distinct, formal administrative entity, although some administrative and coordination activities may be performed by a subset of the full network. In theory, the network acts collectively and no single entity represents the network as a whole. Later in the article, we discuss in depth the specific characteristics of this and the other forms of governance, which, we argue, explain the likely adoption of one form versus another.

Lead Organization–Governed Networks

While shared, participant governance may involve many or all network members, there are many situations that may not be conducive to such decentralized, collective self-governance. In particular, the inefficiencies of shared governance may mean that a far more centralized approach is preferred. At the extreme, network governance can occur through what we refer to as a "lead organization." In business, lead organization governance often occurs in vertical, buyer-supplier relationships, especially when there is a single powerful, often large, buyer/supplier/funder and several weaker and smaller supplier/buyer/resource recipient firms. The most obvious examples of this can be found in the Keiretsu models of Japanese manufacturing (Gerlach 1992) and similar models of co-operative buyer-supplier models in the United States (Uzzi 1999) and Europe (Inzerilli 1990; Lazerson 1995). In movie production, the lead organization may be a major film studio (Jones and DeFillippi 1996). It can also occur in horizontal multilateral networks, most often when one organization has sufficient resources and legitimacy to play a lead role. This is a model that often occurs in health and human services where there may be a core provider agency that assumes the role of network leader because of its central position in the flow of clients and key resources. In community health, this may be a hospital or a health clinic (Weiner and Alexander 1998); in mental health, it may be a community mental health center (Provan and Milward 1995); in community policing, it is likely to be the police department; in local health policy, it is likely to be the local health department (Brandes, Kenis, and Wagner 2003; Hoeijmakers et al. 2007). Teisman and Klijn (2002) also describe a government agency acting as a lead organization in development of the Rotterdam harbor, whereas Graddy and Chen (2006) focus on the key role of lead organizations in governing child welfare networks in Los Angeles.

In lead organization governance, all major network-level activities and key decisions are coordinated through and by a single participating member, acting as a lead organization. Thus, network governance becomes highly centralized and brokered, with asymmetrical power. A lead organization provides administration for the network and/or facilitates the activities of member organizations in their efforts to achieve network goals, which may be closely aligned with the goals of the lead organization. The lead organization may underwrite the cost of network administration on its own, receive resource contributions from network members, or seek and control access to external funding through grants or government funding. The role of lead organization may emerge from the members

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themselves, based on what seems to be most efficient and effective, or it may be mandated, often by an external funding source.

Network Administrative Organization

A third form of network governance is the NAO model. The basic idea is that a separate administrative entity is set up specifically to govern the network and its activities. Although network members still interact with one another, as with the lead organization model, the NAO model is centralized. The network broker (in this case, the NAO) plays a key role in coordinating and sustaining the network. Unlike the lead organization model, however, the NAO is not another member organization providing its own services. Instead, the network is externally governed, with the NAO established, either through mandate or by the members themselves, for the exclusive purpose of network governance. The NAO may be a government entity, or a nonprofit, which is often the case even when the network members are for-profit firms. For instance, Human and Provan (2000) describe two networks in the wood processing industry that were both guided by an NAO. All firms were for-profit but the NAOs were nonprofit (a 501(c)3 corporation under the U.S. federal revenue code). The NAO may even be a unique for-profit corporation, as with Nexia International, the global accounting network discussed by Koza and Lewin (1999).

An NAO may be modest in scale, consisting only of a single individual, often referred to as the network facilitator or broker, or it may be a formal organization, consisting of an executive director, staff, and board operating out of a physically distinct office (McEvily and Zaheer 2004; Provan, Isett, and Milward 2004). This latter form may be used as a mechanism for enhancing network legitimacy, dealing with unique and complex network-level problems and issues, and reducing the complexity of shared governance. These more formalized NAOs typically have board structures that include all or a subset of network members (Evan and Olk 1990; Provan, Isett, and Milward. 2004). The board addresses strategic-level network concerns, leaving operational decisions to the NAO leader. Government run NAOs are generally set up when the network first forms, to stimulate its growth through targeted funding and/or network facilitation and to ensure that network goals are met (Goldsmith and Eggers 2004). Such NAOs are established locally for purposes of accomplishing broad goals, such as those related to regional economic development (Gebauer, Nam, and Parsche 2005; Piore and Sabel 1984; Saxenian 1994).

NETWORK GOVERNANCE AND EFFECTIVENESS

So far, discussion has focused solely on describing the various forms of governance. However, a key contribution we hope to make is to develop a theoretical rationale for the adoption of one form over another in a way that can predict the successful attainment of network-level outcomes, or what some have referred to as network effectiveness (Provan and Milward 1995, 2001). Specifically, we argue that based on what is known about networks and network interactions, there are certain critical contingencies (Drazin and Van de Ven 1985) that can be identified to explain whether or not a particular form of network governance is likely to be effective. It is not unreasonable to argue that choice of one governance form or another will be based, at least in part, on the discretion of key network decision makers. Network managers can and do choose forms for reasons like

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Table 1
Key Predictors of Effectiveness of Network Governance Forms

Governance Forms	Trust	Number of Participants	Goal Consensus	Need for Network-Level Competencies
Shared governance	High density	Few	High	Low
Lead organization	Low density, highly centralized	Moderate number	Moderately low	Moderate
Network administrative organization	Moderate density, NAO monitored by members	Moderate to many	Moderately high	High

mimicry, past experience, and personal preference. However, we argue that choices based on these sorts of factors alone are not consistent with the structural characteristics of the governance form itself and, thus, if adopted, will have only a limited chance of being successful. The point can also be made that many networks are mandated and, thus, no choice of form is even possible. However, many networks are not mandated, and even for those that are, decisions about network governance do not simply emerge out of thin air. Rather, they are determined by decision makers, like government policy officials, who may want to base their decisions about how the network will be governed on evidence regarding what form seems most likely to be effective under a particular set of conditions.

We propose that the successful adoption of a particular form of governance will be based on four key structural and relational contingencies: trust, size (number of participants), goal consensus, and the nature of the task (specifically, the need for network-level competencies). We make no claim that these are the only contingencies that are relevant. Rather, we argue that based on the network literature and on our understanding of networks and network governance, these particular factors are important and can explain considerable variance in the choice of one form over another. In general, we argue that as trust becomes less densely distributed throughout the network, as the number of participants gets larger, as network goal consensus declines, and as the need for network-level competencies increases, brokered forms of network governance, like lead organization and NAO, are likely to become more effective than shared-governance networks. Table 1 summarizes the specific relationships we propose.

Trust

Trust has frequently been discussed in the general network literature as critical for network performance and sustainability (cf. Larson 1992; Powell 1990; Uzzi 1997), although until very recently (Edelenbos and Klijn 2007), it has not been the focus of public network scholars. Basically, trust can be explained as an aspect of a relationship that reflects "the willingness to accept vulnerability based on positive expectations about another's intentions or behaviors" (McEvily, Perrone, and Zaheer 2003, 92). Most of the research on organizational trust has focused on the general need for trust and the different ways in which trust is demonstrated (characteristic based, norm based, etc.). Although this work has been valuable for understanding the trust-based ties that define a network versus more contractual and market-based relationships, the focus has almost exclusively been on trust in dyadic relations and on general reputational effects based on trust of specific network members (Gulati 1995; Uzzi 1997).

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For understanding network-level interactions, however, it is the distribution of trust that is critical and whether or not it is reciprocated among network members. For instance, is trust widely distributed across members (i.e., a high density of trust relations) or is it only narrowly distributed, occurring differentially within individual dyads or cliques (low density of trust relations)? Alternatively, for the network as a whole to succeed, does everyone in the network need to trust one another or is it sufficient to have trust focused on a single or small set of organizations (centralization of trust relations)?

Our argument here is that trust not only can be viewed as a network-level concept but also that network governance must be consistent with the general level of trust density that occurs across the network as a whole. Specifically, shared governance is most likely to be an effective form when trust is pervasive throughout the network. Trust need not be deep, but it cannot simply be a collection of dyad-based relationships. Rather, trust ties must be dense, so that perceptions of trust are shared among and between network members. As with the density of connections, trust density means that many people in the network trust one another, thereby providing a dense web of trust-based ties. In the absence of this, shared governance will not be effective since there will be little basis for collaboration among network members. When low-density trust is prevalent, networks can still be effective and be a viable form of accomplishing collective goals. However, under this circumstance, network governance is likely to be brokered, either through a lead organization or through an NAO. Because lead organization governance is essentially built around a collection of dyadic ties, trust across the network can be lower than for NAO governance, where members are called upon to collectively monitor the actions of NAO leadership.

Number of Network Participants

A fundamental problem with governance of any network is that the needs and activities of multiple organizations must be accommodated and coordinated. Although dyadic arrangements can, of course, be difficult to govern, as the number of organizations participating in a network grows, the number of potential relationships increases exponentially. Under such conditions, governance becomes extremely complex. Shared self-governance is often seen as highly desirable by network participants, since they can retain full control over the direction of the network. Yet this form is best suited to small networks of organizations. When problems arise in such networks, full and active face-to-face participation by partners is possible. As the number of organizations in the network gets larger, however, shared governance becomes highly inefficient, with participants either ignoring critical network issues or spending large amounts of time trying to coordinate across 10, 20, or more organizations (see Faerman, McCaffrey, and Van Slyke 2001; Staber 1998; Storper and Christopherson 1987). The problem of network complexity is especially acute when participants are spread out geographically, making frequent meetings of all participants difficult or impossible.

The structural solution to this problem is to centralize network governance activities around a broker organization, either a lead organization or an NAO. Both forms are more readily able to accommodate larger numbers of network participants since the direct involvement of all organizations is no longer required for many network decisions. By centralizing governance, participants no longer must interact directly with each other, but rather, they can interact directly with the lead organization or NAO for purposes of

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coordinating network-level needs. Although there are specific reasons for choosing a lead organization over an NAO and vice versa, when the governance of relationships becomes complex owing to increased numbers of diverse participants, either form is more likely to be effective in accomplishing network-level goals than self-governance.

There is no specific number of organizations that is likely to be "correct" for each form of governance, although consistent with findings from the small groups literature (Burn 2004; Forsyth 1999), shared-governance forms would seem most likely to be effective with fewer than six to eight organizations. And it is highly likely that other factors will have an impact on whether or not the number of organizations is too many for a particular form to handle effectively (for instance, networks with high-density trust should be able to handle more organizations than those with low-density trust). In general, however, the NAO form is likely to be most effective in those networks having the largest number of participants. Because it has its own unique administrative structure, it will be able to handle larger numbers of diverse participants.

Network Goal Consensus

Goals and goal consensus have been discussed for many years by scholars at both organizational (cf. Perrow 1961) and interorganizational (Van de Ven 1976) levels. The general argument has been that consensus in goals and "domain similarity" allows organizational participants to perform better than when there is conflict, although conflict can also be a stimulant for innovation. The argument has important implications for understanding network behavior, since network members must be responsive to the goals of both their employing organization and their network.

In the network literature, the emphasis has been less on goal consensus per se, and more on similarity, or homophily. Homophily has often been suggested as a rationale for explaining why certain actors are attracted to others and, thus, why network relationships form (Monge and Contractor 2003; Powell et al. 2005). The logic of similarity may also apply for individuals who make network connections on behalf of their organization, although organizational networks are likely to be motivated more by instrumental reasons than for reasons of organizational attractiveness or similarity.

Our intent is not to propose why organizations collaborate based on goal consensus. We recognize that organizations form collaborative relationships for many reasons that relate to the specific goals of individual network partners. However, in the goal-directed networks discussed here, not only organizational goals but also network-level goals guide organizational action. Such goals might include developing new clients, attracting network-wide funding, addressing community needs, or improved client service. Network goals may also be process oriented, like working to reduce competition or conflict among participants. Consistent with early work by Van de Ven (1976) on domain similarity, when there is general consensus on broad network-level goals, both regarding goal content and process, and in the absence of hierarchy, network participants are more likely to be involved and committed to the network and more likely to work together. This does not necessarily mean that the goals of network members must be similar. In fact, similarity of purpose can result in difficulties in working together, especially when competitive pressures make network organizations reluctant to cooperate and share information (Park 1996).

Goal consensus has important implications for network governance. There may be considerable variance across networks and network members regarding agreement on

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network-level goals and the extent to which organizational goals can be achieved through network involvement. Although high goal consensus is, obviously, an advantage in building network-level commitment, networks can still be quite effective with only moderate levels of goal consensus. The critical issue is how network relationships are governed. Self-governed forms are most likely to be effective when participants can generally agree on network-level goals. In this situation, participating organizations can work together without significant conflict, each making their own contribution to broad network goals while concurrently attaining their own goals. It is important to note here that trust is not necessarily related to goal consensus. Trust is based on reputation and past interaction experience, whereas consensus is based on goal similarity.

At the opposite extreme, when goal consensus is extremely low, there may be little point to network involvement at all. At intermediate levels of goal consensus, however, either lead agency or NAO governance forms are likely to be more appropriate than self-governance. More specifically, lead agency forms will be likely when network participants have moderately low goal consensus whereas NAO forms are likely when goal consensus among involved organizations is in the moderately high range.

Lead organizations assume most strategic and operational decisions (cf. Graddy and Chen 2006) and, thus, are best suited to making decisions about network-level goals when network members are less able to resolve conflict on their own and only partially committed to network goals. This situation may not be conducive to long-term network sustainability, but in the short run, the lead organization can maintain a broad, network-level focus, that may be difficult for participants to agree to on their own. In contrast, the NAO form requires greater involvement by at least a subset of network members. These participants (often, NAO governing board members) are typically committed to network-level goals and have a strategic involvement with the network as a whole. Other network members are likely to be less committed and involved, with only modest goal consensus. It is the task of the NAO leader and staff to work with participants on a daily basis, resolving possible conflict and enhancing commitment to the network and its goals. Thus, goal consensus may be quite strong in the NAO form. Yet although there may be agreement on the desirability of a network and on the value of an NAO, there may only be modest agreement about what the network should be doing and how participants should be involved.

Need for Network-Level Competencies

Organizations join or form networks for a variety of reasons, including the need to gain legitimacy, serve clients more effectively, attract more resources, and address complex problems. But regardless of the specific reason, in a general sense, all network organizations are seeking to achieve some end that they could not have achieved independently. An important question in this regard becomes, how can the competencies required to achieve network-level goals be attained? This is an important issue regarding network governance since different governance forms place a different burden on network members to provide these competencies.

Two issues are critical here. First, what is the nature of the task being performed by network members? And second, what external demands and needs are being faced by the network? Both these questions relate to network-level competencies. Internally, if the network's task is one that requires significant interdependence among members, then the need for network-level coordinating skills and task-specific competencies will be great, meaning

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that governance needs to facilitate interdependent action. Relating to the specifics of our theorizing, it means that shared governance will be less likely to be an effective form of governance when interdependent task requirements are high, since demands will be placed on individual network members for skills they may not possess, like grant writing, quality monitoring, or even conflict resolution. Conversely, it is precisely these task conditions that favor lead organization or NAO models, which are more able to develop specialty skills related to network-level needs.

Externally, demands may also range from high to low, requiring varying degrees of competencies at the network level. External tasks may include the roles of buffering, or protecting the network from environmental shocks such as shifts in funding or new regulations, and bridging, which might include the roles of lobbying, seeking out new members, acquiring funding, building external legitimacy, and so on. For instance, pressures from an external funder to coordinate activities or to be highly responsive to its demands and regulations would require centralized action of the sort that would be extremely difficult to accomplish through shared governance, since the response would have to be diffused. An NAO, however, would provide a single focal point for interactions with the funder, in a way that could also enhance the legitimacy of the network as a whole. Lead organizations are better suited to address network-level demands and needs than are shared-governance arrangements. However, the lead organization may have its own particular set of skills and competencies that do not precisely match the collective needs of the network members. The lead organization may also be reluctant to make a financial commitment to build such skills. With an NAO, although there may be significant size and resource constraints, it is the job of network-level staff to develop the skills needed for network-level action.

Based on these general arguments, we offer the following propositions, which summarize the basic relationships proposed across all four contingency factors:

P_1 The greater the inconsistency between critical contingency factors and a particular governance form (both in terms of the number of inconsistent factors and the extent to which these factors are inconsistent with characteristics of the governance form), the less likely that that particular form will be effective, leading either to overall network ineffectiveness, dissolution, or change in governance form.

P_2 Shared network governance will be most effective for achieving network-level outcomes when trust is widely shared among network participants (high-density, decentralized trust), when there are relatively few network participants, when network-level goal consensus is high, and when the need for network-level competencies is low.

P_3 Lead organization network governance will be most effective for achieving network-level outcomes when trust is narrowly shared among network participants (low-density, highly centralized trust), when there are a relatively moderate number of network participants, when network-level goal consensus is moderately low, and when the need for network-level competencies is moderate.

P_4 NAO network governance will be most effective for achieving network-level outcomes when trust is moderately to widely shared among network participants (moderate density trust), when there are a moderate number to many network participants, when network-level goal consensus is moderately high, and when need for network-level competencies is high.

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GOVERNANCE AND NETWORK TENSIONS

Up to this point, discussion has focused on what forms network governance can take and what factors influence why one form versus another might be more effective. Once a form is in place network managers must still manage and lead the network. Success is by no means assured, regardless of which form is adopted. We propose that network managers operating within each form must recognize and respond to three basic tensions, or contradictory logics, that are inherent in network governance. Although these tensions apply to all three forms of governance, the unique properties of each form means that they differ with respect to which side of each tension is most likely. How these tensions are managed will be critical for network effectiveness. It should be noted that consistent with our overall approach, we address only network-level tensions and not those tensions that might be experienced within individual organizations as a result of participating in a network (cf. Håkansson and Ford 2002). Although the three tensions are not exclusive to networks, and may, in fact, sometimes occur in the management of individual organizations, each has been shown in the network literature to be an inherent and critical aspect of network life that network members must deal with.

Efficiency versus Inclusiveness

Efficiency, a measure of outputs over inputs, is obviously a desired outcome. However, even within organizations, there are inevitable tensions between efficiency and other goals, especially those related to other measures of effectiveness. The main tension for organizations in this regard is between efficiency and broader indicators of effectiveness, especially those with long-term implications that may prove inefficient in the short run. In networks, the primary tension regarding efficiency is between the need for administrative efficiency in network governance and the need for member involvement, through inclusive decision making. Throughout the literature on networks, a common theme is the need to build trust through collaboration (Alter and Hage 1993; Edelenbos and Klijn 2007; Uzzi 1997). Collaboration, especially when the aim is to build greater trust among network partners, is seldom an efficient endeavor, however. The more that organizational participants are involved in the network decision process, the more time consuming and resource intensive that process will tend to be.

Although network members participating in shared-governed systems may be enthusiastic about their involvement during the early stages of network evolution, "burn-out" can readily set in as network activities and involvement takes an increased toll on their time and energies. This phenomenon has been noted by Weiner and Alexander (1998). A likely outcome of this problem is that a small subset of participants may end up doing most of the work, producing a drop in enthusiasm, increased levels of frustration, and a gradual shift toward greater centralization of governance. To increase efficiency, networks can shift to a lead organization model, where the burden of direct involvement can be reduced significantly. This form of governance is far more efficient, but the trade-off may be a reduction in the commitment of participants and a focus on the needs of the lead organization, thereby potentially reducing overall network effectiveness.

An NAO mode of governance is likely to provide a greater balance than either of the other two forms regarding the tension between the need for efficient operation and inclusive decision making. This mechanism is not a panacea, however, since any increase in administrative efficiency may be viewed by participants as being bureaucratic and, thus,

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inconsistent with network goals of collaboration. Essentially, an NAO allows for structured and representative participation for key strategic issues while having a staff assume more routine administrative burdens. It is a compromise mode but with an emphasis on efficiency.

Internal versus External Legitimacy

A second critical network-level tension that is likely to vary based on the form of network governance is legitimacy. Legitimacy has often been discussed as critical for maintaining the status and viability of organizations (Suchman 1995), but there has been little attention devoted to the importance of legitimacy in and of networks. The main work on the topic has been by Human and Provan (2000). Their work demonstrated not only that network legitimacy is a critical concept in its own right, as distinct from organizational legitimacy, but also that the concept has multiple dimensions that must be addressed.

An essential part of argument of Human and Provan (2000) was that legitimacy must be addressed both internally and externally. This results in an inevitable tension that must be recognized and managed through network governance. On the one hand, a key concern for any governance mechanism is to develop internal legitimacy among participants. Especially in business, but also, often in the nonprofit sector, organizations are used to competing. Thus, legitimizing interactions among other organizations, some of which may be actual or potential competitors, is a critical function of network governance. If participants do not see interactions and coordinated efforts as being a legitimate way of conducting business, with potential benefits from these interactions (either social or economic), then the network is likely to exist in name only with little real commitment by participants to network-level goals and outcomes.

On the other hand, any form of governance must be responsive to external expectations. By doing such things as attracting customers, securing funding, dealing with government, and so on, network governance can provide the external "face" of the network. Outside groups can see that the network is an entity in its own right, and not simply a group of organizations that occasionally get together to discuss common concerns. Having external legitimacy can also reinforce the commitment of network participants, who are more likely to see themselves as part of a viable network. Establishing external legitimacy is a critical role of network governance, since individual participants (other than a lead organization), acting on their own, will generally not be seen by outsiders as representing the full network.

The problem for network governance is not only to build network legitimacy both internally and externally but also to address the potential tension between them. Network participants need to believe that collaboration with one another is beneficial. Thus, the value of interactions among potentially competing and diverse participants must be legitimized. In part, this can be accomplished through mimicry (DiMaggio and Powell 1983), as the participants of one network adopt the interactive practices of another based on the assumption that networks are essential for conducting business, developing innovation, serving clients, and so on. But it is also a key role of governance to develop and encourage interaction, making it commonplace and accepted. For instance, McEvily and Zaheer (2004) discuss the key role of network facilitator not only to maintain trust but also to build trust among participants. This means concern with the internal needs of the network and its participants, building collaboration among organizations that might not normally work together, resolving conflicts, and so on.

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The tension arises when the internal legitimacy needs of network members conflict with external demands. As Human and Provan (2000) found, the role of governance for building external network legitimacy often involves actions and activities that may benefit the overall network, but not necessarily many of the individual participants or the internal needs of the network itself, such as building interactions. One issue is that network participants have their own legitimacy needs, as independent, autonomous organizations with their own goals. These internal legitimacy needs, which can focus on the needs of clients, employees, board members, and other organizational stakeholders, are not always compatible with the broader external legitimacy needs of the network as a whole. In addition, providing a public face to the network means that participants will less likely be directly involved in interactions with major network-wide stakeholders, such as funders, working instead with one another and through network-level staff. Thus, participants may feel left out or that their credibility is being undermined. Essentially, the tension is in part between individualistic versus collectivistic legitimacy concerns, and in part between a focus on building internal network interactions versus building the credibility of the network to outsiders.

Effective network governance means building structures that are responsive to both internal and external legitimacy needs. The problem is that no one-network governance form is ideally suited to fully address each side of the legitimacy tension. Because of its strong participatory focus, the shared-governance form is best suited to address internal network legitimacy needs. The lead organization form is especially suited to addressing the external legitimacy needs of the network. The lead organization will, typically, already have legitimacy as an organization, and it can leverage that legitimacy on behalf of the network as a whole. It has an added incentive to do this, since as the most powerful member of the network, it stands the most to gain. The NAO form attempts to strike a balance between these two forms. Its centralized administration can represent the network externally, whereas the need to legitimize interactions among participants can be addressed, at least in part, through its representative structure. The problem is that it may be quite difficult to adequately address both legitimacy needs, especially at the same time. Thus, with the NAO form, addressing the legitimacy tension is likely to occur sequentially rather than simultaneously and, as discovered by Human and Provan (2000), only following a legitimacy crisis stemming from lack of attention to one side of the tension.

Flexibility versus Stability

Networks are frequently discussed as adaptable, flexible forms (Huxham and Vangen 2005) that are "light on their feet" (Powell 1990). It is their flexibility that gives networks their advantage over hierarchies, which can be cumbersome and bureaucratic. Through networks, organizations can quickly and efficiently work with one another to achieve specific goals that require combined resources and expertise that hierarchies alone could not readily accomplish (Kapucu and Van Wart 2006). These same organizations can reduce or even break their current relationships and develop ties to others, as needs and tasks change (Larson 1992). This flexibility allows networked organizations to respond quickly to competition and other environmental threats, as well as to opportunities.

At the same time, networks that are not simply focused on a temporary, short-term project must also focus on sustainment. Stability is critical for maintaining legitimacy, both inside and outside the network. Stable networks mean that participants can develop

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long-term relationships with at least some other members, so that each understands the other's strengths and weaknesses and respond accordingly to maximize network outcomes. In one of the few studies on the topic, Provan and Milward (1995) found that stability was a major factor for explaining network effectiveness regarding client services, even when network-wide resources were inadequate. Essentially, flexibility is important for ensuring rapid network responses in ways that meet changing stakeholder needs and demands. But stability is important for developing consistent responses to stakeholders and for efficient network management over time.

The most obvious mechanism for maintaining stability is the formation of a formal hierarchy. However, governing networks as bureaucratic entities would mean destroying the intent and purpose of the form, as well as alienating most participants. At the same time, high flexibility and adaptability are likely to be difficult to sustain, especially in view of legitimacy and efficiency pressures that may best be addressed by having a stable and sustainable formal structure. Developing a governance structure that is both stable and flexible is not impossible. However, it requires frequent reassessment of structural mechanisms and procedures in light of new developments, and a willingness to make needed changes even if they are disruptive.

As with the other two network tensions, no single form of network governance is capable of fully addressing the stability-flexibility tension. Shared-governance networks are highly flexible and adaptable, since they are shaped by the participants themselves on an ongoing basis. As network needs and expectations change, participants enter and leave the network and governance adapts accordingly since participants are directly involved in decisions. This form is ideally suited to the sort of short-term project-oriented tasks discussed by Jones et al. (1998) in their work on professional service constellations. NAO-governed networks are likely to be much more formalized, emphasizing the stability end of the continuum. NAO structures are typically either imposed on participants, as with government broker entities, or they are established most often after networks have started to mature. In either case, there is a recognized need or demand for having a formalized structure that can be sustained over time. Lead organization networks also fall on the stability side of the tension continuum, especially as the lead organization either strives to maintain its dominant role or does so through mandate.

Based on these arguments, three propositions can be developed, outlining the type of tension that is most likely in each governance form:

P_5 Networks face a tension between the need for administrative efficiency and inclusive decision making. In shared-governance networks, the tension will favor inclusion; in lead organization–governed networks, the tension will favor efficiency; and in NAO-governed networks, the tension will be more balanced but favor efficiency.

P_6 Networks face a tension between the need for internal and external legitimacy. In shared-governance networks, the tension will favor internal legitimacy; in lead organization–governed networks, the tension will favor external legitimacy; and in NAO-governed networks, both sides of the tension will be addressed but in a sequential fashion.

P_7 Networks face a tension between the need for flexibility and the need for stability. In shared-governance networks, the tension will favor flexibility; in NAO- and lead organization–governed networks, the tension will favor stability.

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Despite the absence of empirical research on how these three tensions occur regarding network governance, they are an essential, but problematic, aspect of network management. For example, if a network is highly inefficient or lacks internal legitimacy over an extended period of time, participating organizations will be likely to drop out of the network or greatly reduce their involvement and contributions. Alternatively, if a network is stable but not flexible, its capacity to perform key functions, like integrating service provision or comprehensive project planning, is likely to decline, especially as critical environment conditions change and as new members join. It is up to network management, as part of the governance process, to recognize the tensions in each governance form, determine whether or not the tensions inherent in the form adopted should be resolved, and how this should be accomplished. A full treatment of this issue is beyond the scope of this article. It is, however, part of the dilemma of managing public networks, which has been discussed extensively by Agranoff and McGuire (2003); Huxham and Vangen (2005); Kickert, Klijn, and Koppenjan (1999); and others.

EVOLUTION OF NETWORK GOVERNANCE

One final issue is network evolution. We have described the network governance forms, the conditions under which a particular form, if adopted, is likely to be successful, and the tensions that are inherent in each form. But what happens when the form needs to change? Although there has been research on how networks evolve over time (cf. Doz 1996; Gulati and Gargiulo 1999; Human, Sherrie, and Provan 2000; Isett and Provan 2005; Kenis and Knoke 2002; Ring and Van de Ven 1994), these studies have focused mainly on evolution of network relationships, not evolution of the form of governance. If there is a discrepancy between a form of governance and one or more of the critical contingencies we discussed (trust density, size, etc.), one option, of course, is for the network to avoid change, in which case it will simply either be ineffective or fail. This is a particular problem when networks are mandated and the form imposed is inappropriate. Thus, change in network governance is certainly not inevitable. But an alternative option is for the network and its management to change its component structure and adopt a different form of governance. For instance, as a shared-governance network attracts more and more members (possibly precisely because of its effectiveness), the demands on its governance structure will change. At this point, network-level managers can either struggle with the current governance form, which is likely to become increasingly ineffective, or shift to a different form that is consistent with having more participants, less dense trust relations, and so on.

Given the likelihood, and in fact, the desirability of change as contingency conditions evolve, how exactly does change take place? Are shifts from one form to another equally likely or is evolution inhibited by the structure of the form itself? We argue that change from one form of governance to another is predictable, depending on which form is already in place. The logic behind this argument is based on the inherent flexibility and adaptability of the form itself.

Shared governance is the most flexible and adaptable form (see the discussion of network tensions). Networks can certainly maintain this form. However, network success is likely to induce changes in the contingency components outlined earlier (more participants, greater need for network-level competencies, etc.), requiring a shift in network governance. We argue that at this point, shift to either brokered form of governance is possible, depending on what the various contingency factors look like (for instance, is trust

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becoming more diffused?). Once a brokered form is adopted, however, the range of choices is reduced. Specifically, when governance becomes established as either a lead organization or NAO form, evolution to shared governance is unlikely. Both lead organization and NAO forms are more stable, less flexible forms, with institutionalized leadership roles that make it difficult to shift to shared governance. In addition, just as these brokered forms are most effectively utilized when trust is more diffused among members, when there are many participants, etc., these same factors are difficult to reverse.

In a similar manner, when a lead organization form is adopted, if contingency factors change, they are most likely to change in ways that make the NAO form optimal. Thus, evolution is much more likely to move from a lead organization form to an NAO, than from lead organization to shared governance. It should be noted, however, that movement from either shared governance or a lead organization to an NAO involves strategic choice. That is, evolution is not simply a natural process that occurs as contingency components change. Rather, a specific choice must be made by network participants and managers to turn network governance over from one or more network participants to a third party organization. Finally, when an NAO is adopted, because it is the most formalized of the governance models, the form is least likely of the three basic forms to change. Our logic is summarized in the following proposition:

P_8 Assuming network survival over time, as network governance changes, it is likely to evolve in a predictable pattern from shared governance to a more brokered form and from participant governed to externally (NAO) governed. Evolution from shared governance to either brokered form is significantly more likely than evolution from a brokered form to shared governance. Once established, evolution from an NAO to another form is unlikely (i.e., inertia is strongest when the governance form is more formalized).

CONCLUSIONS

This article has provided an examination and discussion of the governance of organizational networks, offering a rationale for studying this under-researched topic and distinguishing among three basic forms of network governance. Our intent has been to build new theory about network governance, first, by discussing the basic characteristics of each form of governance; second, by outlining a number of critical contingency components that are likely to explain governance form effectiveness; third, by discussing the tensions inherent in each form and how these tensions might be managed in a network context; and fourth, by exploring the evolution of network governance from one form to another. We do not deny that the effectiveness of networks may, in part, be a function of the actions of individual network participants, or that individual participants may gain advantage from network involvement regardless of governance form. However, our basic contention is that when focusing on collectively generated, network-level outcomes, the form of network governance adopted, and the management of tensions related to that form are critical for explaining network effectiveness.

There is still much work to do to build and test theory related to network-level activities, structures, and outcomes. This article should be viewed as a starting point for explaining what network governance is, what forms it takes, how it evolves, and especially, how it might matter. For instance, although we argued for the importance of four particular

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contingencies, it is certainly possible that other components may be equally as important. Public network researchers need to examine these four as well as other contingencies that may be critical to network governance. The role of management also needs to be addressed in greater depth. We discussed the importance of management in addressing the tensions inherent in each governance form, but exactly what should be done and how was beyond the scope of this article.

Research should also be conducted on the interaction between governance interactions and operational interactions. For instance, are networks characterized by certain operational relationships between its organizations (like a specific routing of clients through a chain-like pattern) better governed by one form of network governance than another?

Another issue that deserves further attention is the importance of evolution. We discussed evolution in a general way, but empirical research as well as further thinking is warranted. For instance, if there is no mandate, how do network governance forms get started in the first place? And once started, what factors might contribute to the tendency of some forms to change more readily than others? In other words, are certain forms more likely than others to be resistant to changes in certain contingency components, thus slowing the process of change? Systematic research on network evolution is needed, focusing especially on how the governance of public networks emerges (whether by mandate or choice), and how it changes over time.

Finally, although we have focused primarily on explaining the impact of governance form on network effectiveness, effectiveness itself was only addressed in a general way. Research and further theorizing on network governance might move beyond this, addressing effectiveness as a multi-dimensional variable. For example, it may be that one form of governance may be most likely to produce positive outcomes for some types of outcomes, like community planning, but not for others, like better services. From this, it might also be possible to work backwards, predicting network form based on the type of outcome achieved. This capacity would be especially attractive to those trying to investigate and understand the functioning of illegal networks (cf. Baker and Faulkner 1993 Raab and Milward 2003). If the network form could be inferred from the outcome attained, then more effective intervention strategies might be designed.

This work also has practical implications. From a policy perspective, it should be clear that selection of governance form, whether through mandate or funding incentives, can have critical implications for overall network effectiveness. From a management perspective, our work demonstrates that effective network management requires the need to recognize and respond to both internal and external network demands, both when selecting a governance form and when managing tensions that arise as part of that form.

This article has been an attempt to develop new theory about network governance and to stimulate fresh thinking about how networks might be studied in the future. The challenge to researchers will be to broaden their focus, moving away from describing network activities and behaviors, or focusing on how organizations function within networks. Instead, researchers will need to examine whole networks in greater depth, including how they are governed. Ideally, large-scale comparative network studies would be undertaken, examining many networks across a range of different forms of governance. In view of the cost and complexity of conducting such research, however, it may be more reasonable to encourage the cumulative building of knowledge drawn from multiple network studies

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examining different forms of governance in more in-depth ways. Some of this research has already been conducted, but the accumulation of evidence has not yet been apparent. Hopefully, this article will stimulate this process.

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