Managing Networks: Propositions on What Managers Do and Why They Do It
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Measuring management in networks is difficult because the allocation of managerial resources in network structures is fluid—that is, the utilization of management behaviors varies across time and space within a given program or project. As a means of focusing the network management research agenda, propositions based in contingency logic are suggested to test ideas regarding when, why, and how network managers undertake these behaviors. The propositions are intended to identify the vast inventory of network management behaviors and, most importantly, determine how the manager strategically matches behaviors with the governing context. Suggestions are also offered to help us understand how and why managerial resources are reallocated over time and space. The proposed research agenda is offered as a guide to help us determine which choices are most likely to be effective.

"The study of governance needs its bestseller with snappy aphorisms and vivid stories."

—R.A.W. Rhodes

In the midst of remarkable increases in the quality and quantity of research in public network management, the story of the public manager in such contexts has yet to be adequately told. Where is the “day in the life of a public network manager” fable to teach us the basic how-tos of network management? Where are the textbooks with full-color pictorials, biographical accounts of highly skilled network managers? Where can we find documentation of a manager muddling through, groping along, or falling asleep at the wheel in network settings? As more attention is given to governing structures that are multiorganizational and multisectoral, this aspect of public management could use some simple, rich description. In the passage quoted above, Professor Rhodes (1997, xv) writes concisely, and only partially in jest, that “all too often academics make maps of complexity, insisting that complex problems require complex solutions” that stand in contrast to the “snappy ‘ten commandments’ of the latest management bestseller.” However, it is difficult to discuss clearly and concisely that which is complex and multifaceted. The practice of managing across governments and organizations outpaces empirical description and theoretical explanation. We do not yet have the vocabulary and imagery to tell meaningful stories of management success in network settings.

This article may fail the “ten commandments” test, but its intent is to simplify and focus research on network management. It discusses the challenges of measuring the public manager’s critical actions and behaviors in models of program effectiveness in network policy making and administration. The basic premise is that a research agenda in network management must include three components: (1) a description of the behaviors chosen by the network manager; (2) an explanation of why managers make such choices; and (3) an evaluation of these choices. Making the important case that network management has become a critical activity in public administration, recent research has emphasized the third component, theorizing about the meaning of effectiveness in networks and testing models of effectiveness with empirical data. In such valuable but incomplete models, network management has become the ultimate independent variable in causal modeling of program effectiveness, but the specific behaviors of the public manager are not properly measured in these models. Although advances have resulted from the more sophisticated studies (Meier and O’Toole 2001; Provan and
Milward 1995), empirical research heretofore has neglected to describe and explain how particular management resources are employed in network structures. In research-design terminology, a premium has been placed on establishing internal validity, without a similar concern for measurement validity. The discussion in this article is intended to provide one road map for identifying and understanding the behaviors of the network manager.

Assumptions and Definitions

Several assumptions and definitions must be stated at the outset. First, the term “network” is used in this article to describe public policy making and administrative structures involving multiple nodes (agencies and organizations) with multiple linkages. I use the term not just to describe social networks or informal patterns of interaction, but to connote structures through which public goods and services are planned, designed, produced, and delivered (and any or all of the activities). In keeping with recent public administration research, I do not define networks as purely sociological phenomena. Instead, I use the network as a metaphor to describe joint situations in which more than one organization is dependent on another to perform a task. My intent is not to apply the concept of the social network to public administration, but to modify our models of public administration and management to apply to network-like settings.

Second, I assume that government is properly viewed as a steerer of policy making and execution, reflecting the desires and demands of its citizens. My use of the term “network management” still conveys the steering function of government, but in a way that is wholly different from command-and-control processes within a bureaucracy. In practice, networks may rely on various leaders at various times performing various roles, all of which may be necessary for network effectiveness. However, my hypotheses assume the typical situations in which government ultimately is held accountable for the satisfactory delivery of public goods and services. Therefore, the network manager in the situations assumed here is the government management charged with completing such a task, who must do so with and through networked settings. Public managers can’t command action in networks, but they are still responsible for their outputs.

Third, unlike many studies of networks and collaboration, my focus is on managing the network as a network. The first-stage, operations-level management behaviors examined in this article are conducted to achieve a particular purpose; the hypotheses raised here are not intended to directly address the network purpose. In this regard, the behaviors can be viewed as analogous to—but certainly not the same as—behaviors and tasks that constitute organizational behavior theory. For example, in order for an organization to produce its goods and services, it must have the most skilled staff. The staff must be motivated to maintain or increase production, the organization must be structured in such a way that production is efficient and effective, and the development of interpersonal relationships must be fostered. The manager’s job is to make this happen. Similarly, any government manager charged with achieving a goal through network settings understands the most critical activities involve operations—identifying and working with the proper players and resources, keeping the players committed, defining the roles of the players, and facilitating effective interaction among the players. A network manager certainly cannot command these to happen, as a manager in a single organization can do, but they still must happen for networks to be effective. Thus, I limit my analysis to exploring what managers do to operate in effective networks.

The Research Question

I submit that the most important network management research agenda involves answering a simple but elusive empirical question: Do the actions of a manager contribute to the effectiveness of multiorganizational arrangements, and if so, how? Governing networks do not simply emerge spontaneously as self-sufficient, automated entities. There is both an operational and a strategic character to networks that depends largely on the actions of a manager. Recently adopted measures of network management typically involve counting contacts and interactions within the network (Agranoff and McGuire 1998; Meier and O’Toole 2001; Provan and Milward 1991, 1995). The use of these preliminary measures in network studies has opened the floodgates, so to speak, and provided a welcome stream of knowledge regarding the scope and impact of multiorganizational structures, but they fall short of accurately depicting a network manager’s behavior. If scholarship ultimately is intended to inform action, to provide guidance to managers operating in a complex and rapidly changing environment, this empirical oversight must be corrected and next-generation measures of network management must be conceived.

Measuring management in networks is difficult because the allocation of managerial resources in network structures is fluid, that is, the utilization of management behaviors varies across time and space within a given program or project. A manager may believe it is necessary to stabilize processes within a network—say, by fostering agreement on the rules of interaction among the players or gaining consensus on a common language to use during network operations. But emphasizing stabilization means that, in that particular time and place, less attention can be given
to exploiting opportunities such as expanding the size of the network or engaging stakeholders to support the aims of the network. The distribution of management resources expended at a given point in time will vary, making observation and identification problematic.

As a means of focusing the network management research agenda, I suggest hypotheses to test ideas regarding when, why, and how network managers behave. The hypotheses are drawn from interviews with local network managers and the rapidly expanding literature on network management.

The Example

An example of a very common scenario illustrates the complexity and difficulty of measuring network management. One local agency in North Texas is charged with providing services to persons with mental illness and mental retardation as part of the Texas mental health and mental retardation (MHMR) system. The overriding goal of this particular agency is to respond to the needs of adults and children with mental illness, mental retardation, autism, pervasive development disorder, or substance abuse, as well as the needs of their families, by providing quality services. The center has contracts with a vast number of providers that deliver services to its consumers and has established working relationships with no fewer than 31 governmental and nongovernmental organizations. Funding for the center's activities comes from multiple sources: home and community-based services contracts, grants for operating expenses from the state MHMR agency, new generation Medication funding, Medicaid, child and adolescent mental health block grants, in-home and family services, Medicare, and funding from three local governments. Managers from the MHMR service arrays have recently experienced the opening of two new clinics, an additional office, a merger, and a major restructuring of the state funding system. Since the summer of 2000, the home and community-based services program for persons with mental retardation has experienced funding reductions of approximately 25 percent while realizing a 39 percent increase in the number of people served. Demand for MHMR services has far surpassed the center's capacity, while centerwide funding from the state of Texas has been reduced every year. Uncertain funding from the federal and state government, a continual shortage of Medicaid providers, increasing costs of utilities and housing, and other significant shocks to the agency have resulted in many incremental and several fundamental changes to the network structure and operations. Even in such environmental complexity, however, evaluations indicate the vast majority of consumers, family members, community volunteers, and representatives of various groups are satisfied with the performance of center activities, rating the effectiveness of the network as high or very high.

In this scenario, how do we measure "network management"? Consider the multitude of activities performed by managers. To meet the demand for expanded mental retardation services, the manager expanded the network of providers and reconfigured the roles of existing providers. After the agency initiated person-directed planning—a process for developing service plans from the personal outcomes desired and identified by the individuals—managers worked with providers to assist them in realigning their service approach with the agency's new philosophy. When a committee of volunteers drafted a plan calling for improved internal and external communication, network managers enhanced information exchanges and utilized information more effectively as a means of improving the quality of interaction within the network. As the state reduced the center's funding, managers solicited financial resources from previously inactive community representatives and mobilized support from previously uncommitted players in the community.

The only thing extraordinary about this example is that it is not extraordinary; environmental shocks such as those experienced at the agency are common in many policy areas. As in many networks, over a short period of time, the allocation of management resources varied considerably. Some behaviors necessarily preceded other behaviors, while others were undertaken in response to abrupt changes in the program environment. How do we account for these numerous actions and behaviors in our models of network management? At what point should we capture this activity and assign a value to it? For pedagogical and theoretical reasons, it is not desirable, even if possible, to consider management in this regard as a single set of efforts or a sum of managerial behaviors. A simple count of the number of contacts with a predetermined list of possible network members will not—indeed, cannot—adequately capture the extent to which strategic and competent action by the network manager(s) contributes to the success of the network. It is even conceivable that such a count would severely underestimate the scope of management activity, since the quality of interaction may have changed more significantly than the quantity of interaction. The limitations of applying our current measures of network management even to a typical network are obvious.

The Fluidity of Network Management

Management Behavior

Network management is an elusive target to properly measure. The allocation and utilization of management resources expended is fluid—it varies across time and space within a given program or project. Managing in network
structures involves a complex sequence of moves and coun-
termoves, adjustments and readjustments, actions and non-
actions. Some moves are more consequential than others. Some moves merely establish the context for making other moves. Others serve as a breach between failed and incon-
sequential moves and the promise of eventual success.

Our understanding of network management is derived
mainly from theoretically examining, rather than empiri-
cally cataloging, behavior. During a time when observ-
ers first became aware of the emerging intergovernmen-
tal and interorganizational forms of governing, Hanf
identified how managers intervene in existing interrela-
tionships, promote interactions, and mobilize coordina-
tion (Hanf, Hjer, and Porter 1978). Since that time, re-
searchers have documented that officials from all levels
of government perceive managing across governments
and organizations as involving a number of discrete but
related activities: mobilizing forces within and outside
the community to build support; acquiring the necessary
financing, expertise, and other resources while setting a
course of action; learning about the external government
opportunities and constraints; reading the ever-changing
signals of program managers and funding agents; and
successfully operating and cooperating within the sys-

Another way to move toward greater understanding of
the activities of network management is to model the im-
 pact of public management in general on governmental
performance and then isolate factors that are network-spe-
cific. O’Toole and Meier (1999) develop a parsimonious
yet robust framework for modeling management that dis-
cerns not only the impact of these functions, but also the
managerial resources used to perform these functions in
particular structural contexts. O’Toole and Meier’s model
is not network-specific; rather, it captures the resources
that generally comprise public management, which include
stabilizing the internal operations of a system, exploiting
shocks in the environment of the system, and buffering the
system to minimize the impact of environmental shocks.
The model is grounded in structural variations that exist
within particular program contexts and the way such varia-
tions determine the allocation of management resources.
Thus, network management is a particular allocation of
resources in which environmental management—leverag-
ing external opportunities and buffering the system from
unwanted shocks—supplements or opposes more hierar-
chical functions.

Meier and O’Toole (2001) test the formal model with
performance data from Texas public school districts. The
variable conceptualized as the environmental component
in the model is measured by the level of interaction be-
tween the primary network managers (superintendents) and
five sets of actors from the school districts’ organizational
environment. Using both ordinary least squares regression
and substantively weighted analytical techniques (Meier
and Gill 2000), the authors find the frequency of interac-
tion is positively related to school district performance;
the greater the number of actors and interaction with whom
the superintendents “networked,” the higher the perfor-
ance. In a field with empirical research that has proceeded
at a snail’s pace, the evidence demonstrating the impact of
network management on program performance provides
an enormous contribution to the field. Meier and O’Toole
conclude, “the results of this study offer encouragement
for those who are convinced that public management mat-
ters, that network management itself can be important for
performance, and that complex models of public manage-
ment are worthy of serious attention” (291).

Even so, the authors acknowledge that their measure of
management in networked settings is simplified and ig-
nores the real essence of management. Indeed, the strength
of the formal model—conceptual sophistication, parsi-
mony, and generalizability—is also its main weakness
when applied to managing in networks. Like other net-
work management studies (Provan and Milward 1995;
Agranoff and McGuire 1998), the frequency and regular-
ity of network management are accounted for and mea-
sured, but the multiple operational behaviors undertaken
by the manager are not.

In order to look at how managers manage a network as
a network, it is necessary to distinguish behaviors in terms
of their operational differences. I examine four different,
though certainly not all-inclusive, categories discussed else-
where in the literature (Agranoff and McGuire 2001). These
behaviors have parallels in single-organization manage-
ment, but, as argued throughout and as managers in the
field are quick to suggest, they are quite different from
their organizational-behavior counterparts. The operational
categorization is similar to the work of Kickert, Klijn, and
Koppenjan (1997a), who distinguish the multitude of mana-
gerial tasks in terms of purposes: network management
activities aimed at the ideas and perceptions of network
members, and those aimed at the interaction of members.
The former include preventing or introducing new ideas,
bargaining, and inducing reflection within the network,
whereas the latter involve arranging, structuring, and me-
diating interaction among network participants.

One class of behaviors undertaken by network manag-
ers is referred to here as activation, which managers in the
field suggest may be the most important activity of man-
aging networks. I use the term “activation” to refer to a set
of behaviors employed for identifying and incorporating
the persons and resources (such as funding, expertise, and
legal authority) needed to achieve program goals. The
single-organization parallel to activation would be person-
nel issues of staffing. Activating involves identifying par-
participants for the network and including key stakeholders in the process (Gray 1989; Lipnack and Stamps 1994; Termeer and Koppenjan 1997). The skills, knowledge, and resources of these potential participants must be assessed and tapped into (Agranoff and McGuire 1999; Klijn 1996). According to Scharpf (1978), selective activation is based on correctly identifying the participants and other resources needed for the network. Activation is a critical component of network management because resources such as money, information, and expertise can be integrating mechanisms of networks. Even after a network is operational but not performing as desired, “deactivation” may be needed to remove some network participants. An example of activation is a director of economic development who is charged with developing an incentive plan for recruiting and retaining businesses and submitting the proposal to the city council. Applying her knowledge of the community and her experience in the field, the director assembles a network that includes key governmental and nongovernmental representatives such as the county economic development director, chamber of commerce leadership, director of local development corporation, and business owners.

Other network management behaviors are employed to help frame the structure and the norms and values of the network as a whole. Framing is defined as the behaviors used to arrange and integrate a network structure by facilitating agreement on participants’ roles, operating rules, and network values. Like activation, framing is used both during the formation of the network and when network effectiveness diminishes or is suboptimal. Network managers must arrange, stabilize, nurture, and integrate the network structure (O’Toole 1997). Framing involves facilitating the internal structure and position of the participants (Kickert, Klijn, and Koppenjan 1997b), as well as influencing the operating rules and norms of the network (Klijn 1996; Mandell 1990; Termeer and Koppenjan 1997). Managers cannot draw up an organizational chart in a network, as is done in single-organization structures, but they do try to influence the roles that each participant may play at any given time and the perceptions one has about the common purpose of the network (Benson 1975; Gray 1989; Lipnack and Stamps 1994). Managers do this by facilitating agreement on leadership roles; helping to establish an identity and culture for the network, even if it is temporary; assisting in developing a working structure for the network (that is, committees or network “assignments”); and altering the perceptions of participants to understand the unique characteristics of working with persons in contexts without organizational mechanisms based in authority relations.

As organizational behavior theory instructs us, motivated people who “consistently, creatively, and energetically work toward the attainment of organizational goals are the key to organizational success” (Denhardt, Denhardt, and Aristigueta 2002). Network managers also must induce individuals to make and keep a commitment to the network. Mobilizing behaviors are used to develop commitment and support for network processes from network participants and external stakeholders. Mobilization in this regard is a common and sometimes ongoing task for achieving network effectiveness. Managers build support by mobilizing organizations and coalitions and by forging an agreement on the role and scope of network operations (Kickert and Koppenjan 1997; Mandell 1990). An economic development director in city government, for example, should have the cooperation of all network participants as well as the city council and the chief executive as a means to more confidently engage in networking and achieve the strategic purpose at hand (Agranoff and McGuire 1999).

Managers also must employ synthesizing behaviors to create an environment and enhance the conditions for favorable, productive interaction among network participants. One critical behavior of the network manager is to build relationships and interactions that result in achieving the network purpose. The strategies of each network participant and the outcomes of those strategies are influenced by the patterns of relations and interactions that have developed in the network. Network management behaviors include facilitating and furthering interaction among participants (Agranoff and McGuire 1999; Mossberger and Hale 1999; O’Toole 1988), reducing complexity and uncertainty by promoting information exchange (Gray 1989; Lipnack and Stamps 1994; Termeer and Koppenjan 1997), and facilitating linkages among participants (O’Toole 1997). Weiner (1990) suggests that organizational management techniques such as team building and group problem solving are applicable to networks, but network management is based on information rather than authority. The network manager seeks to achieve cooperation among actors while minimizing and removing informational and interactional blockages to the cooperation. This steering of network processes is like game management, in the sense that the result of the network process “derives from the interaction between the strategies of all actors involved” (Klijn and Teisman 1997, 99).

The categorization of network management behaviors offered here is less important than the point that it is necessary to catalog such behaviors and to determine how and why to use such behaviors. However one categorizes behaviors, the different management resources allocated by managers are nearly seamless in their applicability. Multiple behaviors are utilized in network settings. For example, the addition or removal of a critical network resource—human or otherwise—can have myriad effects on the network. While roles are rearranged, the manager will try to facilitate an environment in which greater interac-
tion can take place. This might be done by improving communication or by changing the incentives of participation. Similarly, synthesizing is often accompanied by reframing or by a conscious attempt to change the network participants’ perception of the interaction changes. During or after deactivation or reframing, managers often must mobilize support for the changes, reestablish the purpose of the network, and make sure all participants are “on board.”

Network Environment

There is a fundamental need to discover some explanation or rationale—the set of managerial decision rules—for why managers choose one activity over another and how they allocate their time and effort on these activities. What does a network manager do when the network must undergo a transformation of vision and philosophy? What should she do? What does a network manager do when the goals of a program or project are elusive or conflicting? What should he do? Broadly, what are the critical environmental variables affecting network operations, and what are the preferred responses to these variables?

Contingency theory suggests there is an identifiable and predictable logic to network management that can assist researchers in explaining how and why managers allocate resources in a given context. Applying this logic can lay a foundation for determining whether activities and behaviors chosen by managers always, sometimes, or never operate systematically. Even as research reveals the vast inventory of network management behaviors, it is also important to understand how the manager matches these behaviors with the policy context. One assumption of this logic is that the network’s fulfillment of purposes and goals is contingent on its ability to function in, and its capacity to adapt to, the environment in which it operates. According to Simon (1981), goal attainment is a function of adapting the many and varied inner environments in a system (that is, the network) to the outer environment. He argues that “in very many cases whether a particular system will achieve a particular goal or adaptation depends on only a few characteristics of the outer environment and not at all on the detail of that environment” (11). If network management is indeed contingent, it is necessary to isolate those “few characteristics” of the outer environment that affect the allocation of managerial activities.

Mandell (1990) was one of the first researchers to suggest how managerial constraints vary systematically within and across network settings, and thus can affect what she refers to as “strategic network management style.” The basis of her strategic-contingency logic is similar to Simon’s framework: Program performance is contingent on the relationship of management and its problem context. Network settings offer a unique problem context with sets of constraints that affect, in some way, the allocation of management resources, and thus the choice of particular behaviors. Some of the relevant environmental contingencies are not exclusive to networks, but others are, and all are important challenges for managers.

The hypotheses offered here extend her analysis by examining not just the roles played by network managers, but the activities of the manager. Before we can adequately describe and inform the practice of network management, it is necessary to examine actual behaviors performed in networks and how management resources may be allocated differently within networks at different points in time and across networks. I discuss a necessarily brief list of key environmental variables as a means of illustrating the fluid nature of network management; a more exhaustive discussion of such variables ultimately is needed to properly develop theories of network management.

Matching Environment and Behavior

Goal Consensus. The degree to which program or project goals are unambiguous is a critical environmental factor affecting the allocation of management resources by the network manager (Thompson 1967). Local government executives involved in network settings suggest the final product is by far the most important criterion of effectiveness. This instrumental perspective of network management is common among administrators (Kickert, Klijn, Koppenjan 1997b), who learn early on that one’s ability to steer government processes is closely related to goal achievement. Some programs have very clear objectives and readily determined performance indicators, which allow managers to expend more energy on collecting the proper resources and coordinating activities, just as a manager may do in a bureaucratic organization. Other programs are conceived in vague terms, and the network must establish its objectives jointly. Consequently, it is reasonable to predict the following hypothesis:

Hypothesis 1: Effective managers in networks with relatively clear program objectives will allocate the greatest share of managerial resources to activating (identifying participants, tapping the skills and resources of these persons, ensuring all interests are included) and synthesizing (promoting information exchange, developing procedures of interaction).

A program infused with many conflicting goals requires a different type and level of managerial energy. Mandell (1990) argues that “the problem is how to meet the overriding interorganizational goal (or set of goals) while at the same time allowing each organization in the network to also meet its own....” The presence of unclear program goals means that one of the first tasks the manager must attend to is facilitating goal consensus—indeed, some networks cannot (should not) proceed without some level of agreement on the ultimate objective.
Faced with this constraint, the goals and actions of network members will be mutually created and adjusted over time (Agranoff 1986). Because goals often are embedded in other goals, disentangling the primary or immediate program objective is a critical management task. Thus, one can posit the following:

**Hypothesis 2:** Effective managers in networks with relatively unclear or multiple program goals will allocate the greatest share of managerial resources to synthesizing (motivating network participants, gaining support from stakeholders, fostering their commitment) and framing (influencing the operating structure of the network, influencing its prevailing values and norms, creating a shared purpose or vision).

**Resource Distribution.** The structure of organizational interdependencies in a network is defined by the distribution of resources across network members. The positional resources of policy making—legal authority, funding, organization, materials, needed support services, expertise, information, and experience—are at the disposal of many different organizations (Franz 1991). Each party literally possesses some level of resources that will make a policy work. Just as organizations can adapt their structures to the environment (Pfeffer and Salancik 1978), so, too, will network managers shape the structure and membership based on resource dependencies.

Resources may be distributed widely across many players, resulting in a necessarily large network, or they may be relatively concentrated in a few key players. Persons who contribute may come from many different sources, and their hierarchical position in their “home” organization is less important than the resources they bring to the network. The types and quantity of resources held by each player may vary as well. One network might include many members with a relatively equal distribution (control) of policy-making resources, and another network of the same size might include one player who possesses an influential amount of a critical resource, such as funding or legal authority (Mandell 1990). The network manager needs to identify and include in the network the needed expertise and other resources to move a project forward. Effective managers know who has such resources and will be successful in bringing them into the network structure. Thus, we can predict the following:

**Hypothesis 3:** Effective managers in program environments with a wide distribution of needed resources will allocate the greatest share of managerial resources to activation and mobilizing.

**Support.** As in any public program, political and social support is an important environmental contingency or constraint for single organizations and networks. The ability to manage externally is related to the internal condition of the manager’s primary organization. City administrators report that their capacity to function effectively in networks is directly related to the scope of cooperation with the city council through participating in strategy sessions and representing the city in public forums. Support also involves a willingness on the part of government officials to conduct an open and continuous dialogue with existing and potential partners, thus sharing information from government to network, and vice versa. The repertoire of a network manager certainly must include these support-building activities. This suggests the following:

**Hypothesis 4:** Effective managers in programs with a relatively low level of support from key stakeholders will allocate the greatest share of managerial resources to synthesizing.

**Relationships.** Networks comprising members who have worked together previously may require less attention to developing a common purpose or establishing trust than will networks with relative newcomers. Trust is a critical resource as public and nonpublic organizations attempt to redefine their usual legal-based (hierarchical, contractual) relationships (Nohria 1992). It is commonly accepted that people join, remain, and work together because some element of trust exists, and trust is developed most easily through experience and familiarity. Managerial behaviors such as sharing and discussing information, finding similarity in processing and techniques, and justifying transaction costs may be less critical when trust is present in networks. Similarly, managers can allocate fewer management resources for formulating productive relationships among the networks members when a shared belief or common purpose—a program rationale (Mandell 1988)—is already present. Thus, one could predict the following:

**Hypothesis 5:** Effective managers in networks composed of some members who have worked together previously will allocate the lowest share of managerial resources to synthesizing.

**Policy Orientation.** The content of the policy practices endemic to a particular network is another environmental contingency on which the fluid nature of network management may rest. What Benson (1982) calls a “policy paradigm,” which refers to a commitment within the sector to a particular set of policy options, consists of the network’s choice of policy instruments or tools (Elmore 1987; Salamon 1981). Some program areas might rely primarily on grants-in-aid for resolving problems, whereas others depend on information transfer and technical assistance. The dominant policy focus constrains, to some degree, the extent to which a network manager can exploit the environment for needed resources; when grant funding is needed, funding must be sought, and activating mem-
bers with resources other than funding may have to be deferred. Some program areas depend on directly provided instruments or regulation and authority instruments, resulting in mandated action. Other policy areas, such as economic development, rely increasingly on instruments designed to tap into the special qualities of a community, thus requiring more diversity in policy formulation and implementation.

McGuire (2000) demonstrates that the process of designing and administering local economic development policy can vary according to the types of policies and institutions adopted in the jurisdiction. Similarly, O'Toole's examination of replacing federal grant support for municipal wastewater treatment with state revolving loan funds concludes that “decisions to shift programs to the states, deregulate, privatize, and employ market-based mechanisms have consequences for interorganizational arrangements and programs in practice” (1996, 239). This discussion suggests the following:

**Hypothesis 6:** Effective managers in program areas with a reliance on policy instruments using local resources will allocate a greater share of managerial resources to activating and mobilizing.

Because the implementation of programs using intergovernmental instruments such as grants-in-aid and mandated regulations requires a great number of actors with disparate goals, sometimes conflicting objectives, and little incentive to cooperate in operational activities, one might predict that:

**Hypothesis 7:** Effective managers in program areas with a reliance on intergovernmental subsidies and regulations will allocate a greater share of managerial resources to framing and synthesizing.

**Strategic Orientation.** A complicated environmental factor concerns the multiple and sometimes conflicting purposes for which networks exist. In its most fundamental form, management is the mechanism for achieving a program objective, such as educating children, improving the local economy, or providing critical health care services to those in need. Even if the objective is unclear in the relevant legislation or becomes compromised during the process, managers seek to deliver that which policy makers intend and citizens demand. All tasks undertaken by the manager derive from achieving that project. In many fields, neither the principals (lawmakers) nor the clients (service recipients) are as concerned about process as much as they are goal achievement.

Because managerial resources are finite, managers sometimes must choose between facilitating network action to achieve program objectives and catering to key network players. Program objectives may be clear—thus providing a clear measure of effectiveness for network members, in theory—but the stability of the network may be fleeting if key stakeholders and network members perceive little benefit from membership and threaten to bail from the network by demanding more agency-level resources. In this scenario, the manager must broker a solution that balances network effectiveness with the efficient allocation of resources within the network. If the network member withdraws from participation, effectiveness is jeopardized; if resources are reallocated, efficiency may be sacrificed.

Provan and Milward (2001) argue that networks may be expected to fulfill criteria for effectiveness that are different from simple goal achievement. Satisfying groups that represent diverse community interests, such as advocacy organizations, is a crucial criterion of effectiveness. As the authors suggest, in terms of stakeholders, “networks must satisfy the needs and expectation of those groups within a community that have both a direct and indirect interest in seeing that client needs are met” (417). The primary program objective may be to deliver and/or enhance client services, but the community at large may demand success in achieving visible aggregate outcomes. Although a social services network may seek to enhance its array of services to reach needy populations, the population as a whole may determine the community-level costs of such a program are too high, either because of competition for limited resources or for philosophical reasons. Effectiveness may be viewed by external groups as “depending on what specific service providers either do or do not do, rather than how well services are provided as a result of network activities,” thus resulting in community- and network-level decisions made “at the expense of network participants” (422). Thus, one could posit that:

**Hypothesis 8:** The allocation of managerial resources to be expended in a network may vary to the extent that client needs may not be compatible with community- or organizational-level needs.

It follows then that:

**Hypothesis 9:** Managers in networks where competing assessments of effectiveness exist will allocate the greatest share of managerial resources to framing and mobilizing.

The complete range of environmental contingencies is not specified here. The foregoing hypotheses illustrate how to proceed with network management research, but the level of generality is variable. For example, one can reconfigure the hypotheses to be more general, perhaps phrased in terms of stability, exploiting the environment, and buffering the environment (O'Toole and Meier 1999). In this regard, the first hypothesis could be restated:
Hypothesis 1a: Effective managers in networks with relatively clear program objectives will allocate a greater share of managerial resources to exploiting the external environment than to stabilizing the system.

Alternatively, one could test a hypothesis by examining a particular behavior rather than a broad category of behaviors; therefore, the first hypothesis could be restated:

Hypothesis 1b: Effective managers in networks with relatively clear program objectives will rely primarily on identifying and securing needed resources needed policy resources, and promoting effective communication among participants.

The hypotheses offered here suggest the need for simplified, even elementary, research on network management. Regardless of the level of generality, research is needed to test these and other hypotheses.

The Fluidity of the Match

The first step in properly modeling network management is to identify specific behaviors undertaken by managers in various situations. The hypotheses offered above are meant as guides for such research. However, observing the way network management resources are allocated within a network is necessary, but not sufficient; because management in networks is fluid, we also must understand how and why managerial resources are reallocated over time and space. Even in networks in which a certain type of resource is most salient, many activities are performed, and we must identify why and how managers rotate among and reallocate resources “on the fly.”

The concept of strategy often is used ambiguously to refer to these many activities, but the present analysis does not view strategy in this manner. The term “strategy” is best used to describe what O’Toole and Meier (1999) refer to as the “whole set of behaviors” related to management. In keeping with contingency logic, the totality of behaviors and the fluid allocation of such behaviors is itself the strategy. Choosing to expand the size of the network—an activation behavior—is not the same as formulating a management strategy. Expanding the network is a single behavior among many behaviors that typically are employed to effect a single purpose. Thus, a network management strategy is defined not only by the number and types of instruments that are used to solve a policy problem, but also by the ways in which task deployment varies over time.

Audacious Speculation

Interviews with local government executives suggest some common, generic strategies involving multiple managerial behaviors. Although they are based more on the observations of managers than on the network management literature, it is reasonable to infer from the manager’s logic in use that a single package representing the allocation and reallocation of tasks exists and can be observed. There is an implicit understanding that certain behaviors work in certain situations within certain contexts, so a playbook of sorts can be constructed from the manager’s experience.

When asked to describe the general process of managing a network, network managers operating in a largely technical environment—involving clear objectives, broad-based support, and ample resources—assert the use of ostensibly linear strategies. An example of a network in which linear strategies may prevail is a temporary, project-based network or a network formed as a result of a catastrophic event. The quality (measured by the high level of goal consensus, lack of contentiousness among network members, support of key stakeholders, presence of a program rationale, etc.) of coordinating relief efforts across governments and organizations after the attacks on the World Trade Center and the Pentagon illustrates the essence of a technical environment. Such an environment addresses problems that have been referred to as “tame” (Rittel and Webber 1973; O’Toole 1997). In these contexts, managers activate a network, mobilize commitment, frame the operating structures and rules of the network, and then synthesize interaction into a productive whole. Although certainly oversimplified, network management may operate like this in specific contexts where the vast majority of resources are dedicated to one set of tasks, then the next, then the next, and then the next, with only occasional changes made. Shared program goals and relatively clear operating objectives make for relatively stable systems, so one would expect linear network management strategies to result in stability even while leveraging external opportunities (table 1, 1a).

Other network management strategies might be identifiable in different contexts. Network managers lacking broad-based support for their activities describe how often the process of mobilizing must be revisited over time. In these contexts, the allocation of resources alternates between activation and mobilization: Persons become part

<table>
<thead>
<tr>
<th>Table 1 Speculative Network Management Strategies</th>
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<tr>
<td>1a. Linear Strategy (technical environment, clear program objectives, project-based)</td>
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<tr>
<td>Activation = Mobilization = Framing = Synthesizing</td>
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<tr>
<td>(With minimal reallocation)</td>
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<td>1b. Recursive Strategy (lack of support)</td>
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<tr>
<td>Activation = Mobilization = Activation = Mobilization = Activation</td>
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<tr>
<td>(With minimal reallocation and less need for framing and synthesizing)</td>
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<tr>
<td>1c. Recursive Strategy (institutional environment)</td>
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<tr>
<td>Activation = Framing = Motivation = Framing = Synthesizing = Framing</td>
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<tr>
<td>(With emphasis on identifying shared norms and values of the network)</td>
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of the network, support is solicited, more persons are acti-
vated and some are deactivated, commitment is solicited, and so on. As hypothesis 4 suggests, effective managers in these contexts will allocate the greatest share of manage-
rial resources to mobilizing, but managers in the field de-
scribe the process as recurring. The other management behaviors of framing and synthesizing are undertaken, but the main approach results in what can be called a recursive strategy (table 1, 1b).

Similarly, it is plausible to hypothesize that network managers employ recursive strategies in institutional envi-
ronments (Scott and Meyer 1991), where immediate goal achievement is impossible due to a lack of goal consensus, and perhaps even undesirable if the network must build long-term linkages within a community and network-level “soul searching” defines much of the network’s operations. In such environments, a great deal of attention will be given to framing and reframing the network. As rules and norms are established, some network members leave, others are added; support is mobilized internally and externally; and interaction is enhanced, but framing tasks dominate the activities of the network manager (table 1, 1c).

Conclusion

The focus of this article has been the actions of the many governmental and nongovernmental officials operating in network settings on a daily basis. To them, man-
agement may not seem predictable, and it certainly may be presumptuous to call it systematic. The contingency logic suggested here does not imply rationality. It passes

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