Authority and Leadership Patterns in Public Sector Knowledge Networks

Ophelia Eglene
Sharon S. Dawes
Carrie A. Schneider
University at Albany, State University of New York

Knowledge and information-sharing networks are emerging in an increasing number of government programs and policy arenas. This article reports the results of an exploratory investigation into ways in which leadership and formal authority shaped the course of four knowledge network initiatives. The study treats authority as both formal and perceived. Leadership is assessed in terms of style, focus, and communication strategies. Analysis of the various authority and leadership patterns found in the case studies generated a set of hypotheses with regard to their influence on success of knowledge networks. Findings reveal that formal authority, perceived authority, and a variety of leadership behaviors appear to have important influence on the development and performance of public sector knowledge networks. These factors affect the ability of such networks to achieve their substantive goals and the degree to which these efforts provide satisfying and useful networking relationships among the participants.

Keywords: knowledge networks; information networks; authority; leadership; public sector

Knowledge and information-sharing networks are emerging in an increasing number of government programs and policy arenas. These interorganizational and intergovernmental networks facilitate cross-program and cross-functional coordination and support communities of practice. They often include shared repositories of detailed program or administrative information, accessible to all participants, that can address such needs as program evaluation, reference services, or technical assistance. For example, the National Spatial Data Infrastructure is a network of federal, state, and local government organizations sharing geographic data and analyses for a wide variety of scientific, social, and economic applications that pertain in some way to physical location. Public health monitoring programs are intergovernmental networks that collect data, communicate alerts, and assist in the assessment and control of diseases such as West Nile virus. These and similar networks

differ from service delivery networks in that their purpose is knowledge and information sharing among the participating organizations rather than the delivery of a service to an external constituency. They differ from private sector knowledge networks in that they are embedded in the bureaucratic environment of government, with its traditional forms of authority and accountability.

These are new forms of public organization, but they do not replace old forms. Instead, networks and bureaucracy coexist and interact (O'Toole, 1997). In these situations, formal authority remains important, but other concepts (e.g., innovation, consensus building, and risk taking) are equally salient. Leaders of these efforts must serve the collaboration needs of the network while still honoring the traditional imperatives of the government environment.

This article reports the results of an exploratory investigation into the ways in which leadership and authority shaped the course of four such knowledge networks in New York State (NYS). We present the conceptual framework and research design for the study and briefly review pertinent literature on the nature of authority, leadership characteristics, and network success. We then present the findings of four comparative case studies and offer nine hypotheses regarding the relationships among authority, leadership, and network success. The article concludes with observations and recommendations for further research.
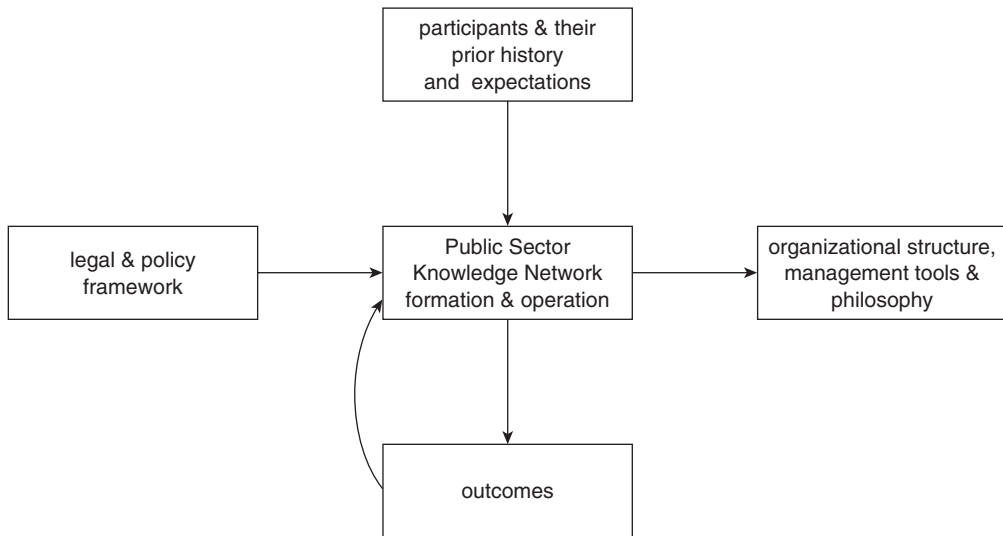
Research Design

The research presented in this article is part of a larger study, launched in 1999, comprising a longitudinal investigation of knowledge network initiatives. The study examined these networks to understand how they form, operate, and perform and how organizational, technological, and political factors influence outcomes. A knowledge network has a logical structure, but it is usually not formal in the legal sense. Most participation is voluntary. For purposes of this research, *public sector knowledge network* is defined as the voluntary combination of interorganizational relationships, policies, information content, professional knowledge, processes, and technologies brought together to achieve a collective public purpose.

The projects in the study represent innovations in such areas as human services, tax policy, technology management, and geospatial analysis. In each case, agencies were designing and instituting major changes in the philosophy and operation of programs, moving away from centralized, command and control management toward collaborative and distributed ways of working. The conceptual framework presents the main factors and relationships examined (see Figure 1).

This framework treats the development and functioning of an interorganizational knowledge network as a process that begins with the recognition of a problem or objective that demands collaborative action and information and knowledge sharing. The formation of the network, and its character and operation, reflect the characteristics of the participants (both organizations and key individuals) and their prior histories and expectations about knowledge networking barriers and benefits. The network is also influenced by the legal and policy framework that circumscribes their activities, by organizational structures, and by the management philosophy and tools applied to interorganizational work.

This article focuses especially on two components of the framework: the legal and policy framework and the management philosophy and tools. The elements of interest are authority

Figure 1
Conceptual Framework

```
                    ┌─────────────────────┐
                    │ participants & their │
                    │     prior history    │
                    │  and  expectations   │
                    └─────────────────────┘
                               │
                               ▼
┌──────────────────┐  ┌─────────────────────┐  ┌──────────────────────────┐
│ legal & policy   │  │    Public Sector    │  │ organizational structure, │
│   framework      │─▶│ Knowledge Network   │─▶│   management tools &      │
│                  │  │ formation & operation│  │      philosophy           │
└──────────────────┘  └─────────────────────┘  └──────────────────────────┘
                               │
                               ▼
                    ┌─────────────────────┐
                    │                     │
                    │      outcomes       │
                    │                     │
                    └─────────────────────┘
```

(a legal and policy component) and leadership (a network management component) and how they interact with other factors to influence network development and outcomes.

We used the longitudinal case study method for its strength in dealing with current and emerging phenomena and for exploring rich descriptive data for patterns that can lead to hypotheses. Case studies are preferred when attempting to answer *how* and *why* questions and when a controlled experiment is not the subject of study (Yin, 1994). In comparative case studies, each case is developed in its context using multiple sources of evidence; analysis then rests on systematic comparison (Agranoff & Radin, 1991; Ragin, 1990). For this study, case data were collected using observations, surveys, document analysis, and individual and group interviews. Three research questions were addressed:

- In what ways do leaders of public sector knowledge networks make use of the formal authority of their organizations and positions?
- What kinds of leadership behaviors are associated with what kinds of results?
- How are different patterns of authority and leadership associated with networking success?

Authority, Leadership, and Success of
Public Sector Knowledge Networks

Networks have been extensively studied as organizational forms. Most knowledge network research has focused on private sector R & D partnerships where organizations are

mostly autonomous and where innovation, knowledge exchange, and efficiency are rewarded with market share and profits (Hanssen-Bauer & Snow, 1996; Powell, Koput, & Smith-Doerr, 1996). In the public sector, empirical network research has focused most often on service delivery networks that involve government agencies contracting with nonprofit organizations to deliver a service to the public (Provan & Milward, 1994, 1995; Weiss, 1990). However, the potential public management research agenda regarding networks is much broader, encompassing such concerns as network management, collaborative processes, responsibility and accountability, flexibility, cohesiveness, power, and results (Agranoff & McGuire, 2001). Network research can address both the practical concerns of leaders and managers and theoretical questions that explore and compare network types, formation, and development (O'Toole, 1997).

As an organizational form, a knowledge network is similar to a radix organization—it is characterized by information sharing and employee empowerment, and leadership is usually nonhierarchical and nonexclusive. Schneider (2002) calls this the "stakeholder model of organizational leadership" in which the leader reaches out to many different levels within and outside the boundaries of his or her own organization. By implication, this kind of leadership is associated with different notions of authority. Leadership is seen more as a personal style or a skill that brings participants to share a common vision than the formal power to impose a set of rules to be strictly followed. Such leaders rely less on hierarchy and formal position and more on collaboration and teams as for coordinating work.

Authority in Public Sector Knowledge Networks

In this study, we treat authority as formal and objective (i.e., conferred by legal instruments and embedded in organizational structure) and as perceived by the participants with respect to a particular person holding a position of authority.

The legitimacy of a public sector knowledge network rests on general legal authority over a governmental function, on specific legislation, or on a formal executive directive. Sometimes the networks themselves are initiated by a specific legal requirement, but even when the network itself is not required by statute, the usual legally constrained governmental processes surrounding it (e.g., staffing, budgeting, procurement, contracting, and oversight) still apply.

Weber (1947) distinguished among three types of authority: legal-rational authority or institutional power, traditional authority based on customs or social norms, and charismatic authority. Most classifications of authority found in the research literature are based on Weber's three ideal types. The taxonomy that has had the most influence on organizational studies was developed by French and Raven (1959), who identified reward, coercion, legitimacy, expertise, and referent power as the main sources of perceived authority. Peabody (1962) found that authority was accepted if it was based on one of four specific factors: (a) legitimacy, arising from a legally established order of rights and duties; (b) position, linked to the office a person occupies with its associated powers; (c) competence, resting on an individual's experience, skills, and knowledge of a domain; and (d) person, based on individual philosophy and style of working. This last factor is closely aligned with the idea of leadership.

Leadership in Public Sector Knowledge Networks

Research demonstrates that the authority structure underlying a public sector network initiative, by itself, is not enough to ensure willing and successful participation. Legal requirements may need to be reinforced by other factors such as positive past experiences and suitable incentives for sharing information (Dawes, 1996), political consensus and shared moral codes (Weiss, 1987), and competent leadership and the ability to instill trust (Mintzberg, Jorgensten, Dougherty, & Westley, 1996). Leaders also play an essential role in ensuring political or top executive support, building and maintaining many kinds of simultaneous relationships, and encouraging learning and adaptation (Larson, 1992; Pardo, 1998; Senge, 1990). In addition, their communication skills, resourcefulness, and boundary-spanning abilities all affect project results (Dawes & Pardo, 2002). Mizrahi and Rosenthal (2001) define competent network leadership as a combination of knowledge, skills, and attributes, including such variables as persistence and commitment; facilitation, negotiation, and political skills; and credibility, trustworthiness, experience, willingness to share, and respect. In addition, when leadership is considered a personal attribute rather than a positional one, multiple sources of leadership can be observed. But traditional management research often confounds the constructs of leadership and management by limiting the participants of leadership research to those in a formal managerial role, ignoring the role of others who emerge as convenors or leaders of tasks or knowledge domains (Huxham & Vangen, 2000; Schneider, 2002).

Leadership has also been assessed in terms of style, focus, and communication strategies. Waldman, Ramirez, House, and Puranam (2001) distinguished between charismatic and transactional leadership styles. In their view, transactional leaders are more likely to use authority because their goal is to maintain the status quo, whereas charismatic leaders are more adept at advancing a new vision. A charismatic leader inspires and motivates others and may not need to use authority to set high expectations and encourage good performance. However, the appropriate leadership style may not be constant across time and situation but may evolve and adapt to changing conditions and the multiplicity of tasks and participants involved. Accordingly, contingency theories of leadership behavior (Fiedler, 1967; Gibbons, 1992) advance the idea that effective leaders are adaptive, drawing on, and even inventing, different leadership behaviors to suit particular environments or goals (Heifetz, 1994).

A leader's focus also influences organizational performance. Mintzberg (2001) offers three targets of leadership focus: information, people, and action. Although leaders generally engage all three elements, they tend to emphasize one of them. Those who focus on information stress communication and control and spend time seeking and gathering information and sharing it with stakeholders. Attention to people reflects a focus on leading and forming linkages. A leader with this focus spends the most time encouraging employees, building team spirit, fostering trust, resolving conflicts, and building or broadening a network of contacts. Finally, a leader who focuses on action will engage mainly in "doing and dealing." He or she will actively supervise action, resolve crises, and negotiate issues and agreements.

Leadership communication strategies are similarly important. A successful knowledge network leader must communicate effectively with a variety of stakeholders and participants

in all directions (upward, downward, and outward). Effective communication strategies are linked to improved performance and acceptance of innovation by employees (Clampitt, DeKoch, & Cashman, 2000). Yukl, Guinan, and Sottolano (1995) contend that different ways of communicating represent different influence strategies with respect to subordinates, peers, and superiors. These include (a) rational persuasion based on facts, (b) inspirational appeals to values or ideals, (c) consultation in the form of two-way communication seeking participation from a target audience, (d) coalition tactics or the use of other participants to influence the target audience, (e) legitimating tactics where the leader claims authority or a right to make a particular request, (f) personal appeals to loyalty toward the leader, (g) exchange in the form of promised shared benefit, (h) ingratiation, and (i) pressure in the form of demands, threats, or frequent monitoring. In terms of influencing commitment to work tasks, new behaviors, and new ideas, Yukl, Kim, and Falbe (1996) found that consultation, inspirational appeals, or strong rational persuasion were most effective. Least effective were pressure, coalition, and legitimating tactics.

All the foregoing studies suggest useful ways to understand the role of leadership. However, the necessary requirements for effective leadership in a network setting have only begun to be studied. Huxham and Vangen (2000) point out that traditional assumptions about hierarchical leader–follower relationships, minimal individual autonomy, and unified goals and objectives often do not apply in these settings. Consequently, new research is needed to amend leadership concepts to account for the nature and demands of networked relationships.

Types and Measures of Network Success

The third element of our study is network success. Success of public sector networks is difficult to define and measure (Provan & Milward, 2001) because the networks involve multiple organizations that must overcome differences and develop working relationships that will enable both self-interest and common goals. The literature on networks has considered measures of success at four levels: community, network, organization, and individual. At the community level, attention is focused on whether the network initiative provides substantial benefits to the population to be served. This measure is appropriate for service delivery or production networks with external clients, but in knowledge networks, the primary community served is internal, made up of the participating organizations themselves. We therefore concentrated on perceived and observed measures of success at the other three levels: network, participating organizations, and individuals.

At the network level, relevant measures of success are related to the structure, performance, and relationships of the interorganizational entity. Structural measures include the creation and maintenance of a network administrative structure (Provan & Milward, 2001), survival of the network beyond the tenure of key individual participants (Davenport, Delong, & Beers, 1998), growth of membership (Provan & Milward, 2001), and network stability and resilience in the face of environmental threats (Mizrahi & Rosenthal, 2001). Performance measures have to do with such observable measures as the achievement of interim and long-term goals (Mizrahi & Rosenthal, 2001), integration and coordination of services to network members (Provan & Milward, 2001), growth in knowledge content and use (Davenport et al., 1998), and joint product development (Child & Faulkner, 1998; Deeds & Hill, 1996; Snow, Miles, & Coleman, 1992).

Table 1
Authority, Leadership, and Success Variables Used in Case Analysis

Authority
    Formal authority

Formal authority	Legal basis of the knowledge network (KN)
	Authority of lead agency over other participants
	Authority of lead agency over the KN initiative
Perceived basis for the leader's authority	Authority of legitimacy (legal order)
	Authority of position (office held)
	Authority of competence (substantive skill and knowledge)
	Authority of person (personal philosophy & style of action)

Leadership

Leadership style	Charismatic
	Transactional
	Adaptive
	Shared
Leadership focus	Action (supervising action and resolving conflicts)
	People (building team spirit and trust)
	Information (disseminating info and creating rules)
Leadership communication strategy	Rational persuasion
	Inspirational values
	Consultation
	Coalition
	Legitimating
	Pressure

Success

Observed indicators of success	Administrative structure
	Growth/stability of membership
	Resilience to environmental threats
	Resource growth
	Institutionalization
	Survival beyond key initiators
	Interim goals met
	Ultimate goal met
Perceptions of success	Project success in achieving goals
	Organizational networking success
	Individual networking success

At the organizational and individual levels, measures of success are embedded in the nature of relationships as perceived by the participants. They include feelings of equity or "fair dealing" (Ring & Van de Ven, 1994), strength of bonds among participants (Provan & Milward, 2001; Ring & Van de Ven, 1994; Scott, 1991), confrontation and resolution of conflicts (Mizrahi & Rosenthal, 2001), enhanced reputation or legitimacy (Oliver, 1990; Wiewel & Hunter, 1985), and knowledge acquisition and learning (Davenport et al., 1998; Doz, 1996; Saxton, 1997).

Table 1 summarizes the foregoing literature on authority, leadership, and success of knowledge networks as a set of key variables that form the structure for our case analyses.

The Cases

Homeless Information Management System (HIMS) Prototype

Led by the Bureau of Housing Services of the NYS Office of Temporary and Disability Assistance, HIMS involved sharing information about homeless families and adults, shelters, and related service programs to conduct ongoing evaluation and refinement of service programs for this population. The organizations involved include several state agencies, three local governments, and scores of shelter programs operated by nonprofit service organizations. HIMS was intended to fill a serious gap in program management by linking and comparing information on services to information about outcomes (Center for Technology in Government, 2001a).

Information Technology Intranet

The New York City Department of Information Technology and Telecommunications (DOITT) led the development of an intranet (i.e., a secure Web-based service available only to city employees) aimed at enhancing IT investment, system development, and information service programs citywide. The basic idea was to create a best practices repository to benefit the city's entire IT workforce. With the involvement of 43 mayoral agencies, this project gathered, organized, analyzed, and made accessible information about best practices, current systems, and new information technology and management investments made in every city agency. This information resource replaces bits of information about current systems and new investments that were scattered throughout the city's separate agencies (Center for Technology in Government, 2001b).

Annual Reassessment Program

The largest project in this study was a major reorientation of the real property assessment and equalization function in NYS, led by the NYS Office of Real Property Services (ORPS). The project involved town and county assessors in a transition away from exclusive use of physical assessments of land parcels to establish property values, which results in unequal and outdated information in most localities. In the new process, physical assessments supplement and verify annual statistical adjustments based on a market analysis system that relies on the sharing of up-to-date valuation and sales data across jurisdictions (LaVigne, Connelly, Canestraro, & Pardo, 2000).

Geographic Information System (GIS)
Coordination Program

The NYS GIS Coordination Program includes a shared governance structure and a Web-based clearinghouse of metadata, data sets, and related information policies that promote the sharing of spatial data sets statewide. Operated sponsored by the NYS Office for Technology (OFT), this program involves a broad community of practice that crosses state, local, federal, academic, and private sectors (Dawes & Oskam, 1999).

Findings

In this section, we present our data analysis in three parts. We first look at the patterns of authority and leadership across the four cases, relying on factual and qualitative data. We then present the quantitative results of a survey that asked participants for their perceptions of network success. The section concludes with a discussion of additional success measures that can be discerned by external observation, again using factual and qualitative data. (Additional information on the data analysis is provided in the appendix.)

Authority and Leadership Patterns Across Cases

Table 2 summarizes and compares the leadership and authority patterns for our four cases. The short narratives below provide the basis of the assessment for each case.

HIMS. The HIMS project was undertaken by the Bureau of Shelter Services (BSS) of the NYS Office of Temporary and Disability Assistance to facilitate the sharing of case, facility, and service information among the public and nonprofit organizations responsible for services to homeless people. There were long-standing relationships and a shared history (both positive and negative) among many of the organizations and individuals in the project. For example, BSS has clear statutory and regulatory authority to certify, inspect, and regulate local government and nonprofit shelter programs. However, this project was a departure from that traditional relationship in that it attempted to create both a community of practice and a jointly defined, shared data resource for the voluntary internal use of all the participating organizations. It required that these organizations jointly define key data elements, understand each other's business processes, agree on some key performance criteria, and look more deeply into the information policies that would govern the use of the shared data.

Through the prototyping process, many long-standing (and new) issues were raised and addressed. The project leader consistently exhibited openness and willingness to hear and respond to both ideas and criticisms from all participants. He insisted that the prototype benefit all players and used his certification and budget approval authority to help nonprofits acquire the tools (e.g., new computers) that would allow them to participate fully. He was respected and trusted, despite having previously used official powers to sanction noncompliant programs.

BSS had the legal power to mandate participation by local governments and nonprofit shelters. However, the project leader chose to build voluntary support within the service provider community. This community had its own leaders who had previously formed the Ad Hoc Technology Committee that had successfully resisted other projects. BSS staff and leadership therefore made a concerted early effort to create a trusting relationship to help alleviate the concerns of the providers. The BSS director promised the shelter providers and local government agencies that "if they don't see value in the system as a tool to support individual providers as well as the community as a whole, then it won't be built."

Intranet. The Intranet project was a departure from DOITT's traditional role of operating citywide computing and telecommunications services and exercising oversight of the citywide

Table 2
Authority and Leadership-Patterns Across Cases

	HIMS	GIS	Annual Reassessment	Intranet
Authority				
Formal authority				
General legal basis of knowledge network (KN)	Legislation	Governor's directive	Legislation	Executive order
Authority of lead agency over other participants	Yes	No	No	Yes
Specific authority of lead agency for KN initiative	No	Yes	Yes	No
Perceived basis of leader's authority				
Authority of legitimacy (legal order)	Yes	No	Yes	No
Authority of position (office held)	Yes	Yes	Yes	Yes
Authority of competence (substantive expertise)	Yes	No	Yes	Yes
Authority of person (philosophy and style of action)	Yes	Yes	No	Yes
Leadership				
Communication strategy				
Rational persuasion	High	High	High	High
Inspirational values	High	High	Low	Low
Consultation	High	High	Medium	Medium
Coalition	High	High	Medium	Low
Legitimating	Low	Low	Low	Low
Pressure	Low	Low	Low	Low
Leadership focus				
Information (disseminating info and creating rules)	3rd focus	2nd focus	2nd focus	Main focus
Action (supervising action and resolving conflicts)	2nd focus	3rd focus	Main focus	3rd focus
People (building team	Main focus	Main focus	3rd focus	2nd focus
Leadership style spirit and trust)				
Charismatic	Yes	Yes	No	No
Transactional	No	No	No	No
Adaptive	Yes	Yes	Yes	Yes
Shared	Yes	Yes	No	No

Note: HIMS = Homeless Information Management System; GIS = geographic information system.

IT plan and the IT initiatives of the operating agencies. Much of the work of the Intranet project was supported by an executive order creating a framework of joint responsibility among the city's oversight and operating agencies with respect to IT use and advancement. As a consequence of DOITT's traditional role, most operating agency staff were skeptical about this initiative. However, the project leader did not require participation from the

43 mayoral agencies. Instead, he promoted what he called "a new information management paradigm." The DOITT project leader expressed the project philosophy in this way: "The best way to break the information stovepipes [that separate agencies] is to give people access to each other." His leadership strategy rested on garnering participation through persuasion and consultation. DOITT staff consulted closely with the IT staff in other mayoral agencies to understand their information technology needs and capabilities. Teams of agency IT professionals were formed to define various components of the repository (e.g., procurement assistance, project management tools, and technical references). DOITT staff then created these information services and made them available to all agency IT staff on the city's Intranet.

Reassessment. The Annual Reassessment Program is established in state law, but implementation at the local level is voluntary. The project leader believed strongly in the appropriateness and fairness of the new method and needed to foster local understanding and acceptance to implement it. The law provides for modest financial incentives to localities for adopting the system, but the process of adoption also demands substantial professional and public education, changes in work processes, and the creation of new tools. It also demands effective communication skills and a fair amount of political savvy because of the inherently controversial nature of property taxes.

The project was conducted at the same time as several other management and process improvement projects directed at both state and local levels, and ORPS made extensive use of different consultants for different improvement programs. Because New York is a "home rule" state, ORPS has little authority over local operations. Consequently, all these efforts needed the voluntary involvement of local assessors, but from the local point of view, these multiple projects were not well coordinated and caused some frustration and repeated work.

GIS. The GIS coordination effort dates back to the 1980s, when GIS practitioners began advocating for a formal coordination mechanism that would support the shared development of expensive, but widely reusable, spatial data. In the mid-1990s a university-based prototype project demonstrated the feasibility of statewide GIS data resources and made policy and practical recommendations. The formal Temporary GIS Council was established by the legislature and governor in 1994, and its similar recommendations led to the creation of the GIS Coordination Program in the newly established OFT, a unit of the governor's office. The program operated with mostly borrowed staff and volunteer effort for several years, but its leader at OFT, not a GIS expert himself, garnered the respect and loyalty of a large number of professionals and organizations by creating and empowering collaborative expert working groups to address education, data coordination, legal matters, and other issues. Each of the working groups has a substantive agenda of problem solving, capability development, or policy analysis, and each one is led by a person employed by one of the participating organizations outside OFT. A widely representative coordinating body deals with cross-agency collaboration and communication and statewide governance topics.

Perceptions of Networking Success

Perception of networking success was measured with survey data. Surveys were administered to project participants at the beginning and near the end of the research program.

Table 3
Perceived Success Scores

	HIMS		GIS		Annual Reassessment		Intranet	
	M^a	N	M	N	M	N	M	N
Success in achieving project goals	3.86	7	5.83	6	4.40	58	4.33	9
Organizational networking success	5.78	9	6.20	5	4.54	54	4.11	9
Individual networking success	5.33	9	6.40	5	4.77	53	4.56	9
Overall perception of success (composite)[a]	4.99		6.14		4.57		4.33	
Rank of perceived overall success	2		1		3		4	

Note: HIMS = Homeless Information Management System; GIS = geographic information system.
a. Mean of three success scores.

The second survey (conducted by mail in 2002; response rate = 32.7%) included three questions about how successful each project had been in achieving its ultimate goal, to what extent the project had generated useful relationships among the participating organizations, and to what extent the project had generated useful relationships among the individual participants. Respondents rated these questions on an 8-point, Likert-type scale ranging from 1 (*not at all successful*) to 8 (*fully successful*).

As shown in Table 3, all the projects were rated at least modestly successful, with composite success scores ranging from a low of 4.33 for Intranet to a high of 6.14 for GIS. HIMS, the only project that was not implemented, had the lowest score (3.86), and GIS, the only project in the study to fully achieve its primary goal, had the highest score (5.83) for "success in project achieving goals." With the exception of the Intranet project, each had a higher score for "organizational networking success" than for "success in achieving project goals." All had a higher score for "individual networking success" than for "success in achieving project goals."

Observed Indicators of Success

Using qualitative data, we rated each case on eight observed indicators of network success, as described below. Ratings included high, medium, low, or no attainment of each indicator. These qualitative ratings were converted to values of 3, 2, 1, and 0, respectively, and then a success ratio was calculated and transformed to an 8-point scale to allow for comparison with the measures of perceived success from the survey. As shown in Table 4, these externally observable indicators suggest that GIS is the most successful, with a weighted score of 7.62, followed by Intranet, Annual Reassessment, and HIMS, with scores of 5.67, 4.44, and 3.81, respectively. Ratings for administrative structure, growth/stability of membership, and resilience and survival (when applicable) are fairly consistent across the cases. GIS is the only case to receive a rating of high for both resource growth and achievement of the ultimate goal. The opposite is true for HIMS. It is the only case to receive a rating of none for these items. Annual Reassessment and Intranet did not fare as well as did GIS in these two categories, with Annual Reassessment scoring only slightly better than HIMS in achievement of the ultimate goal.

Table 4
Observed Indicators of Success

	HIMS	GIS	Annual Reassessment	Intranet
Administrative structure	High	High	Medium	Medium
Growth/stability of membership	Medium	High	High	Medium
Resilient to environmental shocks	—	High	—	Medium
Resource growth	None	High	None	Low
Institutionalization	None	High	High	Medium
Survival beyond key initiators	Medium	—	—	High
Interim goals achieved	High	Medium	Low	Medium
Ultimate goal achieved	None	High	Low	Medium
Observed composite success score[a]	3.81	7.62	4.44	5.33
Observed success rank	4	1	3	2

Note: HIMS = Homeless Information Management System; GIS = geographic information system.
a. Calculated as mean of applicable items converted to an 8-point scale, where 3 = *high*, 2 = *medium*, 1 = *low*, 0 = *none*, — *not applicable*.

HIMS. The project team achieved important and long-lasting interim goals including jointly defined service descriptions, performance measures, data definitions, and problem-solving methods. Although the prototype was clearly successful, homelessness was low on the political agenda, and BSS was unable to secure ongoing state funding to build a full system. In 2001, the BSS project leader retired, and one of the key nonprofit leaders left for a position in the private sector. Nevertheless, the participating organizations and key individuals in both the government and nonprofit groups continued to advocate for financial support to implement the system and to promote and sustain the working relationships that they found fair and satisfying.

Intranet. The project began in 1999, was implemented in 2002, and continues to develop further as part of ongoing DOITT operations. The original leader left the agency for the private sector in 2001, and the project survived the aftermath of September 11, which challenged continued staff resources and funding for this (and all other) city operations. Although quite successful in achieving its overall goal, the project has not achieved as high a level of voluntary commitment as HIMS or GIS as many IT professionals came to view this activity as one of DOITT's ongoing responsibilities.

Reassessment. During the course of the study, the market analysis system was hotly debated and slowly refined, and it began to be adopted by localities. As it gained momentum, a larger number of municipalities began to approach full value assessments, although many still do not use the system, and ORPS continues to promote it widely. In 2002, the overall program was recognized with a national award for its forward-looking approach. By that year, about one fourth of the state's municipalities were conducting annual reassessment.

GIS. The GIS program has been very successful in building state–agency partnerships, although less so in encouraging local government and private sector involvement. These two groups continue to have serious concerns regarding fees and competition. By 2001, the

program was quite mature and the GIS Center of Excellence had been established in OFT. Much of the work centered on the expansive collection and use of GIS data for myriad partnership projects to support public services. The September 11 terrorist attack severely challenged the program, whose most visible feature was easy public access to GIS metadata and data sets. The clearinghouse was shut down for several weeks while its contents were reviewed, and for a time its continued existence was in doubt. However, after careful review, it came back into operation with certain data removed and with a new focus on data security. Although security has since figured prominently in its operation, the program has retained its existing leadership and its collaborative structure and methods of work.

Discussion

Defining and Measuring Success

We measured the construct of success with both subjective perceptions and external observations, with different results. Ranking the projects according to overall perceived success places GIS first, followed by HIMS, Annual Reassessment, and Intranet. However, when ranked according to the externally observed indicators of success, GIS and Annual Assessment keep the same rankings of 1 and 3, but HIMS and Intranet switch positions: HIMS drops to 4 and Intranet rises to 2. External measures of success for the HIMS case are lowest because the program came to a stall because of budget problems and was not implemented. However, the project team did build a trusting environment and satisfying knowledge networking relationships that continued to have lasting benefits for the participants. Conversely, the Intranet project was an observable implementation success, but the perceptions of the participants are less positive. We call these two kinds of outcomes "substantive success" and "networking success."

Separating substantive success from networking success explains important differences in the cases. GIS and HIMS were the more successful networks in terms of interorganizational and interpersonal relationships, whereas GIS and Intranet were more successful in terms of substantive performance.

Types of and Uses of Authority

Legal foundations, political authority, and authority relationships among the participating organizations are all pertinent to network success.

Legal foundation of public sector knowledge networks. All four networks had a formal legal basis. Two (HIMS and Annual Reassessment) were supported by legislation. In the case of HIMS, the lead agency's general authority to certify and supervise publicly funded shelter programs was established in statute. The Annual Reassessment program was specifically authorized by statute. The GIS and Intranet projects both have their legal basis in formal executive directives. These are less forceful than laws but are universally recognized sources of legitimacy. Neither the GIS nor the Annual Reassessment programs would have been possible without this legitimating authority. The professional GIS community had advocated

for nearly a decade to have their ideas adopted formally by the state and made little progress until that happened. For the reassessment project, statutory authority was essential just to get started. Local government assessors are independently appointed or elected, and very few would adopt this radically different way of working without a legal foundation on which to stand. Accordingly, we offer the first of several hypotheses:

Hypothesis 1: Public sector knowledge networks benefit from a legal basis for authority and legitimacy.

Political authority for knowledge networks. The two knowledge networks that rank higher in terms of observed success (GIS and Intranet) are explicitly tied to the support of a top elected official. These projects appear to have had better implementation conditions as they enjoyed political support from the governor and the mayor of New York City. The Intranet project also benefited from the support of the subsequent mayor, who cut many city budget lines but preserved IT-related spending after taking office in 2002. The effect of political support can readily be seen in the GIS coordination program, which involved highly regarded experts as chairs of its various working groups. The imprimatur of the governor motivated these group leaders to act quickly and with enthusiasm. One working group chair remarked, "When I got a call to participate in the program, it was from the governor's Task Force. If it comes from the governor, you always say yes." For this case, the immediacy of political authority also provided confidence that action would be taken on key issues that their work would bear fruit.

Overall, legal authority appears to be necessary to launch a knowledge network, but it is not sufficient to sustain it through implementation. Legal authority bolstered by perceived political authority creates a more conducive environment for project development. These political linkages are especially useful in negotiating powerful bureaucratic processes such as budget formulation. Thus:

Hypothesis 2: Knowledge networks are more likely to achieve their substantive goals when basic legal authority is augmented by the political support of a currently serving chief elected official.

History and types of authority relationships among participating organizations. In two cases, HIMS and Intranet, the lead agency had oversight authority over the activities of the participating organizations. In both cases, the underlying long-term relationships rested on the lead agency's formal authority over substantial functions of the other organizations. However, these two cases fared quite differently on the perceived measures of networking success, with Intranet scoring low on the participants' networking success measure and HIMS scoring the highest.

HIMS is the only case where the lead agency had the formal authority to compel participation from the other organizations. However, instead of requiring the shelter providers to supply the needed information, the project leader encouraged the providers to participate based on their own decisions about the value of a shared information system. This dual focus on both self-interest and mutual benefit appears to have engendered trust and led to a positive networking experience. In addition, the HIMS participants had almost two decades of working history, with all the usual tensions between regulator and regulated entities, but the personal and professional relationships between individual service providers and the

project leader had been mostly cordial and mutually respectful. Providers started with healthy skepticism, but they also had had many past experiences of fair dealing.

By contrast, the Intranet project suffered initially from a long history of distrust and conflict between DOITT and the participating agencies. In this project, the participants had positive perceptions of the leader himself, but he had held the position for only about a year when the project began. The other agencies continued to be wary about DOITT as an organization because other aspects of its oversight role remained problematic for them. The fact that the project continued to develop after the leader's departure seems to rest mainly on the fact that his successor exhibited similar leadership characteristics.

In the two other cases, which also had different success results, the lead agencies had no general oversight authority over the other organizations. In the case of Annual Reassessment, there was no formal oversight role, but there was a long history of tension about the state's effort to support the real property tax system and improve taxpayer equity. The project leader initially encountered tremendous resistance from local officials who had historically perceived the state agency's influence as enhancing the power of the state at the expense of localities. In the GIS case, participants had no history at all with the lead organization which was created especially for the purpose of the knowledge network. Its agency home, the NYS OFT, was itself a new organization with no history and therefore no past problems to overcome. The project leader similarly had no history with GIS issues. He was selected for his project management and human relations skills. As a result he had no preconceived ideas about what the collaboration program should entail. Instead, he facilitated consensus-based decision making among the participants.

It appears that the structure of the formal authority relationship between the lead agency and the participating organizations does not explain either substantive or networking success. What does seem to be important is the character of historical relationships. In addition, the willingness of participants to accept the authority of the project leader appears to be unrelated to the leader's competence in the domain. The HIMS, Intranet, and Annual Reassessment leaders were all experts in their fields, and this expertise gave them standing on the issues. However, the GIS leader, whose network was highly successful in both substantive and networking terms, was not an expert at all. Consequently, it appears that the "authority of person," which rests on positive perceptions of leadership philosophy and personal management style, is a more important factor in how and how well the network functions. The foregoing discussion suggests three additional hypotheses:

Hypothesis 3: No particular structure of formal authority relationships among participating organizations is associated with either networking success or substantive success of a public sector knowledge network.
Hypothesis 4: Networking success is positively associated with a positive or neutral history of authority relationships between the lead agency and the other organizations in the network.
Hypothesis 5: A leader's philosophy and management skill have more influence on participant acceptance of authority than does the leader's domain expertise.

Leadership Behavior

Observed leadership behaviors in the management of a knowledge network can provide some preliminary answers to a question posed by O'Toole (1997): "What do managers actually do to deal with and seek influence within their networks?" (p. 50).

Communication strategies. None of the leaders of the four networks relied on authoritative influence strategies to increase participation. Neither legitimating nor pressure, two influence strategies that involve the implicit or explicit use of power, was used by any of the network leaders. For some cases, these strategies were simply not available, as the authority that the lead agency had over the participants was very limited. In other cases, however, leaders deliberately chose less direct and forceful communication strategies when they could have used their authority to be more directive. The communication strategies used most often were designed to show participants good reasons for building the network rather than attempting to impose an idea on them with no rationale.

In the two projects where participants' and organizations' networking success were rated highest (HIMS and GIS), the leaders used inspirational values as a communication strategy. HIMS was designed to help solve the problem of homelessness, an issue that has moral and emotional appeals, especially to the professional human service community. By appealing to their professional values and commitment to high-quality service, the HIMS leader effectively married their professional self-interest to the larger common interest in demonstrating the effectiveness of their programs. The GIS coordination program also linked the self-interest of the participants (access to a wide array of expensive geospatial data) with the common interest (creation of a shared data resource and a supportive coordination program). Both leaders strongly emphasized the collaborative, self-determining nature of the efforts.

By contrast, the Intranet and Annual Reassessment leaders tended to emphasize the collective benefits without giving commensurate attention to the self-interest of the participants. For example, the ORPS director was passionately committed to equity in property assessments, but he viewed equity as a state-level (i.e., collective) concern, whereas assessors believed equity was a local (i.e., self-interest) concern. This fundamental difference in philosophy led to serious misunderstandings and a fair amount of distrust.

Consultation was a communication strategy that appeared to be associated with networking success. When leaders addressed the concerns of network participants, response to the knowledge network initiative improved. For example, HIMS dealt extensively with the shelter providers' concerns regarding the confidentiality of client information. In the case of Annual Reassessment, the leader gradually recognized the local assessors' concerns about local autonomy, politics, and capabilities:

> We backed off the hard sell that we had in the very beginning to more of an encouragement and . . . started to recognize that a lot of assessors couldn't go to annual reassessment right away, that they had other pieces of preparatory work that needed to be put in place in those communities first.

This move toward a communication strategy based on consultation helped to alleviate some of the tension between the local governments and the state agency.

Similarly, a communication strategy of coalition was used by successful network leaders. Coalition involves the use of external players to indirectly convince targeted organizations to act in some desired way. For example, the GIS project leader sought early participation by the state agencies considered the most important creators and users of geospatial data to secure participation of additional members. When the Departments of Transportation and Environmental Conservation became active members, additional state and local agencies

had a strong incentive to join. Similarly, in the HIMS project, the providers' Ad Hoc Technology Committee was the trusted representative of a large number of shelter providers. Once the committee demonstrated its approval by its engagement, other providers began to participate actively or to follow the committee's advice.

These observations about the most common and successful communication strategies suggest the following hypothesis:

Hypothesis 6: Leadership communication strategies focused on inspirational values, consultation, and coalition are positively associated with voluntary participation and networking success.

Leadership focus. The purpose of a knowledge network is the sharing of knowledge and information among multiple organizations, suggesting that information should be a major focus for the network leader. However, in the two most successful networking experiences, the leaders spent most of their time focusing on the people involved in the knowledge network rather than the data. The GIS leader focused mainly on the development of trusting relationships among the participants and only secondarily on the dissemination of information and creation of rules for information use. In HIMS the leaders' focus was also on building team spirit and trust, with a secondary focus on supervising action and resolving conflicts; information came last as a focus of attention. In addition, in these two cases, leadership was shared with other organizations in the knowledge network. In GIS, shared leadership was actually embedded in the organizational structure of working groups chaired and staffed by participants from many different organizations. In HIMS, the providers' Ad Hoc Technology Committee shared leadership responsibilities with BSS throughout the effort. The leadership focus of both the Annual Reassessment and Intranet projects focused more on information and supervision of action than on people. They both rank lower in terms of individual and organizational networking success.

Building trust, overcoming turf barriers and skepticism, and bringing participants to share a common vision seem to be more conducive to these kinds of networking success than attending to the steps that need to be taken or the information that is needed to achieve project goals. Consequently, we propose:

Hypothesis 7: A leadership focus that emphasizes people before information or action contributes most to interpersonal and interorganizational networking success for participants.

Leadership style. In the two most successful projects according to perceived measures (GIS and HIMS), leaders were characterized as charismatic. A consistently charismatic and facilitating style of leadership seemed to engender trust and collaborative behavior from the participants. In interviews, participants in these projects frequently mentioned the charismatic qualities of the leaders and how another style of leadership might have been detrimental. In the Annual Reassessment case, where perceived measures of success ranked lowest, the leader started out with a directive management style. Later, the leader understood that the task required a change in his leadership style, and the project began to progress more smoothly and with greater success. This adaptive response had positive effects on the project, which eventually achieved a fair amount of success in achieving its substantive goal. In fact, all four leaders adapted their approaches to some degree to changing conditions and

a continually improving understanding of both the task and the participants. We hypothe-size that:

Hypothesis 8: A consistent, charismatic leadership style is positively associated with networking success.
Hypothesis 9: Adaptive leadership based on learning promotes both substantive and networking success.

Future Research Directions

We have offered nine hypotheses about the nature and influence of leadership and authority in public sector knowledge networks (Table 5).

One obvious avenue for future research is to test these hypotheses in additional cases, domains, and jurisdictions. The continuing emergence of knowledge networks in law enforcement, public health, geospatial analysis, and homeland security all offer domains in which both qualitative and quantitative analyses could be conducted. For example, public health monitoring networks and geospatial data cooperatives are emerging around the country. A survey of the participants in these programs could seek confirmation of these hypotheses and investigate how they may be related to one another or differ across domains. In addition, case studies that directly compare knowledge network leaders to leaders of more traditional programs could also help detect important differences and more universal characteristics.

In addition, the cases varied in terms of two additional variables, time and purpose, that may have an impact on success and present additional opportunities for further research.

The longitudinal nature of the study demonstrated that time and history have complex roles in these endeavors. The individual project timelines from inception to implementation (or stalled development in the case of HIMS) ranged from more than a decade in the case of GIS to about 3 years for the Intranet project. The tenure of the project leaders also var-ied widely. The Annual Reassessment leader was in place from inception to the present, about 6 years. The HIMS leader spent a 20-year career as head of the state's homeless pro-grams before initiating the project, which he led for 3 years before retiring. The Intranet leader left after 2 years of development but about 1 year before implementation, which was taken over by his deputy. The GIS leader took the helm about half way through the evolu-tion of the effort and has stayed in place ever since, for a term of about 5 years. Similarly, the length of the relationship between the lead agency and the participant organizations also varied widely. GIS involved the creation of a new organization and the development of new relationships. The others rested on past long relationships to carry the knowledge network forward.

Length of leadership tenure, length of project, and length of the relationship between the lead agency and the participant organizations, by themselves, do not appear to explain pro-ject progress or success. However, in combination with other variables, these time factors do seem to have influence worthy of further exploration. For example, projects that are entirely voluntary may take a considerable amount of time to achieve a critical mass of active participants and to demonstrate the self-interest benefits to potential ones. The GIS project seems to have had the necessary time to do this, but the equally voluntary Annual Reassessment program has not. The juxtaposition of leadership tenure with external events

Table 5
Hypotheses About Leadership and Authority
in Public Sector Knowledge Networks

Hypothesis 1:	Public sector knowledge networks benefit from a legal basis for authority and legitimacy.
Hypothesis 2:	Knowledge networks are more likely to achieve their substantive goals when basic legal authority is augmented by the political support of a currently serving chief elected official.
Hypothesis 3:	No particular structure of formal authority relationships among participating organizations is associated with either networking success or substantive success of a public sector knowledge network.
Hypothesis 4:	Networking success is positively associated with a positive or neutral history of authority relationships between the lead agency and the other organizations in the network.
Hypothesis 5:	A leader's philosophy and management skill have more influence on participant acceptance of authority than does the leader's domain expertise.
Hypothesis 6:	Leadership communication strategies focused on inspirational values, consultation, and coalition are positively associated with voluntary participation and networking success.
Hypothesis 7:	A leadership focus that emphasizes people before information or action contributes most to interpersonal and interorganizational networking success for participants.
Hypothesis 8:	A consistent, charismatic leadership style is positively associated with networking success.
Hypothesis 9:	Adaptive leadership based on learning promotes both substantive and networking success.

is also of interest. The HIMS leader retired at a time when state political leaders were unwilling to invest in the issues of homelessness, and the project stalled for lack of a champion to sustain it during that time. By contrast, the Intranet leader departed just before a change of administration in New York City government, but the new mayor was intensely interested in technology investments, and the project made a successful transition to new leadership. In addition, the nature of past history among the participants is worthy of future investigation into such questions as: How can leaders overcome negative past relationships? How can leaders be effective when there is no shared history among participants? How can positive histories be leveraged for future success?

Network purpose also appears to influence development and outcomes. The different characteristics of the four projects circumscribed the appropriate leadership repertoires. The Intranet and GIS projects aimed to create information-rich resources to augment and support communities of practice. They sought to do something entirely new and mostly discretionary. This left much room for experimentation and trial and error. The HIMS and Annual Reassessment projects were seeking to build information-based tools to change and improve formal program operations. The operational implications of these two projects demanded much more care from leaders, especially in departing from expected norms and institutionalized practices. These projects were innovative, but leaders had to keep them in harmony with formal legal and regulatory frameworks that could not be ignored or significantly changed. The relationships among network purpose, environment, and leadership present important questions to return to in future work.

As the use of these networks as tools of public management increases, research-based investigations can continue to shed light on their structure, function, and effectiveness. Formal authority, perceived authority, and a variety of leadership behaviors appear to have significant influences on the development and performance of public sector knowledge networks. These factors also affect the ability of such a network to achieve its substantive goals and

the degree to which the effort provides satisfying and useful networking relationships among the participating organizations and individuals. This exploration of the nature and direction of these relationships represents a grounded basis for practical experimentation and additional empirical and theoretical research.

Appendix
Factors Used to Evaluate Ordinal Measures

Variables	Factors Considered
Communication strategies	
Rational persuasion	Degree of reliance on reasoning and explication of benefits to encourage others to participate or behave in desired ways.
Inspirational values	Extent of appeal to personal, professional, or social values and ideals as motivation for initiating and sustaining the effort.
Consultation	Degree and consistency of openness to hearing and incorporating the ideas and concerns of others.
Coalition	Extent of outreach to and promotion of the involvement of respected or influential parties as evidence of the quality of the network.
Legitimating	Extent of reliance on position, organizational influences, or formal authority to direct others.
Pressure	Extent of threats, arbitrary demands, or checking-up to ensure desired behavior.
Observed indicators of success	
Administrative structure	Extent of discernable and stable organizational structure, communication flows, roles, and work processes associated with the network.
Growth/stability of membership	Number of new members added after start, rapidity in growth, retention of members over time.
Resilient to environmental shocks	Strength and predictability of shocks encountered, degree of control over response.
Resource growth	Increases in staff or funding, creation or contribution of new data or systems.
Institutionalization	Degree to which the network is embedded in the recognized routines of programs or structure of the participating organizations, creation and adoption of norms, rules, and procedures.
Survival beyond key initiators	Continuation of program after departure of founder(s), continuation of organizational relationships, continuation of professional relationships.
Interim goals achieved	Number and relative importance of interim goals achieved.
Ultimate goal achieved	Extent to which the main objective was achieved and implemented.

References

Agranoff, R., & McGuire, M. (2001). Big questions in public network management research. *Journal of Public Administration Research and Theory*, *11*, 295-326.

Agranoff, R., & Radin, B. A. (1991). The comparative case study approach in public administration. *Research in Public Administration*, *1*, 203-231.

Center for Technology in Government. (2001a). Building trust before building a system: The making of the Homeless Information Management System. *The insider's guide to using information in government.* Retrieved April 1, 2003, from http://www.ctg.albany.edu/static/usinginfo/Cases/printable_bss_case.htm

Center for Technology in Government. (2001b). Information resources for information professionals: Creating a knowledge bank in New York City Government. *The insider's guide to using information in government.* Retrieved April 1, 2003, from http://www.ctg.albany.edu/static/usinginfo/Cases/doitt_case.htm

Child, J., & Faulkner, D. (1998). *Strategies of cooperation: Managing alliances, networks, and joint ventures.* Oxford, UK: Oxford University Press.

Clampitt, P. G., DeKoch, B., & Cashman, T. (2000). A strategy for communicating about uncertainty. *Academy of Management Executive, 14*(4), 41-57.

Davenport, T. H., Delong, D. W., & Beers, M. C. (1998, Winter). Successful knowledge management projects. *Sloan Management Review, 39*(2), 43-57.

Dawes, S., & Oskam, S. (1999). The Internet, the state library, and the implementation of statewide information policy: The case of the New York State GIS clearinghouse. *Journal of Global Information Management, 7*(4), 27-33.

Dawes, S. S. (1996). Interagency information sharing: Expected benefits, manageable risks. *Journal of Policy Analysis and Management, 15*, 377-394.

Dawes, S. S., & Pardo, T. A. (2002). Building collaborative digital government systems: Systemic constraints and effective practices. In W. McIver & A. K. Elmagarmid (Eds.), *Advances in digital government: Technology, human factors, and policy* (pp. 259-273). Boston: Kluwer.

Deeds, D. L., & Hill, C. W. L. (1996). Strategic alliances and the rate of new product development: An empirical study of entrepreneurial biotechnology firms. *Journal of Business Venturing, 11*, 41-55.

Doz, Y. L. (1996). The evolution of cooperation in strategic alliances: Initial conditions or learning processes? *Strategic Management Journal*, *17*, 55-83.

Fiedler, F. E. (1967). *A theory of leadership effectiveness*. New York: McGraw-Hill.

French, J., & Raven, B. (1959). The basis of social power. In D. Cartwright (Ed.), *Studies in social power* (pp. 65-84). Ann Arbor: University of Michigan Press.

Gibbons, P. T. (1992). Impacts of organizational evolution on leadership roles and behaviors. *Human Relations*, *45*(1), 1-18.

Hanssen-Bauer, J., & Snow, C. C. (1996). Responding to hypercompetition: The structure and processes of a regional learning network organization. *Organization Science, 7*, 413-427.

Heifetz, R. A. (1994). *Leadership without easy answers.* Cambridge, MA: Harvard University Press.

Huxham, C., & Vangen, S. (2000). Leadership in the shaping and implementation of collaboration agendas: How things happen in a (not quite) joined-up world. *Academy of Management Journal, 43*, 1159-1175.

Larson, A. (1992). Network dyads on entrepreneurial settings: A study of the governance of relationships. *Administrative Science Quarterly, 36*, 76-104.

LaVigne, M., Connelly, D. R., Canestraro, D. S., & Pardo, T. A. (2000). *Reassessing New York: A collaborative process.* Retrieved April 1, 2003, from http://www.ctg.albany.edu/publications/reports/reassessing_ny

Mintzberg, H. (2001). Managing exceptionally. *Organization Science, 13*, 759-771.

Mintzberg, H., Jorgensten, J., Dougherty, D., & Westley, F. (1996). Some surprising things about collaboration—Knowing how people connect makes it work better. *Organizational Dynamics*, *25*(1), 60-71.

Mizrahi, T., & Rosenthal, B. B. (2001). Complexities of coalition building: Leaders, successes, strategies, struggles, and solutions. *Social Work*, *46*(1), 63-79.

Oliver, C. (1990). Determinants of interorganizational relationships: Integration and future directions. *Academy of Management Review*, *15*, 241-265.

O'Toole, L. J. (1997). Treating networks seriously: Practical and research-based agendas in public administration. *Public Administration Review*, *57*, 45-52.

Pardo, T. A. (1998). *Reducing the risks in innovative uses of information technology in the public sector: A multidisciplinary model*. Unpublished doctoral dissertation, University at Albany, State University of New York.

Peabody, R. (1962). Perceptions of organizational authority: A comparative analysis. *Administrative Science Quarterly*, *6*, 463-482.

Powell, W. W., Koput, K. W., & Smith-Doerr, L. (1996). Interorganizational collaboration and the locus of innovation: Networks of learning in biotechnology. *Administrative Science Quarterly, 41*(1), 116-145.

Provan, K. G., & Milward, B. H. (1994). Integration of community-based services for the severely mentally ill and the structure of public funding: A comparison of four systems. *Administrative Science Quarterly*, *40*(1), 1-33.

Provan, K. G., & Milward, B. H. (1995). A preliminary theory of interorganizational network effectiveness: A comparative study of four community mental health systems. *Administrative Science Quarterly*, *40*, 1-33.

Provan, K. G., & Milward, B. H. (2001). Do networks really work? A framework for evaluating public-sector organizational networks. *Public Administration Review*, *61*, 414-423.

Ragin, C. C. (1990). *Comparative method: Moving beyond qualitative and quantitative strategies.* Berkely: University of California Press.

Ring, P. S., & Van de Ven, A. H. (1994). Developmental processes of cooperative interorganizational relationships. *Academy of Management Review*, *19*(1), 90-118.

Saxton, T. (1997). The effects of partner and relationship characteristics on alliance outcomes. *Academy of Management Journal*, *40*, 443-461.

Schneider, M. (2002). A stakeholder model of organizational leadership. *Organization Science*, *13*, 209-220.

Scott, J. (1991). *Social network analysis: A handbook*. London: Sage.

Senge, P. (1990). The leader's new work: Building learning organizations. *Sloan Management Review*, *32*(1), 7-23.

Snow, C. S., Miles, R. E., & Coleman, H. J. (1992). Managing 21st century network organizations. *Organizational Dynamics*, *20*, 5-20.

Waldman, D., Ramirez, G. G., House, R. J., & Puranam, P. (2001). Does leadership matter? CEO leadership attributes and profitability under conditions of perceived environmental uncertainty. *Academy of Management Journal*, *44*(1), 134-143.

Weber, M. (1947). *The theory of social and economic organization.* New York: Henderson and Talcott Parsons.

Weiss, J. (1987, Fall). Pathways to cooperation among public agencies. *Journal of Policy Analysis and Management, 7*, 94-117.

Weiss, J. (1990). Ideas and inducements in mental health policy. *Journal of Policy Analysis and Management*, *9*, 178-200.

Wiewel, W., & Hunter, A. (1985). The interorganizational network as a resource: A comparative case study on organizational genesis. *Administrative Science Quarterly*, *30*, 482-497.

Yin, R. K. (1994). *Case study research design and methods* (2nd ed.). Newbury Park, CA: Sage.

Yukl, G., Guinan, P. J., & Sottolano, D. (1995). Influence tactics used for different objectives with subordinates, peers, and superiors. *Group & Organization Management*, *20*, 272-297.

Yukl, G., Kim, H., & Falbe, C. M. (1996). Antecedents of influence outcomes. *Journal of Applied Psychology*, *81*, 309-317.

Ophelia Eglene is a visiting instructor in the Political Science Department at Middlebury College. She holds an MA from the Institut des Hautes Etudes Européennes of the University Robert Schuman in Strasbourg, France, and is a PhD candidate in political science at the University at Albany, State University of New York.

Sharon S. Dawes is director of the Center for Technology in Government and an associate professor of public administration policy at the University at Albany, State University of New York. A fellow of the National Academy of Public Administration, her areas of focus include government information strategy and management and cross-boundary information sharing and integration.

Carrie A. Schneider is a PhD student in the Department of Political Science at the Rockefeller College of Public Affairs and Policy, University at Albany, State University of New York. Her research interests are in law and society and law and public policy, including interest group participation before the courts.