Challenges to Organizational Change: Facilitating and Inhibiting Information-Based Redesign of Public Organizations

Jane E. Fountain
National Center for Digital Government
Kennedy School of Government / Harvard University

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Introduction

The Internet, World Wide Web, and a host of related technologies have revolutionized the potential to conceptualize and use information and to design organizations, institutions, and governance arrangements in wholly new ways. Yet with this new potential, change agents encounter governments "as they are," that is, governments in political economies with distinct structures; in cultures with rich histories and traditions; in sets of organizations characterized by complex, interlocking processes; and in institutional environments composed of sedimentary layers of legislation, practices, and politics. In all of these structures, change agents encounter individuals, most of whom remain motivated, at least in part, by what they perceive to be their interests, constrained by their network of social and professional relationships, and guided by long-standing habits, beliefs, attitudes, and experience. Why is organizational change difficult? The question is: why has anyone thought that organizational change in government would not be difficult?

A research team at the National Center for Digital Government, led by the author, has been studying facilitators and barriers to organizational change in governments striving to use information in novel and strategic ways. We examine several categories of change and focus on seven. These are (1) project characteristics, (2) individual motivation for participation in organizational change, (3) the role of material resources, (4) organizational attributes, (5) network attributes, (6) institutional attributes, and (7) technological attributes. Organizational change is a multi-faceted topic; researchers approach it from a dizzying array of angles. The categorization scheme developed here seems to fit particularly well in the governmental context. We have developed research instruments to explore empirically the role played by each category. To date, we have surveyed and interviewed nearly 300 civil servants engaged in organizational change projects in the United States and Canada. Researchers in other countries, including Mexico and Japan, are in the process of adopting this framework in the hope of improving E-Government in their own countries.

The predominant thrust of business re-design in information-based government pushes against traditional bureaucratic boundaries in order to develop inter-organizational networks. These networks are at times internal inter-agency arrangements, at other times public-private partnerships, and at still other times more complex arrays of public, private, and non-profit organizations. Thus, the development and sustainability of such networked forms is a key challenge for organizational change. Inter-organizational arrangements, or cross-agency projects (as they are called in the U.S. federal government), are the focus of the discussion of organizational change in this chapter.

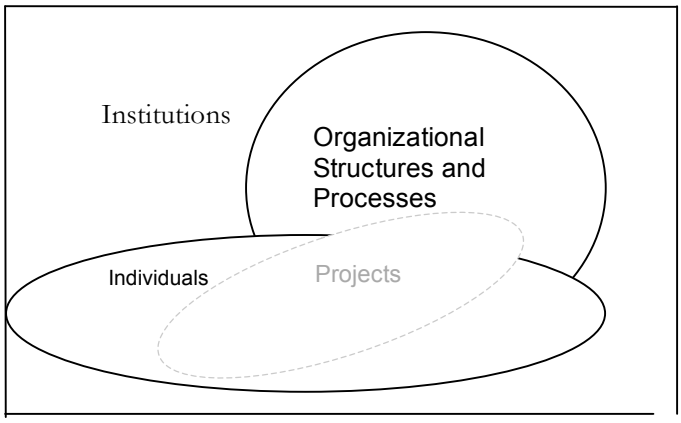
Beginning in about 1990, interest in collaboration in government increased as partnerships and cross-agency arrangements held promise to improve governance. In a classic article on inter-organizational collaboration, Oliver (1990) pointed out that while a burgeoning literature on inter-organizational relationships had been generated, it remained highly fragmented. A decade later, although some progress had been made and interest in collaboration and networks had grown substantially, the

[1] The author acknowledges the research assistance of Amanda Coe, Robin McKinnon, Ines Mergel, and Eun-Yun Park. Amanda Coe contributed to the literature review that forms a part of this chapter.

author observed (Fountain 2001) that, "although researchers continue to search for the holy grail of productive cooperation and coordination across organizational boundaries, they have not reached consensus on the conditions that promote or discourage network formation and effectiveness." Similarly, public administration researchers Milward and Provan (2000) wrote that "there is little evidence that governments or academics know much about how to govern or manage networks." Joining other observers and researchers, we decried the high failure rate of inter-organizational networks and, more generally, failures in business redesign projects that underlie nearly all efforts at partnership across organizations.

This chapter sets out some of the elements of organizational change that challenge efforts to build E-Government. We need a way of thinking about organizations and institutions that retains their complexity yet that offers levers and openings for those interested in public service and the possibilities of improvement. First, we will examine critical elements that influence organizational change in government. Organizational change of any substance and scale is likely to involve multiple levels of analysis. Individuals, projects, organizations, and institutions differ in their attributes and functions; the framework advanced here sketches some of their multiple dynamics. Second, we will examine competing logics of organizational change. Decision-makers in organizations make complex trade-offs daily. The standard management fare that counsels leaders to develop compelling strategy, clear goals and metrics, and incentive systems to drive change fails to realistically portray the governmental environment. It is imperative to retain a keen awareness of the differences between the public and private sectors with respect to organizational change, even in a period in which these sectoral boundaries have blurred.

The following figure sketches in rough form the interdependencies among project characteristics, individuals, organizational structures and processes, and the institutional arrangements.



Strategic Planning as Integration

Researchers recently examined 164 organizations from five countries and found that participation and communication among senior and middle managers in strategic planning processes reduces the parochial attitudes and decisions that thwart organizational effectiveness (Ketokivi and Castañer 2004). By extension, inter-organizational collaboration requires sustained strategic planning at the outset of relationship building in order to clarify goals, develop shared understandings, and to surface differences in approach, culture, and perceptions. Initial deliberation and communication, therefore, can function strongly as integrative devices to promote organizational change in government.

Efforts at organizational change typically take the form of projects or initiatives. A central question that lies at the heart of an analysis of organizational change is: how important is the project? The power of a project's intrinsic importance and merit is a key driver of organizational change. Apart from the typical management injunctions to establish clear goals and performance metrics, the project itself must have substantive importance for public managers and, more importantly, for the public. Does it advance the mission of the organizations involved? For governments, does the project serve the public good and advance the public interest? Organizational change or government reform efforts often fail because the initiative simply was not deemed to be important by public managers and stakeholders. No amount of management wizardry substitutes for substantive merit.

Beyond an important, substantively compelling project mission, public managers require clear goals and objectives. When a project goal is important and it can be articulated and communicated in specific terms, metrics and performance measures can be meaningfully developed. Metrics and performance measures, however, can neither substitute for intrinsic importance as drivers of change nor can they be developed in the absence of agreement concerning goals and outcomes.

Researchers find empirical support for these claims. According to Kernaghan (2003), formidable inter-operability problems can arise from differences between partners in respect of laws, policies, rules, regulations, business processes, and standards. Huggins (2001) found that a "lack of compatibility among participants was recognized … as a key barrier limiting interaction and co-operation." The interoperability of technical infrastructure also has an impact on cross-agency organizational change.

Leach et al. (2002) found a positive effect of evaluation criteria on length of partnership in the case of interstate partnership to improve watershed management. In an earlier study of collaboration, Brown et al. (1998) observed that project complexity had a negative effect on governmental agency collaboration in their case study of shared geographic information systems shared across entities. Hoban (1987) claimed that the individual attitudes of public managers concerning inter-agency working relationships could pose a barrier to cooperation. Crawford (1994) found that clarification of organizational objectives was needed to mitigate the negative effects on collaboration of power differentials among agencies. Yet, on a positive note, Bardach (2001) proposes, in a theory he has termed "managerial craftsmanship," that the creative opportunity provided by joint projects is itself one of the attributes that facilitates collaboration.

The importance of building a foundation for cooperation forms a predominant feature of studies of inter-organizational collaboration. Johnson et al. (2003) report that decision-makers consistently noted the difficulties that had been involved in building successful inter-agency collaboration. They and other experts suggest that prospective partners form a steering committee to identify critical issues, to discuss likely challenges to the effort, and to begin to examine cultural similarities and differences across the organizations involved in the effort. They recommend that parties articulate as clearly as possible the joint goals and anticipated outcomes of the effort (Biedell et al. 2001, Chiat and Mickiewicz 1999, Hoel 1998). Successful cross-agency partnerships in governments that we have studied use a variety of coordinating groups, including a steering committee, advisory groups, external stakeholder groups, and cross-departmental work teams. Singapore, long a leader in E-Government, relies on cross-cutting, quasi-governmental boards as coordinating instruments.

Cohen and Mankin (2002) similarly argue that the "first step in executing a successful complex collaboration is to structure the project by defining clear and aligned goals, roles, responsibilities and tasks." In fact, they suggest that parties develop formal agreements which "clarify roles, responsibilities, expectations and relationships … as early as possible in the project." They also recommend that parties develop at the outset performance evaluation processes that include measures, milestones, and assessment procedures.

The wish to craft detailed shared agreements at the outset predominates prescriptive management writing. For example, Kernaghan (2003) states that "getting the 'pre-nuptial' agreement right is extremely important to getting the partnership arrangements right …." These agreements typically take the form of memoranda of understanding (MOU), which must be developed, reviewed, and approved by each governmental body. The commitment to develop MOUs is itself an act of integration and part of a strategic planning process.

It may appear to political decision-makers that it is easier to outsource operations than it is for governmental managers to negotiate the politics of integration, that is, information sharing and working across agencies. For this reason, a danger exists that some services and systems will be outsourced in order to avoid the political difficulties of integration across boundaries. But in some cases, outsourcing would be a mistake because the negotiations within the government form a necessary element of enacting technology, specifically, making the new systems fit the political, policy, and operational needs of the government. Outsourcing may appear to be the easier course of action. But many projects require the expertise and experience of governmental managers.

Canada has been a world leader in E-Government. The Treasury Board of Canada Secretariat—the Government of Canada's Management Board—has developed guidelines for managing collaborative arrangements. The guidelines call for documentation that details the purpose and specific intentions for the collaborative arrangement; a clear description of programs, products, or services to be delivered or acquired; roles and responsibilities; legislative, financial, and other authorities which affect the partnership; the nature and amount of resources to be committed; a clear accountability framework for the management of the partnership as well as systems to monitor, measure, and evaluate the partnership; mechanisms to ensure flexibility to respond to changed circumstances; dispute resolution system; and, the conditions under which the partnership can be terminated.

The prescriptive advice above is echoed in studies of strategic alliances in the private sector. For example, Doz (1996) examined a wide range of strategic alliances and found that the initial alliance conditions and inter-organizational design either "facilitate or hamper the partners' learning about the environment of their alliance, how to work together to accomplish the alliance task, their respective skills, and each other's goals." He concludes that "partners in more successful alliances engage in such a series of iterative and interactive learning cycles over time, typically characterized by greater and greater trust and adaptive flexibility." The key here is iterative learning over time as actors develop greater trust which leads to increased flexibility and adaptiveness. Thus, strategic planning is not an initial activity, but one that continues and evolves over the life of the project.

Cohen and Mankin (2002) discuss the critical role of communication in collaboration. They move beyond the importance of goals and contracting to the deeper importance of developing collaborative processes and norms: "Communication is one of the most important processes …. The critical role of regular, frequent communication cannot be overemphasized." Johnson et al. also note that "open lines of communication were consistently presented as a critical component of successful collaboration." Finally, Bardach (2001) argues that a communication network is an essential building block for successful inter-agency collaboration.

Public Servant as Change Agent: Partner, Broker, and Champion

The author has written in previous work of the crucial need for governments to develop public servants with the skills required to build and sustain collaboration among organizations (Fountain 2001). This will be critical if E-Government is to deepen beyond simple provision of information and services over the Internet. The type of knowledge required to form networked governance is not a capacity that can be outsourced or contracted out. To develop knowledgeable change agents in government, it will be necessary to build selection, evaluation, reward, training, and retention systems that provide incentives and resources directed toward collaborative and networking skills along with more traditional skill sets in program, technical, and policy areas.

Individuals anchor and sustain all inter-organizational arrangements—they are essential to their development. Without deep commitment by at least a small group of individuals, an inter-organizational effort—and efforts at organizational change—will not succeed. Heintze and Bretscheider (2000) found that public program managers involved in organizational restructuring were more likely to view information technologies and the organizational change project as successful if managers also reported that the restructuring supported their positions. This is a troubling finding for those leaders interested in changing the status quo. Yet, it points to a chief constraint in organizational change, the role of individual interests and the importance of the calculations individuals make regarding future situations—after a change effort—and the likely effects on individual interests.

In the research on cross-agency initiatives carried out at the National Center for Digital Government, we have asked public managers the following types of questions: to what extent is your work [on a given cross-agency project] recognized and valued? Are you on detail to the project? How many hours a week? Is your supervisor at your home agency aware of and appreciative of the work you are doing on the project? What impact do you believe working on this project has on your career in the federal government? To our surprise, civil servants in the United States and Canadian central governments overwhelmingly responded that the importance of the project is of far greater importance as a driver of their commitment than short-term rewards or career advancement. It is also noteworthy that the typical public manager involved in cross-agency projects has twenty or more years experience in government.

At the outset and often throughout the life of a partnership, inter-organizational arrangements constitute professional relationships between individuals. Therefore, individuals' skills, incentives for collaboration, and roles influence the success of inter-organizational network development and sustainability. Increasingly, public managers will be selected, rewarded, and promoted in part on the basis of their skill in working across organizational boundaries. Hoel (1998) identifies interpersonal skills as important tools for the development of cross-system collaboration: "Some people partner better than others, as do some organizations. For both, the important qualities include: flexibility, openness, patience, interpersonal sensitivity, communications skills, courage, the ability to take risks, the willingness to extend trust, and the willingness to do things in a new way."

Cohen and Mankin (2002), argue that "no inter-organizational collaboration can be successful if the critical people from each organization do not develop effective collaborative relationships with one another." They suggest that "organizations should select people with strong interpersonal skills, particularly 'lateral skills'—the ability to work with others different from themselves—for key linking roles." They recommend that organizations foster formation of "collaborative pairs" by linking key individuals across organizations: "In cross-organizational collaborations, people lack hierarchical authority over their counterparts, making lateral skills particularly important. In order to be able to influence without power, people need to demonstrate credibility, communicate effectively, express empathy, and be open to differences."

The initial developmental period, in particular, depends for its success on individual interpersonal skills. Huggins (2001) claims that "it is primarily the facilitators and brokers, rather than the firms participating in network initiatives, that initially hold the key in the crucial outset period to producing interaction that can subsequently lead to the formation of embryonic networks. In other words, if facilitators do not prioritize from an early stage the creation of some form of contact between those firms that are exposed to network initiatives, there is little chance of the emergence of sustainable networks based on co-operation." He notes further that "the most successful network initiatives are those that have facilitators or brokers who act as community or civic entrepreneurs." The role of the "champion," the individual who possesses skills, leadership qualities, authority, and commitment is a central position in the early stages of networked initiatives. Kernaghan (2003) argues that the success

of integrated governmental services "often depends on the continuing commitment of "champions. When a champion moves on, the arrangements can falter or fail, especially if the arrangements have not been adequately formalized." A key role in the public service is, increasingly, that of change champion, broker, and facilitator.

Champions are not always at the apex of organizations. In fact, middle managers play key roles in inter-organizational arrangements. Doz (1996) highlights the centrality of middle managers—their interactions with decision makers at other levels, in their own organization, and across organizational boundaries—as a key feature of alliance evolution. In other words, strategy content, and outcomes cannot be understood apart from an examination of the interactions of participants. According to Powell (1998), "most firms in biotech and pharmaceuticals have key individuals who function as network managers, 'marriage counselors,' and honest brokers. These individuals provide the glue that sustains relationships between parties who have ample opportunities to question one another's intentions or efforts."

Inter-organizational arrangements require commitment, which requires the devotion of time in order to develop. Johnson et al. (2003) found that the commitment of individuals and organizations was a critical factor of successful inter-agency collaborations but often was missing in unsuccessful collaborations. Huggins (2001) argues that the most common and well-documented barrier for co-operation is the "lack of time participants are prepared to invest in initiative involvement." He claims that "increasing the time companies commit to initiatives has a positive effect on embeddedness, as trust between companies is secured." Hoel (1998) also notes that the allocation of time signals allocation of value and thus is an important tool for cross-system collaboration.

Incentive and reward systems signal to public servants the value placed on collaborative behavior in their organizations. According to Cohen and Mankin (2002), "if lateral skills are important, then the acquisition of these skills should be supported and rewarded. If collaborative work is important, then effective performance in collaborative projects and roles should be rewarded."

Social Capital and Innovation

In a previous study of the relationship between social capital and innovation in science and technology, Fountain (1998) found that "social capital is a necessary, although not sufficient, enabler of effective public-private partnerships and of a new, more collaborative style of innovation policy." Social capital "is the 'stock' that is created when a group of organizations develops the ability to work together for mutual productive gain." Social capital "provides an underlying substrate upon which cooperative interjurisdictional arrangements might flourish."

Nahapiet and Ghoshal (1998) argue that "structural social capital"—formal ties between roles—promotes trust which fosters inter-organizational cooperation, an antecedent to the production of intellectual capital, or innovation. They developed a highly detailed conceptual account of the relationship between social capital, intellectual capital, and the innovative capacity of organizations. Although their argument supports the advantages of work within organizations rather than through contracting and outsourcing, their argument extends readily to inter-organizational networks in which actors develop trust and norms through repeated interaction.

Even game theorists, working forward from an assumption of rational actors behaving on the basis of rational choice, can arrive at relationships of trust. Milward and Provan (2000), writing on the probability of inter-organizational initiatives in the public sector, argue that "if individuals are to engage in effective collective action, it is essential to solve social dilemmas." They suggest that social dilemmas may be resolved when "dealing with a group of agencies over time increases the amount of interaction and the likelihood that strong ties will develop among the [partners]. Drawing from game theory, they note that "having a group of agencies interact frequently increases the probability of an iterated Prisoner's Dilemma game (Axelrod 1984) among the participants. The iterated game

decreases the rewards of defection, since the same set of participants must interact with one another again and again to deliver a set of services. With the possibility of exclusion an option, the other participants can punish noncooperation by one party. When parties expect to interact repeatedly for the foreseeable future, it becomes less rational to behave in an opportunistic fashion. Repeated interaction among the same set of participants increases the probability of cooperation." Thus, frequent interaction may increase social capital among participants.

Trust and reciprocity are foundational to inter-organizational arrangements. The constituent elements of social capital are trust, norms of reciprocity and networks. Oliver (1990) found that "a considerable proportion of the literature on [inter-organizational relationships] implicitly or explicitly assumes that relationship formation is based on reciprocity." Biedell et al. (2001) argue that "trust is a key component of successful collaborative teams …. The stronger the level of trust, the more flexible and adaptable a team becomes in its pursuit of an objective." Bardach (2001) found in an empirical study of more than twenty public sector partnerships that as trust grows, the capacity for people to work more effectively with one another grows. Zaheer et al. (1998) show that trust in inter-organizational exchange relations influences outcomes.

According to Huggins (2001), "… although networks are a group endeavor, the 'on-the-ground practicalities' of 'networking' necessarily consists of behaviour that is often dyadic in nature." Similarly, Zaheer et al. (2001) distinguish between inter-organizational and interpersonal trust. Interpersonal trust affects inter-organizational trust which in turn has a significant influence on relational exchange.

Sustaining Resources across Organizations

Just as adequate resources are necessary to well-functioning teams, they are essential to inter-organizational initiatives. As part of our research on cross-agency projects, we have asked civil servants about the adequacy of human resources and funding for their projects.

Misuse of capital/labor substitution forms a challenge to organizational change using technology. In the U.S. federal government, agencies were not provided with resources to develop information-based, or E-Government. They were told by Congress to find resources by using information technology (IT) to cut labor costs. Although labor costs can be reduced by using IT, a few complexities exist that should be enumerated here. First, organizations must learn to use IT. This requires human labor, and experienced human labor is critical. So, in the short run, it is difficult to downsize and to learn at the same time. Second, although some jobs can be eliminated, the use of IT in government creates many other types of jobs. Specifically, IT positions must be created. Large organizations have found that IT staffs are expensive. In particular, web site managers and the care and upkeep of complex web sites require labor-intensive attention. Third, governments increasingly are forced to provide services through multiple channels: face-to-face, telephone, mail, and Internet. Thus, they are faced with the complexities of designing, developing, implementing, and managing in multiple channels. For these reasons, and others, the simple idea of substituting technology for labor is misleading and erroneous.

May (1995), in a study of the implementation of cooperative intergovernmental environmental regulation policies between New South Wales, Australia, and New Zealand, found that high levels of agency commitment and capacity are required to foster facilitative implementation. Moon (2002) argues that along with financial and technical issues, adequacy of staffing and personnel is one of the common impediments to the implementation of E-Government. Brown et al. (1998), in their study of the role of partnership in a governmental project related to geographic information systems (GIS), found that the amount of resources shared by the group is one of the determining factors of partnership effectiveness. Kernaghan (2003) identified "lack of dedicated and long-term funding as a major impediment to [integrated service delivery]." Johnson et al. (2003) also argue for leadership to recognize the importance of adequate resources in collaborative initiatives.

As we will see in our discussion of institutional arrangements, later in this chapter, budget processes designed for single organizations are ill suited as funding instruments for networked governance. Public servants throughout the world are developing new types of multi-agency funding structures and processes to build sustainable inter-organizational arrangements.

Institutional Arrangements and Organizational Change

Governmental organizations are not simply technical structures formed to produce outputs; they are institutions that confer legitimacy, credibility, and trust within society. They do not and cannot "go out of business" if they fail to perform well. They are not market-based entities. Their stability and relative resistance to rapid change arises from the fact that institutions represent societal agreements, in a liberal view, or agreements among elites. Their acceptance by society is one source of the legitimacy that they provide to endeavors.

Dawes and Prefontaine (2003) found that an institutional framework is essential to multi-organizational collaboration in their study of government-led multi-sector collaboration in the United States and Canada. Institutional legitimacy is important to market-based collaboration as well: Rooks et al. (2000) found that institutional embeddedness—social institutions that allow for credible agreements and commitments—promoted inter-firm cooperation between buyers and suppliers in the Netherlands. Brown et al. (1998) found that formality and increases in formal procedure led to better performance and customer service in a major governmental project to promote shared development and use of geographical information systems. Lane and Bachmann (1997) found that institutional support facilitated inter-firm collaboration in the United Kingdon and Germany. When institutional support of industry associations and legal regulations was strong and consistent, a high level of trust developed among key actors and led to sustainable inter-organizational collaboration.

The Vertical Nature of Departmental Structure

The bureaucratic state, following from the Weberian bureaucracy, is organized vertically. That means that the government is organized in terms of superior-subordinate relations, a chain of command that extends from the chief executive to the lowest level civil servants in the government. Similarly, oversight bodies such as Office of Management and Budget and the General Accountability Office in the U.S. federal government and the legislature exercise oversight through chains of command that are structured vertically through departments.

These vertical structures are the chief elements of governmental institutions. They make it difficult and complex to use technology to build networked government. The more complex difficulties are not technical. What is difficult is reconceptualization, accountability, oversight, and other basic elements of governance in networked relationships.

The main structural barrier to collaboration in government is the departmental model. "This constraint is closely related to the ministerial concern about accountability that perpetuates the departmental approach to organizational design. This silo system runs strongly counter to the current movement towards horizontal government." In a U.S. study, Biedell et al. (2001) similarly note that the "traditional agency structures, and the concomitant cultural "stovepipes," were designed to facilitate delivery of a single service not to facilitate cross-agency collaboration."

While central agencies in the Government of Canada, such as the Management Board or the Privy Council Office, can use control measures to promote greater inter-departmental collaboration, such an approach flies in the face of current trends toward the devolution of authority to departments.

Thus, central agencies have proceeded cautiously and collaboratively by providing advice and incentives rather than forcing integration by imposing controls.

Accountability[2]

Ministerial accountability is a central structural and processual feature of parliamentary democracy. Ministers are the principal link between the parliament and the public service. The minister is legally responsible for the policies, programs, and administration of his or her department. The doctrine of ministerial accountability requires that ministers resign in the event of personal error or of serious errors committed by subordinates within their department about which they knew or could reasonably be expected to know. Thus, the doctrine sanctions failure to properly exercise or oversee the exercise of authority. Public officials are accountable to their ministers and not to parliament. According to the doctrine, the actions of public servants are shaped almost exclusively by the interests and agendas of the minister to whom their organization reports.

"In theory, this model [of accountability] has the virtue of making it clear who is ultimately responsible for the department's business and for decisions affecting it, namely, the minister." Writing in the U.S. context, Behn (2001) notes that "behind the traditional concept of public administration, behind the traditional concept of organizational accountability is the implicit assumption that one organization is responsible for one policy—or that at least every policy is the responsibility of just one organization. It is another beauty of bureaucracy and hierarchical accountability. The law assigns the clear and full responsibility for implementing each policy (or each component of each policy) to one organization (or one component of one organization). And for each component of the organization, one individual is clearly in charge. Thus one individual is clearly accountable." In parliamentary systems, the minister of a department is the one individual who is ultimately accountable to parliament and, through parliament, to the people for the exercise of authority conferred. It should be clear from the nature of accountability that it encourages ministers to focus on the chain of command through which their authority runs. Thus, they focus upward to superiors and downward to subordinates along the vertical dimension of government.

In such a system, the political and personal impetus to exercise authority in an accountable fashion and to avoid risk underpins the vertical, or siloed, structures and processes within departments. The multiple and reinforcing vertical structures and processes in departments form strong barriers to horizontal linkages.

Inter-organizational collaboration works against and obscures traditional lines of accountability. Thus, it has been a challenge for public servants to maintain vertical accountability while supporting horizontal initiatives for which lines of accountability are unclear. Allen et al. (2002) note that there are several challenges for collaborative or network accountability, including the following:

- "With a complex and inter-organizational government, it may be difficult to point out why things work and where things go wrong *ex post facto*.
- There is relatively little information on how to manage horizontally and the managers are often required to think on their feet instead of relying on proven practices.
- Financial accountability is made harder when funding from several agencies is pulled together for a common venture."

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[2] This section on accountability in parliamentary systems was written by Amanda Coe and is revised slightly for inclusion in this chapter. See Amanda Coe, "Innovation and Accountability in 21st Century Government: Government On-Line and Network Accountability," National Center for Digital Government working paper, June 2004.

Legislative Frameworks

Much existing legislation assumes and reinforces departmental autonomy, also known as silos or "stovepipes." Kernaghan (2003) reported the results of a study of integrated service delivery projects in Canada. He notes that "legislative and regulatory barriers are of the show-stopper variety and require political consent for their removal or modification … some legal impediments … are more evident than others. It is clear, for example, that privacy acts restrict the sharing of some kinds of data."

A recent study on new models of collaboration for delivering governmental services, carried out by an international network of field researchers in the United States, Canada, and Europe, found that because collaborative initiatives stretch across the boundaries of distinct organizations, "they need to establish a new kind of institutional legitimacy. Most often, legitimacy begins with a basis in law or regulation" (Dawes and Prefontaine 2003).

The Budget Process

Bardach and Lesser (1996) argue that the federal funding system in the United States confines inter-organizational collaboration by placing too many restrictions on how funds may be used. In most industrialized economies with democratic systems, the budget process, with few exceptions, appropriates and authorizes money to individual departments for departmental-specific programs. Thus, the budget process also reinforces the departmental structure of government with which it is closely aligned.

As Allen et al. (2002) note, "the budgetary process in most Parliamentary regimes features a speech of intensions and promises that are much more integrative than the subsequent funding allocations and implementation that typically proceed along the lines of individual [departmental] units. This dynamic is inherently political, as most Ministers seek additional resources for their own organizational fiefdom to accomplish tasks and objectives that will accrue visibility and credit accordingly. Perhaps the single most critical shift required, then, in order to facilitate more horizontal action across government is to alter the system of allocating funds."

Kernaghan (2003) argues that "obtaining resources for horizontal initiatives is a pervasive challenge with political and structural implications as well as managerial, operational and cultural ones. The challenge is to overcome the reluctance or inability of governments to fund projects on a horizontal basis … changing a department's or a government's budgetary system to permit dedicated funding of horizontal projects can be extremely difficult. Moreover, even when such funds are made available, decisions on their allocation are shared among the partners and accountability is often diffused."

He further notes that "the funding barrier is directly related to the departmental (silo) model of organizational design. Program budgets are allocated by department and departments compete with one another for funds to support their major policy objectives rather than collaborative initiatives across departments or governments. Public servants focus on those responsibilities for which they have relatively secure and continuing (multi-year) funding and for which they will be held accountable."

According to Hoel (1998), the blending of funding streams is an important tool for supporting cross-system collaboration. "When resources are pooled and mutually administered, the fundamental structure of the collaborative relationship is redefined."
Brown et al. (1998), in their study of the role of partnership in a governmental IT project, also found that the amount of resources shared by the group is one of the determinant factors for partnership effectiveness. In the U.S. federal government, a series of cross-agency E-Government projects have developed innovative, shared funding mechanisms that rely on formulas worked out by the departments participating in an initiative. These funding mechanisms, while emergent, are rapidly

becoming formalized and diffused to similar projects throughout the federal government. It is not yet known whether they characterize a new form of funding or the proliferation of an *ad hoc* solution to a seemingly intractable structural problem (Fountain 2006, forthcoming).

Culture and Organizational Change

According to Cohen and Mankin (2002), "a preexisting supportive culture can help set the stage for a successful [inter-organizational] project." Kernaghan (2003) argues that "long experience working in silos under strict accountability requirements creates a culture of tunnel vision rather than the peripheral vision needed for horizontal government. This tunnel vision is often accompanied by turf tension as individuals and organizations strive to protect established mandates and processes, in part by restricting the sharing of information. These barriers can be exacerbated by the absence of incentives and of a culture of innovation supporting creative efforts to pursue [integrated service delivery]. Since values are the essence of organizational culture, it is essential to cultivate shared commitment to those values such as citizen-centred service, trust, teamwork, leadership and accountability that are most likely to support [integrated service delivery] initiatives."

Johnson et al. (2003) argue that it is important for individuals within agencies to understand the culture (i.e. rules, values, communication patterns, structure, etc.) of the agencies engaged in inter-agency collaboration. Similarly, Hoel (1998) argues that "a climate of mutual respect demands that each member of the collaboration devote time to understanding the norms and values of their partners' organizational culture."

Cohen and Mankin (2002) recommend developing a collaborative culture within each partner organization, one that reinforces the development of strong collaborative relationships. They argue that "an organization develops the capability to conduct complex collaborations when it can consistently and successfully executive them. This capability is developed when all parts of the organization are aligned to support complex collaborations — structure, task, technology, processes, rewards, and people practices. At the core of this capability is the organization's culture… a culture that supports collaboration is one that balances a performance focus with concern for people."

Logics of Change

Governments are highly complex institutions; they are not simply organizations formed to manufacture a particular good or to provide a particular service to a well-formed customer segment. The mission, obligations, and importance of government make them significantly different from private sector firms. This is an obvious statement, yet its meaning should not be lost when public servants are encouraged to adopt and use organizational change models developed for strategically "lean" firms that can choose their business lines, customers, and operating procedures. Moreover, citizens should not want their government to change quickly or without considerable deliberation. Hence, the desire for innovative capacity and organizational change requires the moderating influence of prudence and gravity.

In spite of these caveats, drivers to organizational change in government are strong. They include the fundamental democratic concern for standardization of processes to ensure fairness and responsiveness to all citizens. Similarly, managers and other decision- makers continue to build greater rationality into organizations and business processes in order to drive down uncertainty through increasing parameterization. Also related to the drive for rationality in systems is the efficiency imperative. Herbert Simon wrote more than fifty years ago that the only criterion for evaluating public administration systems and procedures is efficiency (1945). Efficiency gains typically result in cost savings, but there are important instances in which cost savings are achieved through organizational changes that are not related to efficiency. Increasing effectiveness, for

example, by sharpening or refocusing an organizational mission can result in cost savings. Moreover, careful portfolio management, in which some tasks are dropped from an organization's roster can result in important cost savings.

IT and Institutions: Drivers of Change

- Rationality/standardization
- Efficiency
- Anticipated cost savings
- Access
- Pressure from

These are outcomes or external drivers. In some cases, they are the explicit goals of projects. Trade-offs among these lead to complexity in change strategies and processes.

Governments in several countries are vitally concerned with increasing the access of citizens to governmental information and services. This internal governmental driver to increase the legitimacy, credibility, transparency, and responsiveness of government has a counterpart in society. Pressure from corporate and individual citizens for organizational change comes in the form of requests for increased access as well as for increased efficiency, rapidity, and cost savings. Finally, global pressure for organizational change in government takes several forms. First, countries increasingly must conform to global standards and processes. Global trading regimes, financial flows, and security arrangements require at least minimal conformity of governments with global standards and processes. Second, most countries benchmark their modernization and reform efforts against "best practices" that may be found in governments of those countries that tend to serve as exemplars or leaders.

Barriers to Organizational Change in Government

IT and Institutions: Barriers to Change

- Privacy and security
- Cost
- Scale and complexity
- Agency autonomy
- Pressure from interest groups

A simplistic approach to E-Government is one that assumes that new information uses lead to new types of organization and a variety of benefits. Yet new uses of information entail complex decisions and trade-offs among difficult areas such as the need to protect privacy and security; cost constraints; difficulties of scale and complexity in large governmental systems and processes; the desire of governmental ministries to preserve autonomy and more.

Competing Logics of Organizational Change

All decision-making is guided by "logics," theories or sets of assumptions, premises, and decision rules. Professionals are trained to use particular methods and objectives in their decision-making and problem solving. For example, lawyers are trained to reason in terms of the law and to find solutions to legal problems. Their concern is not economics or social value, although these may play a role in their thinking. Information scientists are taught to develop information rules that are effective and consistent. They often make simplifying assumptions or must ignore ambiguities or inconsistencies in order to develop systems. Democratic activists tend to think about ways to ensure greater access and more information for citizens. They may neglect economic constraints or security concerns. Hence, each profession focuses on some types of rules and tends to think less about other types of rules. For these reasons, it is often difficult to talk across the professions and across different fields.

Many different "logics" are required to guide problem solving and decision-making. These logics are inconsistent with one another and sometimes contradict one another. For example, the most democratic, or accessible, information system may not meet security standards. The level of security that would make all hacking impossible would not be economically feasible. Thus, several complex

trade-offs are involved in public management and public policymaking. The Internet and the promise of technology do nothing to simplify these trade-offs. In fact, multiple logics make decision-making quite difficult because of future uncertainties and lack of experience with new information systems.

The current emphasis on performance management and the use of metrics makes evident the problems of multiple logics in public management. The development of digital government presents a collection of competing logics to decision-makers and scholars. Among these logics are those that underlie democratic states including equity, fairness, and the development of citizens. The logics of system and information privacy in a digital environment include requirements for anonymity, rules regarding access, and several challenges regarding combinations of data and databases. A third logic, that of system capacity and maintenance, focuses on questions of efficiency, interoperability, and rationalization of processes. Administrative feasibility is similar in some respects to system feasibility, but current notions of administrative feasibility include client issues as well as internal procedural rigor and efficiency. Political feasibility must attend to the power and interests of stakeholders.

The logic of technology enactment draws attention to institutional arrangements that influence the design, development, and implementation of information technologies in complex institutional environments. Finally, the logic of economics influences decisions about system costs and the payoff from digital information systems.

Following directly from the competing logics underlying the development of digital government are multiple and contradictory metric systems. The new public management orients measures toward customer satisfaction. Thus, measures of convenience, access, speed of transactions, and usability come to the fore under the heading of customer-oriented metrics. Engineering metrics flow from system capacity and management logics. Measures under this heading include system capacity, security, power, and speed. A series of economic measures would seek to capture the costs and benefits of digital government applications. Similarly, political measures would capture costs and benefits in terms of a variety of stakeholders. Perhaps the most important, and possibly often neglected, measures flow from democratic theory. Transcending simple measures of winners and losers, these metrics would ideally include the development of equality, citizenship, and liberty.

Clearly, developing a set of metrics for digital government programs involves a series of trade-offs and compromises among competing measures of effectiveness. A focus on one type of measure may preclude attention to other, equally important metrics. Adding to the competing logics of digital government are the number and variety of governments involved in most countries.

The economic benefits of web-based governmental information and service provision are arguably significant. Potential cost savings stem, in part, from the enormous scale of governmental activities. If no other pressure for electronic government existed, the market potential for businesses alone would move forward digitization.

In previous work, the author introduced the technology enactment analytic framework to account for the role of institutional arrangements and organizational structure as mediating variables in the design, development, and implementation of information technologies in government (Fountain 2001). The author has argued that the logics of bureaucratic forms differ from, and compete with, those of network forms of organization. These competing institutional and organizational logics influence the design and development of electronic government introducing a greater degree of unpredictability and variation than determinist or simple rational actor frameworks suggest.

As noted in previous research (Fountain 2001; Fountain and Osorio-Urzua 2001), the number and sources of variation and competing logics imply that the levels and rates of digital government developments will vary greatly among different levels of government.

Interoperability may be a greater challenge than anticipated by most proponents of digital government as well as by many public managers who lack technical expertise. The penetration of Internet use by governments varies greatly across levels and within levels of government.

E-Government and organizational change may usefully be analyzed within a competing logics framework. Agency autonomy, competition, lack of interoperability, and stovepipes all flow from a set of logics that run counter to inter-agency coordination, networked communication, and joint policy problem solving in government. Open standards and protocols on the Internet allow all computers to be connected resulting in the remarkable connectivity, size, range, and richness of the World Wide Web. The technical infrastructure for connecting a government's computers fails to encompass and account for new institutional infrastructure needed to support coordinated practices, procedures, cultures, and incentives.

Significant governmental challenges are reflected in the choices facing decision-makers regarding reorganization and restructuring, at a depth important enough to modify institutional arrangements. Policymakers have yet to come to terms with the need for greater integration and reorganization in the bricks and mortar of government as a consequence of the Internet.

Perverse Incentives

Public servants face a set of perverse incentives as they make decisions regarding the possible uses of technology in their programs and agencies. In the United States, public executives learn to try to accumulate larger budgets and more staff in order to increase their power and autonomy. They also learn to fight for appropriations for their program and agency. In fact, in adversarial democracy, such conflicts among programs and agencies are assumed to force public servants to sharpen their arguments and rationales for programs, to produce results in order to sustain resources. This view of adversarial democracy dates at least as far back as J.S. Mill and the ideas of neo-classical economics. But the adversarial model of democracy does not align well with the development of networked approaches to government.

For this reason, public executives face perverse incentives. If they implement new information systems that are much more efficient, they will not gain greater resources: they will probably have their budget decreased. If they implement new information systems that reduce redundancies across agencies and programs, again, they are likely to lose resources rather than gain them. If they develop inter-agency and enterprise-wide systems with their colleagues in the bureaucracy, they will lose autonomy rather than gain it. So the traditional incentives by which public executives have worked are "perverse" incentives for networked governance.

Conclusions

The challenges that lie ahead with respect to organizational change in government are not simply technical. Indeed, the technical challenges are relatively simple. The more complex and difficult challenges related to the virtual state are intellectual, governmental, and practical. As the use of information and communication technology (ICT) in government moves forward, much more will be at stake than simply increasing efficiency and service levels. Bureaucracies and the bureaucratic model have been the source of governmental accountability, fairness, and integrity of processes. If the bureaucratic form is changing, what forms, structures, and processes will replace it? Given these governance challenges, business models and business language can be limiting and misleading as a source of wisdom and advice for building the virtual state. Business experience can inform operations and systems development. Indeed, as discussed in this paper, enterprise architecture can provide significantly more strategic coherence in governments. But public servants and the polity will have to engage in deliberation to bring clarity to the governance questions.

The role of the public servant is changing but remains critical in democracies. Civil servants play a vital role in domestic—and increasingly in transnational and global—policy regimes. Professional, experienced public servants are essential to the virtual state. It is perhaps obvious to say that professional, experienced public servants are critical. But in the United States, many conservatives would like to eliminate the public service and to use contract workers instead. So, the comment is made in the context of a debate about the privatization of the public service. The argument is that E-Government and networked government make professionalism and experience even more important within the entire public service. IT is not a substitute for experience and professionalism. It is not a strategy for deskilling the public service although it may be possible to eliminate some jobs made redundant by IT. It is critical also for IT professionals to have better interaction with other professionals.

All public servants need to be knowledgeable about IT, if not in a technical sense then in terms of understanding its strategic and political importance. Governments must be careful customers of private consultants and vendors. It is the author's opinion that most private firms really understand the differences between governmental and private sector organizations— and most do not care about these differences or view them as their responsibility to understand. Hence, public servants must understand the differences between systems built for the private sector and the requirements necessary for governmental systems. Vendors generally do not understand the higher standards of accountability that are the obligation of the state, fair and equal treatment of citizens, access, transparency, and, in particular, security and privacy necessary for governmental systems.

These are not obvious statements in the present business environment. In the United States, some public servants have been intimidated by Congress and private consultants to believe that they are inferior decision-makers, that they are out of date in their thinking, and that, in nearly all cases, that the private sector "can do it better than government." Public servants, in many cases, insufficiently value their knowledge and experience to negotiate in a strong way with private firms. It is necessary for contractors to build the large systems for government. But it is also necessary for public servants to play a strong role in the design, development, and implementation of those systems. They are the decision-makers with the experience and depth of knowledge of governmental operations and politics. Thus, public servants are the decision-makers who know when to import a system from the private sector and when a system needs to be modified for public use.

Researchers and practitioners are just beginning to explore the potential for cross-agency capacity and policymaking. Extending the ideas presented in this paper beyond inter-agency relationships within the federal state, one can readily imagine that we may have to redefine and modify ideas about federalism due to networked governance. Moreover, the increasing use of inter-sectoral relationships—that is, relationships among the public, private, and nonprofit sectors—marks the virtual state. Organizational change in the public sector is highly complex and constrained by politics, policies, and institutional arrangements. Simple, streamlined strategic advice from the private sector doesn't fit exactly the complexities of the world of politics and policymaking. The public service needed to build networked governance and to sustain organizational change truly demands the "best and brightest" of each state.

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