

**New models of collaboration for delivering government services:  
A dynamic model drawn from multi-national research**

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*Abstract: This paper presents a conceptual model of how organizations collaborate to deliver public services to citizens and businesses. The model is derived from a comparative study of 12 collaborations in Canada, the US, and Europe that involved various combinations of public, private, and nonprofit organizations pursuing a variety of service objectives. The study draws on the literature of interorganizational networks, management information systems, public management, and organizational behavior to devise a preliminary model of how such collaborations form and operate. The case study data are then compared to the preliminary model and a revised, more robust and dynamic model is presented which more closely fits the case experiences across various service types, project structures, and national settings.*

**Introduction -- the search for new service delivery models**

The search for more effective methods of delivering public services has been a fixture of public management for several decades. Overall, the trend in both Europe and North America has been toward reducing the service delivery role of the government in certain areas of activity and encouraging the private or nonprofit sectors to play a more important role. Beginning in the 1980s, Britain and France opted to delegate many services previously provided by the government (such as management of natural resources, transportation, and communication) to the private sector. Canada and the United States took a less radical approach, favoring outsourcing and sub-contracting with the private sector rather than engaging in full privatization. In the last decade, governments in both industrialized and developing countries have sought to deliver public services through new working relationships among governments or between government and the private and nonprofit sectors. These public service delivery innovations are shifting to more equal partnership models enabled by interorganizational collaboration and the use of advanced information technology (IT). (Prefontaine, et al., 2001).

During the 1990s in the US, the National Performance Review (NPR) urged government agencies to “re-engineer government activities, making full use of computer systems and telecommunications to revolutionize how we deliver services” (NPR, 1993, p. V). In response, government agencies often turned to the private sector for the IT expertise needed to implement more efficient public service delivery systems. The focus on government re-engineering has coincided with the emergence of new technologies, and together these trends have encouraged a tighter coupling of work processes and information flows across organizational boundaries.

In Canada, growing attention to e-government generated “government on-line” priorities in the late 1990s including (1) organization of government information and services by user needs instead of government structures; (2) on-line availability of government information and forms; and (3) provision of transactional services through secure networks (Government of Canada, 1999). The first priority requires government agencies to collaborate in order to provide integrated services that better respond to citizen and business needs (Government of Canada, 2002). To achieve this goal, Canadian federal agencies and provinces have begun to experiment broadly with new interorganizational relationships within government and between government and private and nonprofit organizations.

The European Council has made pan-European e-government initiatives a top priority for improving the delivery of public services to EU citizens and businesses. The stated goal of the “eEurope initiative,” approved at the June 2002 European Council meeting in Seville, is to provide interactive government services throughout the European Union. Interoperability is sought within and between public agencies at the European, national, regional, and local levels; as well as with the private sector. The European Commission defines interoperability to include the sharing of information between networks and the re-organization of administrative processes to support the seamless delivery of e-government services” (European Commission, 2003).

All of these approaches are illustrations of a phenomenon that Milward and Provan (2000) call the “hollow state,” in which government provides the framework of authority for public services, but does not have the capacity to fully implement or operate programs on its own. Instead, implementation responsibility is shared or delegated to other sectors in society. A review of on-line access initiatives around the world conducted by the US General Service Administration Office of Intergovernmental Solutions observes that “the use of partnerships and innovative funding approaches may be the only [way] to jump start many of these initiatives” (Dorris, 2000).

### **Study design & methodology**

Our study is a multinational investigation whose goal is to document and compare the experiences of collaboration efforts in various countries. We do so using a consistent method of data collection and description that allows comparisons across cases that might reveal fundamental characteristics that transcend national boundaries (Dawes & Prefontaine, 2003).

Comparative case studies represent a methodology where “cases are developed through use of multiple sources of evidence, investigating phenomena with their contexts.” Individual cases are then analyzed through cross-case comparison. (Agranoff & Radin, 1991). The process begins with an initial theoretical statement or set of propositions. Case findings are then used to test and refine them. (Yin, 1994). We use this method to document and compare 12 case studies of new models of collaboration in the public sector, including six cases in Canada, five in the US, and two in Western Europe. Three teams of field researchers handled the cases in their respective regions. The cases are briefly characterized in Table 1.

The cases included in the research were selected based on the existence of a reciprocal and voluntary agreement between two or more distinct public sector agencies, or between public and private or non-profit entities, to deliver government services. The arrangements among the parties in these collaborations often rest on a formal agreement which specifies the purpose of the collaboration, and the sharing or allocation of associated responsibilities, risks, benefits, and resources. Often, but not always, these agreements exist in the form of contracts for a specified period of time. In general, each collaboration included a minimum of two distinct organizations; formal agreement about roles and responsibilities; a common objective, activity, or project aimed at the delivery of a public service; and the sharing or allocation of risks, benefits, and resources - both tangible and intangible.

While the cases share the characteristics noted above, we also selected them to represent variation along other dimensions. For instance, they focus on different service types, such as health care, economic development, public access to government information, or taxation. They fall into three main service types: support for back-office governmental operations that underlie service delivery, support for public access to a single service, or support for public access to an integrated set of services. Where multiple cases are drawn from a single country, we selected them from different regions. They also vary in size and duration. Together, the case studies represent three main types of collaboration arrangements:

<b>Table 1. Case Characteristics</b>				
<b>Case</b>	<b>Service Focus</b>	<b>Government sponsor</b>	<b>Predominant collaboration type</b>	<b>Service type</b>
Access Indiana	Public access to state government information and transactions	State of Indiana	Public-private	Public access to multiple services and/or information sources
Ambassadeur	Citizen Internet exposure & training program in rural areas	Province of Quebec	Public-nonprofit	Public access to a single service type
Bremen on-line	Public access to city information and transactions	City of Bremen, Germany	Public-private	Public access to multiple services and/or information sources
Cadastre Reengineering	Real property tax mapping	Province of Quebec	Public-private	Support for governmental operations
First gov	Public access to federal government information	US federal government	Public-private	Public access to multiple services and/or information sources
Hotjob	Job offers portal	Belgian national government	Public-private	Public access to a single service type
Internal Revenue Service e-file	Filing of personal income tax returns	US Federal government	Public-private	Public access to a single service type
NYS Geographic Information System Coordination Program	Data sharing and development of data analysis expertise	State of New York	Public-public	Support for governmental operations
One-Stop Business Registration	Unique kiosk allowing electronic filling of all forms required to open a new business	Province of British Columbia	Public-nonprofit	Public access to a single service type
Ontario Business Connect	Unique kiosk of government services to businesses	Province of Ontario	Public-private	Public access to a single service type
Partners in Change	IT system to manage welfare benefits delivery	Province of New Brunswick	Public-private	Support for governmental operations
Service Canada Initiative	Online government information to citizens	Canadian federal government	Public-public	Public access to multiple services and/or information sources

*Public-Public Collaborations:* This category includes both horizontal agreements between two agencies or departments at the same level of government, and vertical agreements or intergovernmental alliances between or among federal, state, and local levels. They represent voluntary relationships often driven by the need to solve mutual problems.

*Public-Private Collaborations:* Sub-contracting and outsourcing are the most common collaboration methods between the public and private sectors. Public-private partnership (PPP or P3) is currently the method of collaboration that generates the most debate. A PPP implies a sharing of resources, risks, and benefits associated with project operations. In these cases, government hands over part of its management responsibilities while retaining enough control to ensure the protection of the public interest.

*Public-Non profit Collaborations:* In certain service sectors, most notably health and human services, nonprofit service organizations are a major (sometimes sole) agent of service delivery at the community level. Typically, these relationships are characterized by fee-for-service or annual contracts. Today, we are beginning to see joint development of service programs in which the public and non profit participants share responsibility for program design, performance, and evaluation.

***The preliminary model***

Drawing on the research literature of several disciplines, we designed a conceptual model that covers macro, meso, and micro levels of analysis of the collaboration projects to be studied (Prefontaine et al., 2001). This complex model attempts to represent influential factors that operate at these three different levels. The model (Figure 1) also comprises a temporal dimension as it takes into consideration the different stages of the collaboration process and accounts for change over time.

The first dimension includes factors in the political, social, economic, and cultural environment and is crucial because of the international character of the research project. In order to evaluate the possibility of transferring successful experiences among countries, it is necessary to identify country-specific factors that have an impact on the collaboration process or use of IT (Lubatkin et al., 1999; Clift & Osberg, eds., 2000). Hofstede’s (1990) cultural factors (power distance, masculinity, individualism, and risk avoidance) were included as variables.

Dimension 2, includes factors in the institutional, business, and technological environment. The institutional environment refers to the legal framework of the project (such as privacy, trade, intellectual property, or procurement laws). “The legal framework of cooperation imposes structural barriers and creates opportunities that can make a substantial difference to agency managers” in their willingness and ability to engage in cooperative action (Weiss, 1987). The business environment refers to the characteristics of the industry or sector of activity in which the collaboration project takes place. The technological environment, (i.e., the role and use of IT) is pertinent because all the projects use information technologies as key agents of change (Heeks & Davies, 1999).

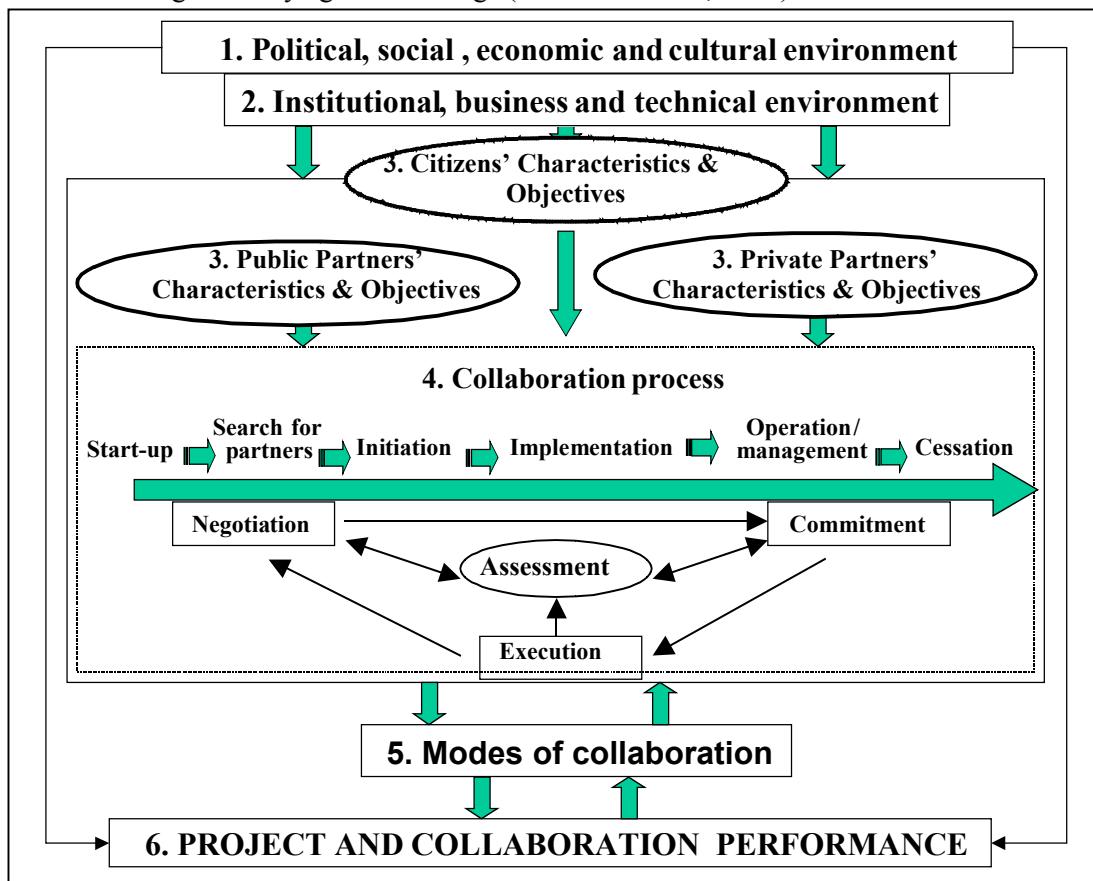


Figure 1. Preliminary Model

These first two dimensions constitute the macro environment. We hypothesize that factors in these environments influence the motivations of the project participants and may determine the limits of project performance. Our prior experience in multi-organizational projects shows that the variability and variety across these environments can influence the focus and limits of technology-supported collaborations (Dawes et al, 1997). In this research, these environmental variations are important influences on the transferability of results from one culture to another.

The third dimension includes the characteristics and objectives or motivations of the different participants in the projects. Participation in cooperative projects is usually motivated by the need to secure greater control of or access to necessary resources, or to establish favorable exchange relationships (Williamson, 1991; Ouchi, 1980). However, cooperation remains an admittedly difficult process in most settings. Mc Caffrey, Faerman and Hart (1995) assert that these difficulties include past experiences, costs, uneven distribution of power among participants, divergent interests, and conflicting incentives and purposes, leadership systems, and practices. Psychological, strategic, cultural, and technological differences among the participants are likely to accentuate asymmetry and create difficulties in collaborating. We tried to understand how these differences were overcome in successful collaboration projects and how they shaped the elements of Dimension 4, the collaboration process.

The fourth dimension includes factors related to the collaboration-building process *per se*, from inception to implementation. The research literature suggests that specific success factors can be identified at each stage of the collaboration process. For example, initial trust is of critical importance in the formation and early efficacy of collaborative networks (Lansbergen and Wolken, 1998; Ring and Van de Ven, 1994). Traditional control strategies used within single organizations are insufficient in cross-boundary collaborations and new strategies are necessary to create an environment for the knowledge sharing necessary to successful collaboration (Pardo et.al. 2003). Early successes and positive interactions are important to establishing the interpersonal basis of the relationship (Larson 1992; Gulati, 1995; Ring & Van de Ven, 1994) which develops trust and reduces risk aversion. Similarly, strong supportive leadership has been identified as a crucial element in interorganizational projects (Trice & Beyer, 1993). Often, the implementation of the project depends on the presence of a champion, and the support of top management (Weiss, 1985; Van de Ven & Poole, 1995; Pfeffer, 1992; Mintzberg, 1983). In addition, it is important to monitor the process of negotiation/decision/action/evaluation that takes place at each stage of the collaboration project and how the process influences and is influenced by the modes of collaboration employed (i.e., Dimension 5).

Dimension 5 includes factors related to collaboration methods, including the different governance schemes adopted, the nature of risks and benefits, the distribution of authority and control, resource sharing, and the interorganizational management of the collaboration process. We expect the governance scheme adopted to determine the power structure within the collaboration, the relationships among partners, and the participation of stakeholders (Hill & Hellriegel, 1994). Success of the collaboration process is likely to be affected by these factors (Simonin, 1997; Lambright, 1997; DeHaven-Smith et al., 1996; Rousseau et al., 1998). For example, very high levels of participation in decision making may reduce the effectiveness of the collaboration project by raising the costs and complexity of deliberation and increasing the opportunities for conflict and confrontation (Pfeffer, 1992; Mintzberg, 1989). We expect this set of choices and their effectiveness to have direct effects on project and collaboration performance. We also expect that performance will, in turn, prompt the participants to alter their methods to achieve better results.

Dimension 6 includes performance factors. “Performance” and “results” have emerged as the key measures of success for public investment in services (US Congress, 1993). Several aspects of performance were considered. DeLone and Mc Lean (1992) identified six measures of information system success: system quality, information quality, use, user satisfaction, individual impact, and

organizational impact. Pitt et al (1995) added service quality. We applied these measures in our analysis. Zeithman et al. (1990) and Provan and Milward (2001) also recommend measuring expectations versus perceptions of service performance. Therefore, in our study, service delivery was deemed effective if it meets the expectations of all stakeholders. Evaluating the performance of collaboration methods is also important in order to determine whether the governance method leads to satisfaction among participants.

### ***Data collection and analysis***

Interviews with the main participants in each collaboration project constituted the main method of data collection. For each case, researchers conduct semi-structured interviews with six to twelve knowledgeable participants. These included initiators, sponsors, executive champions, and project leaders as well as staff responsible for different aspects of the project such as technology infrastructure, marketing, legal affairs, or human resources. The interview protocol contained questions related to the project initiation (history, scope, management), to the technology solution used, to the collaboration process (participants, negotiation, objectives, conflicts), and to the performance of the project. The second method of data collection was document analysis including a review of laws, regulations, contracts, project plans, and other written material pertaining to each collaboration and its context. These secondary data from legal documents and official or published sources describe the environmental factors and also provided a way to compare the official record against the opinions gathered in the interviews.

Data were coded and analyzed using a coding scheme keyed to the specific variables that make up each dimension of the conceptual model. New codes or factors were added as they appeared in the data. Each case description was written following a standard format in either English or French, depending on the language of the researchers. All the case studies were then translated into the other language so the entire research team could make use of the data.

### **Test of the Model**

This paper reports how well the preliminary model fits the experiences represented by the case data. Specifically, we investigated how the preliminary model accounts for key environmental influences surrounding the collaboration; for key structural characteristics; for participants' motivations, objectives, and contributions; for the role and effect of technology; for critical success factors; and for key dynamics of the collaboration. Most important, we tried to determine whether the model provides a conceptual structure that is flexible enough to account not only for the differences in the cases, but also the differences in their cultural settings.

Table 2 summarizes our findings on the adequacy of the preliminary model. It lists the main variables of each dimension that the model does and does not account for in the complete set of interviews and documentary evidence. The model failed to fit well with the data in two ways: (1) some variables were identified in the data that were not present in the preliminary model, and (2) some variables were present in the model, but were not discernible from the data. Type 2 variables are presented in the table in *italics* for ease in identification.

### **Discussion**

As Table 2 indicates, the model does fit the data reasonably well for a number of the important variables, but it does not fit some of the cultural aspects, changes in participants' involvement over time, the collaboration structures, critical success factors, individual impacts, or the dynamic elements of the collaboration process.

<b>Table 2. Summary of the fit between the preliminary conceptual model and the case data</b>		
	<b>Model adequately accounts for</b>	<b>Model does not account for</b>
<b>1. Political, social, economic and cultural environment</b>	<ul style="list-style-type: none"> <li>• Political, social, and economic context</li> <li>• Fundamental cultural factors</li> </ul>	<ul style="list-style-type: none"> <li>• The pervasive influence of cultural factors on all other dimensions</li> </ul>
<b>2. Institutional, business and technical environment</b>	<ul style="list-style-type: none"> <li>• Specific legal authority</li> <li>• Absence of specific of legal authority to form the cooperative</li> <li>• Specific legal barriers</li> <li>• Status &amp; nature of technology infrastructure &amp; applications</li> <li>• Nature of a specific business domain</li> <li>• History of issues preceding the project</li> </ul>	<ul style="list-style-type: none"> <li>• Political commitment in lieu of legal authority</li> </ul>
<b>3. Characteristics and objectives of the participants</b>	<ul style="list-style-type: none"> <li>• Characteristics of each type of organizational partner at project start</li> <li>• Motives of each type of organizational partner at project start</li> </ul>	<ul style="list-style-type: none"> <li>• Changes in participant characteristics, roles, and motives over time</li> </ul>
<b>4. The collaboration process</b>	<ul style="list-style-type: none"> <li>• Collaboration-building, problem-solving, and collaboration processes employed</li> <li>• CSFs predicted by research literature</li> <li>• Management philosophy &amp; processes</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Hypothesized stages are not discernible</i></li> <li>• <i>Expected association of specific CSFs with specific stages was not found</i></li> <li>• Other CSFs not predicted by the literature</li> <li>• Learning and adaptation over time</li> <li>• Role of key individual actors re: informal leadership and personal commitment</li> </ul>
<b>5. Modes of collaboration</b>	<ul style="list-style-type: none"> <li>• Governance, risk &amp; resource sharing, authority structures, interorganizational management</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Organizational structure of the collaboration is not discernible</i></li> </ul>
<b>6. Project and collaboration performance</b>	<ul style="list-style-type: none"> <li>• Collaboration expectations and performance from organizational point of view</li> <li>• Service expectations and performance from the point of view of external users</li> </ul>	<ul style="list-style-type: none"> <li>• Personal &amp; professional performance expectations and impacts on participants</li> </ul>

### ***Cultural influences***

The model fits the data adequately for the main factors of the political, social, and economic environment, as well as the next level of environmental factors (legal, technological, and business domain). However, it does not allow us to discern the general political philosophy or the cultural elements that underlie it. Because our model deals with culture only at the macro level (i.e., in Dimension 1), it does not account for its effects on the other dimensions. Unlike the model, the case data demonstrate how culture is evident in every aspect of the projects, embedded in the way people think, perceive, and act. We identified important cultural factors by comparing responses to the same interview questions. For example, we found that leadership is viewed differently in the United States and French-speaking Canada. Although leadership was identified as a critical success factor by interviewees in both places, what they meant by leadership was not the same. The Americans referred to a personal style, skill, or ability to trigger trust among participants, whereas the Canadians referred to the authority attached to the formal position that a leader occupies. Similarly, different cultures assigned different meanings to another key concept, stakeholders. In the French-speaking cases, stakeholders were defined as those involved in operating the service program. Clients or customers were not considered stakeholders because they are external to the collaboration. By contrast, Americans included clients among their most important stakeholders.

### ***Participants' Motivations, Objectives and Contributions***

In this area the preliminary model was quite effective for the initial phase of the projects. It matched well with data about why each partner participated, what they hoped to accomplish, and how they contributed

to the collaboration and its results. However, the preliminary model did not fit well with changes in objectives, motivations and contributions over time. We found in the case data that some participants were originally quite reluctant and joined actively only after a project was well under way. Often, this shift in willingness to participate was triggered by a phenomenon that one interviewee called “me too-ism,” i.e., once the project began to generate benefits for the initial participants, others decided it was safe and desirable to join. In another case, a traditional customer-supplier contractual relationship rapidly evolved into a more collaborative mode in the face of serious technological and policy challenges. In order to reach their common need to overcome those challenges, the partners shared staff, work processes, and offices, revised roles, and engaged in a joint effort to develop an innovative technological and managerial solution. These important developments cannot be accounted for by considering only the objectives and motives of the partners at the beginning of each project.

### ***Structural Characteristics of the Collaboration***

The preliminary model allowed us to capture adequate information about the structure of the individual organizations involved and about the formal agreements among them about roles and responsibilities. However, the model did not always lead us to a coherent picture of the structure of the collaboration efforts themselves. While some of the cases had clearly delineated organizational structures, most tended to be combinations of formal and informal arrangements. These combinations would be quite difficult to describe in an organization chart depicting structure, or a process diagram that outlines the key interactions. The model represents formal agreements well, but not informal relationships and interactions. We regard this as a serious weakness in the preliminary model because the case data show that these informal factors often influenced the performance of the collaboration as much as, or more than, the formal ones.

### ***Critical Success Factors***

Our preliminary model identified specific CSFs and associated them with specific hypothesized stages of the collaboration process. The first problem we encountered with this conceptualization is that the cases do not appear to evolve in predictable stages but evolve in an iterative process of feedback, learning, and change. Moreover, by trying to identify only a specific set of CSFs, we risked ignoring new factors that may be more relevant to our area of study. Fortunately, the open-ended nature of the interview questions allowed interviewees to describe success factors that were not predicted by the literature. For example, in some cases participants emphasized the importance of a mutual “need to succeed.” In one example, that need was based on the desire to maintain or regain the mutual and external credibility of the two participants after a public failure. In another case, this need reflected an acknowledgment by a community of practice that none of their goals would be achieved unless they cooperated informally and without compensation to make initial progress. Other CSFs included the value of networks of personal and professional relationships, and “agreements to disagree” about certain issues whose resolution was not essential to the early success of the collaboration. Others pointed out how voluntary personal leadership, regardless of formal position, led to important progress toward their goals. Willingness to accept risks and skill in managing them for the mutual benefit of all partners constituted another critical success factor in a number of cases.

### ***Key Dynamics of the Collaboration***

The preliminary model is weakest in its treatment of temporal factors and the collaboration process itself. The model’s use of highly structured relationships among key variables was not supported by the interview data. We learned that participants sometimes shifted roles and responsibilities as the projects developed and matured and as their needs changed. In several projects, trust and participation expanded gradually, moving from contract-like arrangements to more equal partnerships. Work practices within the collaborations often began with formal procedures and then either shifted to or added extensive informal communication and problem-solving mechanisms. Participants adjusted their expectations and their relationships as they learned more about their mutual capabilities and needs. For example, in one case the

government agency began its relationship with a private sector participant with the express agreement that the project goals would be achieved without any up front government funding. However, the emergence of unexpected technological and managerial problems made it clear that their project could not succeed on a pay-on-receipt basis. An impasse was broken, and difficult relationships were resolved, when the government agreed to pay some of the funds during development. This was accompanied by significant changes in working patterns and relationships among the staff in both organizations. In short, learning and adaptation clearly took place in these projects, but the model does not prompt us to capture these iterations and adjustments.

## **Conclusions**

As we have seen from this brief review of research findings, the explanatory power of our preliminary model suffers from being too linear. Although it incorporates several influential relationships among dimensions, we learned from the case data that more powerful feedback loops are at work that explain more about the key dynamics of the projects. Although the preliminary model hypothesizes the unfolding of projects in stages, it does not account well for the dynamics of these efforts over time. In most cases we could not discern the discrete and predictable stages that the model contemplates. While the model does prompt us to look for differences in goals and behavior from earlier phases to later ones, it does not lead us to expect the constant learning, iteration, and adaptation that we heard in the interviews about how and why these changes took place.

As one example, the preliminary model views service and collaboration performance as the final outcomes of the collaboration effort, with some interaction between performance and collaboration methods. However, the evidence suggests that performance is strongly related to other dimensions in the model. For example, the case data revealed that early performance influenced the objectives, motivations, and contributions of different stakeholders at different points in time. Many interviewees said that early successes were a critical success factor that encouraged more stakeholders to participate. Another problem with the preliminary model is that collaboration performance and service performance are combined. However, interviewees often considered collaboration performance to be separate from the performance of the project in terms of its service delivery goals. Even projects that had early failures or took a long time to produce service results, were seen as successful collaborations as long as they contributed positively to shared knowledge, professional networks, and communities of practice. All of these findings suggest a need to reconsider both the specifications of and the relationships among the dimensions in our preliminary model. One possible alternative is presented in Figure 2 below.

In this revised model, we acknowledge the pervasive influence of the political, social, economic and cultural environments, as well as the institutional, business and technical environments on these initiatives, by nesting these layers of environment and embedding the collaboration initiative within them. This model better conveys the idea that these environments exert both obvious and subtle influences on collaboration projects, their participants, and their performance.

This new version of the model also illustrates the importance of the dynamic influences among the dimensions. It suggests that the collaboration process influences and is influenced by the players and their expectations, and by the modes and methods of collaboration they choose to use. The collaboration process leads to performance outcomes in terms of both the collaboration itself and the service goals it seeks to meet. These results further influence the players, what tools they choose, and the way they interact. In addition, the feedback arrows shown in this revised model better represent the double-loop learning that took place – the participants not only learned better ways to manage these particular projects, they also learned how to approach collaborative working relationships more generally. This iterative cycle of influences captures the full range of experiences documented in the case studies and suggests the key factors that shape new models of collaboration across programmatic and national boundaries.

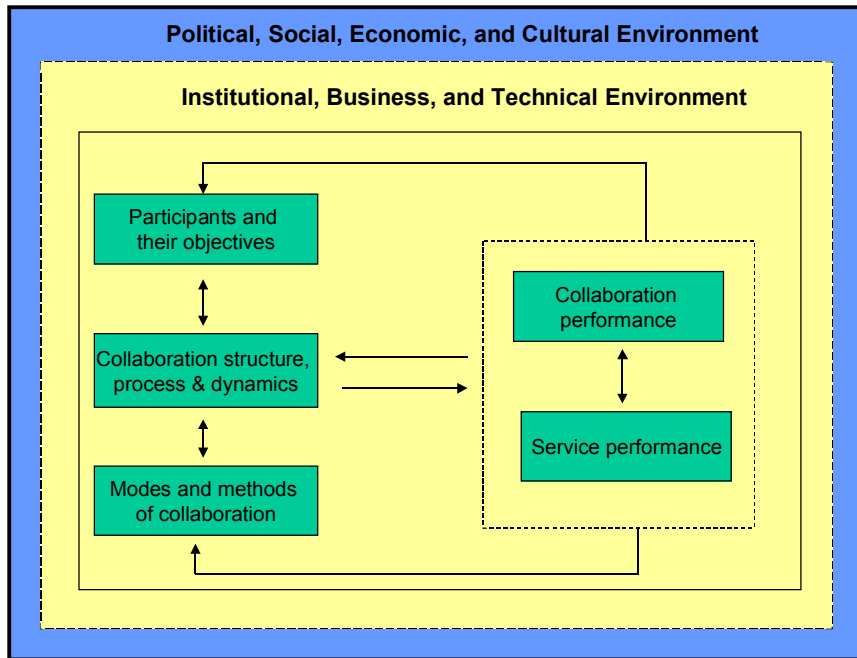


Figure 2. Revised model of service delivery collaborations

Conceiving the collaborations in this way gave us an opportunity to think about their formation and performance in a more holistic way. Looking across all the cases the research team identified four overarching critical success factors: leadership, trust, risk management, and communication and coordination. These four factors were at work in every stage of development. The survival and performance of the collaborations seemed to rest more on these factors than on such elements as structural characteristics, problem focus, technology choice, or financial resources. Leadership took a variety of forms and was exercised both by people in positions of formal authority and by others based on situation and expertise (Fletcher, 2003). Trust took two main forms: public trust in the essential transparency and fairness of the initiative and interpersonal trust in the motives and competence of the participants (Dawes, 2003). Risk management pertained to external risks that come mainly from the socio-economic, political, and technological environments, and internal risks that stem from the nature of the project, the participants, and their relationships (Prefontaine, 2003). Coordination and communication relied on several kinds of information sharing as well as both formal governance and informal problem-solving (Gant, 2003). Further research could assess the ways in which these four factors combine to influence results. This might be carried out in additional case studies, in surveys that operationalize the key variables and allow us to quantify their relationships, or through dynamic system modeling to test hypotheses about the changing effects of these variables at various points in time.

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