

The study reported here is a multinational investigation of collaborative e-government initiatives that involve multiple organizations. The study documented and compared the experiences of collaboration efforts in four countries 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 used this method to document and compare 12 case studies (briefly characterized in Table 1) including six in Canada, five in the US, and two in Western Europe. Three teams of academic field researchers developed the cases in their respective regions.

The cases 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 usually rested on a formal agreement, generally a contract, which specified the purpose of the collaboration, and the sharing or allocation of associated resources, risks, and responsibilities. All of the collaborations were operational at the time of the study (2000-2002).

Table 1. Case Characteristics

Case	Service Focus	Government sponsor	Predominant collaboration type	Service type
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

While the cases share the characteristics noted above, they also represent variation along other dimensions. For instance, they focus on different service types, such as health care, economic development, public access to government information, and taxation. They fall into three main service types: support for back-office governmental operations that underlie service delivery (3 cases), support for public access to a single service (5 cases), or support for public access to a set of related services (4 cases). Where multiple cases were drawn from

a single country, they represent different geographic regions. They also vary in size and duration. In many cases, combinations of public, private, and nonprofit actors took part, but in each individual case one of three main types of collaboration dominated the arrangement. These three types and associated cases are described below.

Public-Public Collaboration (2 cases):

These include both horizontal agreements between agencies or departments at the same level of government, and vertical or intergovernmental alliances across federal, state, and local levels. These collaborations are not the traditional legal frameworks that tie public agencies together through the funding and operation of single programs. They are voluntary relationships often driven by the need to solve mutual problems.

NYS GIS Coordination Program. Hosts a formal data sharing cooperative plus educational and support services to encourage state and local development and use of spatial data. Involves primarily state and local agencies but also universities and private companies.

Service Canada Designed to broadly improve accessibility and quality of services for citizens. Sponsored by the Treasury Board of Canada and built on partnerships with various federal departments, provincial governments, and intermediary groups.

Public-Private Collaboration (8 cases)

Sub-contracting and outsourcing are the most common public-private relationships. However, public-private partnerships (PPP or P3) in the study involved a mutual sharing of resources, risks, and benefits associated with project operations. In these cases, government hands over part of its management responsibilities and potential benefits to the private partner while retaining accountability and enough control to ensure protection of the public interest.

Access Indiana. The official information and transaction portal for the state of Indiana is a public-private partnership using a self-funding strategy to deliver government information and services to citizens and businesses.

Bremen Online. A federally sponsored project to develop electronic government and provide citizens with secure online transactions and payments carried out by a PPP among the Free Hanseatic City of Bremen and regional and national partners from private industry.

Cadastre Reengineering Project. Involves development and installation of information and management systems for Quebec's real property tax program. Overseen by the Ministry of Natural Resources and implemented by the DMR Consulting Group, the project provides technical infrastructure and geospatial reference systems to the provincial government.

FirstGov.gov The official US federal government web portal enabling information access and transactions. Initiated through a public-private partnership and maintained through public-public collaboration, the portal content covers federal and state governments, some local governments, and U.S. territories.

Hotjob.be. A portal for job-seekers and employers implemented by FOREM, a jointly managed PPP for public service in Belgium. Hotjob provides job-seekers and employers access to over 500 job and training sites.

IRS e-File. Provides for electronic filing of personal income tax returns through a partnership that began between the US Internal Revenue Service and H&R Block in 1985 and has since grown to include a large number of private tax preparers and individual and business taxpayers.

Ontario Business Connect. Provides registration services for new businesses at multiple access points. Led by the Ontario Ministry of Consumer and Business Services, the main partners are government departments and agencies involved with new businesses at the provincial and federal levels, IT firms, point-of-service partners, and three wholesalers.

Partners in Change. An initiative to redefine and reorganize the delivery of income assistance and social services provided by the New Brunswick Department of Human Resources Development. Carried out in partnership with Accenture.

Public-Non profit Collaboration (2 cases)

Traditionally, public-nonprofit relationships have been characterized by fee-for-service contracts, especially for health and human services. By contrast, more collaborative relationships are now emerging that embody joint development of service programs in which the public and non profit participants share responsibility for program design, performance, and evaluation.

Ambassadeur Project Provides public education and training in the use of information technology to obtain government information. Led by the Jonquière office of Human Resources Development Canada, the project is mainly a partnership with the six Community Development Assistance Corporations in the Saguenay/St-Jean Lake region.

OneStop Business Registration. a service project sponsored by the British Columbia Ministry of Small Business, Tourism, and Culture involving a network of nonprofit organizations as lead partners plus more than ten partners from the public and private sectors. The service offers kiosk-based one-stop electronic business registration.

The preliminary model

Drawing on the research literature of interorganizational relations and several other fields, the study team constructed a conceptual model that covers macro, meso, and micro levels of analysis of the collaboration projects (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.

Figure 1. Preliminary Model

The first dimension includes factors in the political, social, economic, and cultural environment reflecting the international character of the research project. In order to evaluate the possibility of transferring lessons among countries, it is necessary to identify country-specific factors, such as governmental form and economic characteristics 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, risk avoidance, and time orientation) were also 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).

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. Other research in multi-organizational e-government projects shows that the variability 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 can be difficult in many settings. Mc Caffrey, Faerman and Hart (1995) assert that these difficulties include past experiences, costs, uneven distribution of power, divergent interests, and conflicting incentives and purposes, leadership systems, and practices. In addition, strategic, cultural, and technological differences among the participants may accentuate differences and create difficulties in collaborating. We tried to understand how motivations, similarities, and differences were addressed 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 specific stages of the collaboration process and certain success factors associated with these stages. For example, early successes and positive interactions are important to establishing the interpersonal basis of relationships (Larson 1992; Gulati, 1995; Ring & Van de Ven, 1994) which develop trust and reduces risk aversion (Gulati, 1998). This 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). 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, the processes of negotiation-decision-action-evaluation that take place at each stage of the collaboration project (Grandori & Soda, 1995). These processes are influenced by knowledge sharing (Pardo, et al., 2003) and by the modes of collaboration employed (i.e., Dimension 5).

Dimension 5 includes factors related to collaboration methods, including the different governance schemes adopted (Gulati & Singh, 1998), the nature of risks and benefits, the nature of leadership (Huxham & Vangen, 2000), 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 (Ring & Van de Ven, 1992; Hill & Hellriegel, 1994). Success of the collaboration process is likely to be affected by learning (Simonin, 1997), shared experience (Lambright, 1997), mutual adjustment and consensus building (DeHaven-Smith et al., 1996), and trust relationships (Rousseau et al., 1998). Conversely, the high levels of participation that are desirable for trust-building, may reduce the effectiveness of the collaboration 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. Zeithman et al. (1990), Gerhinger and Herbert (1991) and Provan and Milward (2001) also recommend measuring expectations versus perceptions of service performance. 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 primary method of data collection. For each case, native 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 context and initiation (history, scope, management), to the technology solution used, to the collaboration process (participants, negotiation, objectives, conflicts, strategies), 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 to account for variables that appeared in the data, but were absent from the preliminary model. The codes were applied to the interview transcripts using text analysis software. Each interview transcript was coded separately by two coders and then results compared and discussed. Where differences occurred, the coders reached a consensus decision about the correct codes to use. Each case description was written by the appropriate interviewer(s) following a standard format in either English or French, depending on the language of the researchers. All the case study narratives were then translated into the other language so the entire research team could make use of them.