

## 4. Designing a multidisciplinary research enterprise for Digital Government

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Researchers need to recognize and address a number of barriers that stem from the tenuous relationships between research and practice and from the disciplinary traditions of research itself. Several models offer ideas for designing a research enterprise that reduces these barriers and forges more mutually beneficial connections among disciplines and between practice and research.

### Applied research challenges and opportunities

The needs stated above present many opportunities for applied research, but traditional research models and a historical lack of connection between research and practice are serious obstacles to success.

### Divergent objectives limit communication between researchers and practitioners

First, although academic research can have a significant influence on government practices, the government and research communities have very different value systems that need to be taken into account. Government is risk-averse by design, and research by its nature tries to push us beyond what we already know. Government managers often need quick answers, while researchers tend to take a longer-term view. Practitioners want sound, empirically-grounded advice as they make decisions; they have less interest in lessons learned from retrospective analysis or laboratory experimentation. They welcome objective information, but avoid researchers who seem to have a policy agenda of their own. These different ways of thinking about the world are both valuable and need to be linked in new models for informing and integrating practice and research.

### Research, like government, is organized into specialties

Like government, research has its own specialty structures that organize education, discourse, information sharing, and funding around specific disciplines. These structures focus on and continually expand the depth and sophistication of knowledge within each discipline. However, they also tend to prevent people in one field from seeing the issues in another – even when they are common to both. To meet the needs outlined earlier, the research community must find ways to combine perspectives and disciplines to achieve not only advances in each field, but synergy across them. Many of the issues and opportunities of government in the digital age combine a need for invention, implementation, and evaluation, and this implies a need for the social and information sciences to work together. Studies of program and organizational design, implementation, and performance (the traditional province of social scientists) are needed as much as those aimed at technological design, development, and deployment.

### Research that views government holistically is highly desirable, but complex and expensive

Both traditional forms of federalism and the new demands of devolution exemplify the extraordinary interdependence among public agencies in the conduct of government programs. Similarly, the nonprofit and private sectors are increasingly important actors in the delivery of government services. These intricate interdependencies require a holistic approach to research that accounts for the interactions among levels of government and between the public and private sectors. The integration of complex information systems into even more complex organizational and policy environments is a very poorly understood process that is fraught with risk and prone to failure. The integrative models and rich explanations that would help make these endeavors more successful demand long-term, multi-site studies of real organizations. Sustained access to venues for this kind of research requires trusting, long-term relationships between researchers and government managers, as well as substantial multi-year funding.

### Digital Government is inherently multidisciplinary

Finally, the concept of a Digital Government lies at the intersection of three domains of knowledge: public policy, organizational behavior and management, and information technology. Throughout our history, developments in technology have emerged much faster than the evolution of organizational forms and policy guidelines. Despite their different cadences, these three domains constantly interact with one another, generating many questions and conflicts about what is technically possible, organizationally feasible, and socially desirable. Research that focuses on the intersection of policy, management, and technology is inherently multidisciplinary, complex, and difficult to design and manage, but essential to achieving the goals of Digital Government.

### Existing research models

Past long-range research investments and several existing applied research programs offer models for a robust program of applied Digital Government research.

From about 1975-1990, NSF and private funders supported the Urban Research in Information Systems program (URBIS) at the University of California at Irvine. URBIS looked at IT use in a wide array of municipal government functions, from law enforcement to public works to general fiscal administration, through two major waves of data collection across a whole level of government. Its findings and conclusions constitute a significant portion of our knowledge about the effects of IT on government. One of the largest and longest-running studies of computerization in any sector, URBIS illustrates that studies of this magnitude are both worthwhile and feasible.

Today, the Center for Technology in Government (CTG) at the University at Albany/SUNY conducts applied research projects with New York state and local agencies. The Center leads teams of agency staff, corporate partners, and university faculty in a process of problem definition, stakeholder analysis, prototype development, and cost-performance evaluation. The results help agencies decide whether and how to pursue their IT projects. The same results are generalized to the extent possible and widely disseminated to practitioners in handbooks, presentations, and Web-based tools. Scholarly articles present new knowledge or extend existing models in the literature of public management and information science.

In Quebec, Canada, a not-for-profit organization created by the Provincial Government conducts a similar program of applied research projects. Le Centre Francophone d'Informatisation des Organisations (CEFRIQ) is funded by a combination of government support and corporate membership fees. The projects, which focus on both public and private sector concerns, are commissioned by the CEFRIQ board of directors and conducted by universities throughout Quebec. Practitioner-oriented results include handbooks, diagnostic tools, and education programs offered by CEFRIQ. The university researchers incorporate results into their ongoing research and scholarly publications.

The Program on Strategic Computing and Telecommunications in the Public Sector at Harvard University's John F. Kennedy School of Government conducts leadership workshops and action research involving emerging and existing government programs that focus on such topics as IT innovation in government, performance measurement, and the role of political leadership. The program produces case studies for executive and university education, as well as reports and scholarly articles.