

## Journal Articles and Conference Papers (60)



### Exploring the Influence of Contextual Distances on Transnational Public Sector Knowledge Networks: A Comparative Study of AIRNow-I Shanghai and the Hajj-MDSS Initiatives

Proceedings of the 46th Hawaii International Conference on System Sciences - 2013, 9, 2013

Transnational public sector knowledge networks (TPSKNs) are becoming crucial for addressing global problems in the environment, public health and other areas that require knowledge and information sharing among nations. This paper explores and compares a set of contextual distances that separate network participants and discusses their influence on network success. Based on previous research, we introduce nine contextual distances and compare and discuss their influence on two cases. We conclude with a discussion of the findings and suggestions for future research on knowledge and information sharing across national and cultural boundaries. **[Winner Best Paper Award in eGovernment Track, HICSS46]**

### Identifying Success Factors and Challenges of 311-Driven Service Integration: A Comparative Case Study of NYC311 and Philly311

Proceedings of the 46th Hawaii International Conference on System Sciences - 2013, 9, 2013

A 311 system provides quick and easy access to non-emergency municipal services and information through a consolidated channel. This study explores the operation of 311 contact centers in New York and Philadelphia and identifies critical success factors and challenges of 311-driven service integration. Analyzing the qualitative data from semi-structured interviews with 311 center staff and city government officials, the study presents some key findings. Having the right technology in the right time is identified as a critical technological factor. While the lack of interoperability between a 311 system and departmental legacy systems remains a major technical barrier to connecting a variety of systems, human agents fill the middle ground so that training for qualified agents is crucial for their role. Inter-agency coordination and collaboration is pivotal to creating and updating service level agreements and knowledgebase. However, turf protection raises cross-organizational concerns. The mayor's strong leadership, political champions, and the executive support help resolve interdepartmental conflicts.

### Creating Open Government Ecosystems: A Research and Development Agenda

Future Internet, Vol. 4, No. 4, 23, 2012

In this paper, we propose to view the concept of open government from the perspective of an ecosystem, a metaphor often used by policy makers, scholars, and technology gurus to convey a sense of the interdependent social systems of actors, organizations, material infrastructures, and symbolic resources that can be created in technology-enabled, information-intensive social systems. We use the concept of an ecosystem to provide a framework for considering the outcomes of a workshop organized to generate a research and development agenda for open government. The agenda was produced in discussions among participants from the government (at the federal, state, and local levels), academic and civil sector communities at the Center for Technology in Government (CTG) at the University at Albany, SUNY in April 2011. The paper begins by discussing concepts central to understanding what is meant by an ecosystem and some principles that characterize its functioning. We then apply this metaphor more directly to government, proposing that policymakers engage in strategic ecosystems thinking, which means being guided by the goal of explicitly and purposefully constructing open government ecosystems. From there, we present the research agenda questions essential to the development of this new view of government's interaction with users and organizations. Our goal is to call attention to some of the fundamental ways in which government must change in order to evolve from outdated industrial bureaucratic

forms to information age networked and interdependent systems.

## **Beyond Open Government: Ontologies and Data Architectures to Support Ethical Consumption**

6th International Conference on Theory and Practice of Electronic Governance (ICEGOV2012) , 22-25, 2012

Two important trends on openness are promoting improved accountability from government and private organizations. The case of private transparency finds its roots in consumer and other stakeholder movements. The open government movement in the US is looking for alternatives to “smart disclosure,” which implies providing consumers with better information to make better buying choices. We explore current knowledge on ethical consumption, as well as two influential technological tools to support consumer decisions. Our initial discussion suggests that the use of ontologies and data architectures, together with the appropriate policy environment and governance system, may solve some of the current problems identified.

## **Information Sharing and Financial Market Regulation: Understanding the Capability Gap**

6th International Conference on Theory and Practice of Electronic Governance (ICEGOV2012) , 22-25, 2012

In testimony on April of 2012 before the House Financial Services Committee, U.S. Securities and Exchange Commission (SEC) Chairman, Mary Schapiro, stated that effective information sharing between financial market actors and their regulatory bodies is critical to fulfilling the regulatory obligations of the SEC. The 2008 financial crisis is recognized as a show case for the risks to the stability of the markets that ineffective information sharing among supervisory authorities represents. This paper constitutes a preliminary exploration of the challenges facing financial regulators building on prior research in the computing and information science community (CIS). Current literature as well as data from a recent study of financial market regulation is used to identify key actors in financial market regulation information sharing relationships and to begin to outline the challenges faced in this unique context and the resulting risk if those challenges go unaddressed. A recently developed theoretical framework for cross-boundary information sharing (Garcia et al 2007) is used to present insights about challenges and risks from the literature and the field.

## **Transforming City Government: A Case Study of Philly311**

6th International Conference on Theory and Practice of Electronic Governance (ICEGOV2012) , 22-25, 2012

This paper describes the transformation of a city government led by a 311 program, which provides a consolidated channel for non-emergency services and information. The paper first discusses the concept of “smart city” as a foundation for the examination of the 311 program as a practice of government innovation. The paper then presents the details of the 311 program as it is being instantiated in the City of Philadelphia. In-depth interviews with city government officials and managers responsible for operating the city’s 311 system (Philly311) offer insights into the contributions the system is making to a more efficient, effective, transparent, accountable, and collaborative city government. Performance data provided by Philly311 enables more efficient resource allocation and informed decision making. Philly311 is credited with making the process of service delivery more transparent to the public, and providing traceability of requested services imbues service departments with a sense of accountability. Service level agreements are providing measurable standards of municipal services and are used to support accountability in terms of service status. Regular reviews of service level agreements and content of the system promote interdepartmental collaboration. 311 systems are broadly recognized as powerful tools to engage residents in improving their neighborhoods. Interviews also revealed challenges Philly311 is facing including limited funding impeding further improvements in software, systems, and staffing, and provided some insights into innovative strategies for addressing resource constraints. Institutionalizing interdepartmental collaborations also emerged from the interviews as a critical new capability required for advancing from the initiation stage of Philly311 to the operational, expansive, and sustainable stages. **[Winner of Best Innovations in Practice Paper Award, ICEGOV2012]**

## **A Stakeholder Analysis of Interoperable Data Architecture: The case of I-Choose**

Proceedings of the 13th Annual International Conference on Digital Government Research (dg.o2012) , 7, 2012

This paper presents the challenges associated with developing a data architecture supporting information interoperability in the supply-chain for sustainable food products. We analyze information elicited from experts in

the supply-chain for organic and fair trade coffee to identify relevant stakeholders and the issues and challenges connected with developing an interoperable data architecture. This study assesses the salience of individual stakeholder groups and the challenges based on the stakeholders' attributes in terms of power, legitimacy and urgency. The following five issues/challenges were found to be the most salient, requiring primary focus in developing interoperable data architecture: trust in data, cost to maintain the system, political resistance, oversight and governance, and the cost to consumers in terms of time and effort. In the conclusion we discuss potential future research and practical implications for designing an interoperable data architecture.

## **Full Information Product Pricing Regimes: Policy Implications for U.S.-Mexico Sustainable Commerce**

The Puentes Consortium, 8, 2012

Current trends in making supply chains more transparent and bringing information usually not available to the consumer and other players into the market are changing the ways in which consumers make decisions about the goods and services they buy. One example of these changes is the networks of consumers, producers, and other players in the supply chain sharing value-adding information packages about the social and environmental impacts of the products they exchange, or Full Information Product Pricing (FIPP) Networks. Our current research suggests that these FIPP Networks have the potential to promote market-driven approaches to international trade systems, which may work as a complement to more traditional state-led trade systems, such as the North American Free Trade Agreement (NAFTA), in promoting sustainable trade. We envision that such an approach should involve collaboration among government, supply chain and sustainability experts, industry associations, and consumer organizations sustained by a technological architecture to support interoperability and information sharing. We discuss important trade-offs related to costs and sustainability, privacy, and access to information. The paper finishes with a set of recommendations involving the creation of a governance system to promote this market-driven approach to sustainable international trade.

## **Exploring the Motive for Data Publication in Open Data Initiative: Linking Intention to Action**

Proceedings of the 45th Hawaii International Conference on System Sciences - 2012, 5, 2012

This research study was designed to broaden understanding of the publishing of research datasets by distinguishing between the intention to share and the action of sharing. The data was generated from preliminary survey results conducted by DataONE work groups. The final data used in this paper is based on 587 observations. The analysis results show support for all of the path coefficients of the theoretical model except for the path of perceived self-efficacy, and legal context and policy variables. The intention to share a dataset was found to be a significant determinant in the action of sharing data. Acknowledging the key determinants of intention to publish datasets arguably entails significant policy implications on data sharing.

## **Understanding Smart Cities: An Integrative Framework**

Proceedings of the 45th Hawaii International Conference on System Sciences - 2012, 5, 2012

Making a city "smart" is emerging as a strategy to mitigate the problems generated by the urban population growth and rapid urbanization. Yet little academic research has sparingly discussed the phenomenon. To close the gap in the literature about smart cities and in response to the increasing use of the concept, this paper proposes a framework to understand the concept of smart cities. Based on the exploration of a wide and extensive array of literature from various disciplinary areas we identify eight critical factors of smart city initiatives: management and organization, technology, governance, policy context, people and communities, economy, built infrastructure, and natural environment. These factors form the basis of an integrative framework that can be used to examine how local governments are envisioning smart city initiatives. The framework suggests directions and agendas for smart city research and outlines practical implications for government professionals.

## **Transnational Public Sector Knowledge Networks: Knowledge and Information Sharing in a Multi-Dimensional Context**

Government Information Quarterly, Volume 29, Issue 1, Pages 112-120, (special issue) 2012

Sharing of knowledge, information, and practices across cultural and national boundaries has become a means to address critical global problems. As government agencies increasingly collaborate with international counterparts

on these issues, transnational knowledge and information sharing networks grow in importance as mechanisms for collaboration. This paper explores the nature of Transnational Public Sector Knowledge Networks (TPSKNs) and identifies critical contextual factors that shape their performance. In these networks, each participating organization operates within complex national, organizational, and information contexts. The contextual differences between participants produce distances in culture, politics, intentions, organizational factors, relationships, knowledge, resources, geography, and technology. These distances influence their ability to engage in the processes and interactions that are essential to network performance. The paper concludes with a conceptual dynamic model that accounts for the relationships among these factors which can guide further research in understanding knowledge and information sharing across national and cultural boundaries.

## **I-Choose: Consumer Choice, Digital Government, and Sustainability in North America**

Presented at APPAM Fall Conference 2011, r 3, 2011

In this paper, we address the challenges and opportunities that the new development in ICT poses for governments, and begin to outline some potential solutions. Governments in North America have set explicit goals to increase the environmental sustainability of their infrastructure, promote sustainable local economic development, protect consumer health, promote nutrition, or establish greener, more efficient supply chains. These commitments are real, and substantial, but the information problems found in real markets have, until now, made many of those goals more elusive. This paper presents observations from research sponsored by the National Science Foundation (through its Community-based Interoperable Data Networks Program), the Consejo Nacional de Ciencia y Tecnología (CONACYT-Mexico), and the Canadian and COMEXUS Fulbright Commissions. Our interdisciplinary and multinational research team blends approaches from digital government research, public policy analysis, and system science to investigate new ways of combining traditional regulatory tools with crowd-sourced information from stakeholder networks.

## **Cultivating the Next Generation of International Digital Government Researchers: A Community-Building Experiment**

5th International Conference on Theory and Practice of Electronic Governance (ICEGOV2011), er 26, 2011

Over the last two decades universities and post-secondary education policies have addressed globalization trends by internationalizing curricula and articulating global concern in their missions. This paper presents an evaluation of an international training program for early-career digital government researchers, designed to develop their interest and skill in cross-cultural, multidisciplinary, and practice-oriented research. The program overall appears to stimulate participants' individual creativity, scholarly productivity, and professional networks, while broadening their appreciation for work that investigates internationally important topics and involves not only multidisciplinary but multicultural teams. The survey results also suggest that a short-term (one-week), intensive, immersive, and relatively inexpensive program can have strong and lasting effects on early-career scholars.

## **Smart City as Urban Innovation: Focusing on Management, Policy, and Context**

5th International Conference on Theory and Practice of Electronic Governance (ICEGOV2011) , er 26-28, 2011,

This paper sees a smart city not as a status of how smart a city is but as a city's effort to make itself smart. The connotation of a smart city represents city innovation in management and policy as well as technology. Since the unique context of each city shapes the technological, organizational and policy aspects of that city, a smart city can be considered a contextualized interplay among technological innovation, managerial and organizational innovation, and policy innovation. However, only little research discusses innovation in management and policy while the literature of technology innovation is abundant. This paper aims to fill the research gap by building a comprehensive framework to view the smart city movement as innovation comprised of technology, management and policy. We also discuss inevitable risks from innovation, strategies to innovate while avoiding risks, and contexts underlying innovation and risks.

## **Computing and Information Technology Challenges for 21st Century Financial Market Regulators**

Proceedings of IFIP International Federation for Information Processing 2011 , er 12-16, 2011

This paper reports on a research effort designed to begin to systematically identify the most critical computing and

information technology-related challenges facing financial market regulation activities. Computing and information technology adaptation in financial markets create a paradox. Information technology is needed for effective governing of financial markets, yet advances in information technology and the increasingly complex adaptations of that technology make it more difficult for regulators to have a clear picture of what is actually happening. Drawing on in-depth interviews with professionals from the financial market community, this paper outlines three primary challenges facing regulation efforts: 1) information sharing and integration, 2) mediating interrelationship among financial market constituents, 3) data-driven decision making. The paper concludes with recommendations for future research about the challenges.

## **Conceptualizing Smart City with Dimensions of Technology, People, and Institutions**

Proceedings of the 12th Annual International Conference on Digital Government Research (dg.o 2011), , 2011

This conceptual paper discusses how we can consider a particular city as a smart one, drawing on recent practices to make cities smart. A set of the common multidimensional components underlying the smart city concept and the core factors for a successful smart city initiative is identified by exploring current working definitions of smart city and a diversity of various conceptual relatives similar to smart city. The paper offers strategic principles aligning to the three main dimensions (technology, people, and institutions) of smart city: integration of infrastructures and technology-mediated services, social learning for strengthening human infrastructure, and governance for institutional improvement and citizen engagement.

## **Open Government and E-Government: Democratic Challenges from a Public Value Perspective**

Proceedings of the 12th Annual International Conference on Digital Government Research (dg.o 2011), , 2011

This paper considers open government (OG) within the context of e-government and its broader implications for the future of public administration. It argues that the current US Administration's Open Government Initiative blurs traditional distinctions between e-democracy and e-government by incorporating historically democratic practices, now enabled by emerging technology, within administrative agencies. The paper considers how transparency, participation, and collaboration function as democratic practices in administrative agencies, suggesting that these processes are instrumental attributes of administrative action and decision making, rather than the objective of administrative action, as they appear to be currently treated. It proposes alternatively that planning and assessing OG be addressed within a "public value" framework.

## **Promoting International Digital Government Research Collaboration: An Experiment in Community Building**

Proceedings of the 12th Annual International Conference on Digital Government Research (dg.o 2011), , 2011

Global issues present many opportunities for digital government (DG) researchers to form long-lasting relationships that lead to shared research agendas focused on questions of international importance. The practical feasibility of international DG research partnerships is of interest for both investigators and funders. This paper reports the evaluation of an experiment to create sustainable international digital government research collaborations by providing legitimacy and modest funding within a minimal set of structural and management requirements. Participants rated the experience as highly positive, contributing substantially to their research productivity, community building, international awareness, and professional growth. While the working group strategy is not a substitute for direct research support, it is a readily replicable method to build international research communities, and to stimulate and enhance their scholarly work.

## **Knowledge and Information Sharing in Transnational Knowledge Networks: A Contextual Perspective**

Proceedings of the 44th Hawaii International Conference on System Sciences - 2011, y 15, 2011

As government agencies increasingly collaborate with international counterparts on critical global issues, transnational knowledge and information sharing grow in importance. This paper explores the nature of Transnational Knowledge Networks (TKNs) and identifies critical contextual factors that hinder or enhance their performance. We explore a set of contextual distances that separate the participating organizations and discuss

their potential influence on the success of TKNs. The paper concludes with a conceptual framework and a set of testable hypotheses to guide the next phase of our research in understanding knowledge and information sharing across national and cultural boundaries.

## **Conceptualizing Knowledge and Information Sharing in Transnational Knowledge Networks**

ICEGOV2010, 25-28, 2010,

In the era of globalization, sharing of knowledge, information, and practices across cultural and national boundaries has been recognized as a key for handling the most critical problems. Consequently, the number of Transnational Knowledge Networks (TKNs) that aim to address critical global issues and problems continue to increase. As exchanging knowledge and information represent core components of these networks, this paper provides the foundations to study knowledge and information sharing in these emerging organizations. The paper starts by describing the structures, goals, and objectives of TKNs and presents a simplified conceptual model to demonstrate the main characteristics of these networks. Then, we review the pertinent e-government literature and argue the need to include findings from two additional research areas, cross-boundary information sharing and knowledge transfer. The paper discusses the ways in which contributions from these areas can enhance our understanding of the complexity surrounding the exchange process in these networks. The paper concludes with a summary of the elements of complexity and an overview of future research to empirically test these concepts.

## **Stewardship and Usefulness: Policy Principles for Information-based Transparency**

Government Information Quarterly, Volume 27, Issue 4, Pages 377-383., 2010

This paper is a conceptual and empirical exploration of the tensions inherent in the drive to increase openness and transparency in government by means of information access and dissemination. The idea that democratic governments should be open, accessible, and transparent to the governed is receiving renewed emphasis through the combination of government reform efforts and the emergence of advanced technology tools for information access. Although these initiatives are young, they already exhibit daunting complexity, with significant management, technology, and policy challenges. A variety of traditional and emerging information policy frameworks offer guidance, while diverse research perspectives highlight both challenges to and opportunities for promoting information-based transparency. Early experience with Data.gov, a central component of the U.S. Open Government Initiative, suggests that two fundamental information policy principles, stewardship and usefulness, can help guide and evaluate efforts to achieve information-based transparency.

## **Information Strategies for Open Government: Challenges and Prospects for Deriving Public Value from Government Transparency**

Electronic Government: Lecture Notes in Computer Science, M.A. Wimmer et al. (Eds.): , EGOV 2010, LNCS 6228, pp. 50–60,

Information-based strategies to promote open government offer many opportunities to generate social and economic value through public use of government information. Public and political expectations for the success of these strategies are high but they confront the challenges of making government data “fit for use” by a variety of users outside the government. Research findings from a study of public use of land records demonstrates the inherent complexity of public use of government information, while research from information science, management information systems, and e-government offer perspectives on key factors associated with effective information use. The paper concludes with practical recommendations for information-based open government strategies as well as areas for future research.

## **Information and Transparency: Learning from Recovery Act Reporting Experiences.**

(Forthcoming) Proceedings of the Eleventh Annual International Conference on Digital Government Research: (dg.o 2010), May 2010, pp.1-10

The American Recovery and Reinvestment Act (2009) promised strict accounting of all funds spent and the publication of that information to the public in relative real-time. The federal requirements for reporting Recovery

Act funds relied heavily on the ability of recipients, primarily state governments, to capture, manage, and deliver the data required. This paper presents the experience of one state agency, in particular how they leveraged the reporting mandate to improve real-time informational capability for transparency and openness. The case, together with insights from a Recovery Act Knowledge Network, provides five recommendations to guide decision makers who seek to increase the capability of government to use information to further transparency agendas.

## **Issues and Strategies for Conducting Cross-National E- Government Comparative Research**

3rd International Conference on Theory and Practice of Electronic Governance (ICEGOV2009), Bogotá, Colombia, r 10-13, 2009

This paper addresses and discusses the central issues that researchers have to deal with when conducting cross-national comparative research within the area of e-government. The issues are classified into two main categories. The first category represents the issues and challenges that may affect the reliability and the quality of data being collected for comparative studies. The second category represents the remaining issues related to the research objective, the selection process of countries and the analytical strategy. The paper discusses the major alternatives of these issues and provides a rationale for the selection process among them. The paper concludes by discussing the interrelations between the identified issues and clarifying the main decisions that researchers have to take when conducting cross-national comparative research.

## **Clarity of Roles and Responsibilities in Government Cross-Boundary Information Sharing Initiatives: Identifying the Determinants**

Proceedings of 5th International Conference on e-Government, Oct 2009, pp.148-155

Research has shown that clarity of roles and responsibilities (CRR) influences the effectiveness and performance of individual organizations as well as cross-boundary or interorganizational group efforts. Role clarity increases job satisfaction, commitment, and involvement and reduces tension and anxiety among organizational members, which results in lower staff turnover rates in organizations. In addition, CRR has been found to enable other important determinants of success in cross-boundary information sharing (CBI), such as building trust among members of CBI initiatives. However, few studies attempt to understand the determinants of CRR in a CBI initiative. Using data from semi-structured interviews from eight U.S. state and local government public health and criminal justice information sharing cases, this paper seeks to fill this gap by examining these determinants.

## **From “Need to Know” to “Need to Share”: Tangled Problems, Information Boundaries, and the Building of Public Sector Knowledge Networks**

This is an electronic version of an Article published in Public Administration Review, Volume 69, Issue 3 (p 392-402), © 2009 the American Society for Public Administration, May 2009

Public managers confront tangled problems every day across all policy domains and levels of government, and they need to be ready to deal with them through networked forms of engagement and action. Knowledge networking—the ability to create public sector knowledge networks (PSKNs) suitable for addressing these problems—requires a certain set of skills and attitudes, as well as interpersonal and other kinds of trust. Network development processes that emphasize early, open dialogue and examination of assumptions and expectations do better than those that rush forward with a fixed IT solution in mind. Those that adapt and learn from experience are more likely to succeed in achieving their substantive project and networking goals. Finally, to be sustainable as organizational forms, knowledge networks need some legal foundation, access to resources, supportive policies, and innovative forms of leadership.

## **Information Sharing at National Borders: Extending the Utility of Border Theory**

Proceedings of the 42nd Hawaii International Conference on System Sciences - 2009, y 15, 2009

Research has identified the potential and challenges of information sharing in government settings mostly within the context of a single country. The challenges facing inter-governmental information exchanges that take place across national border governments, however, are thought to be different. To date, research has failed to provide theoretical guidance in understanding the complexities that the cross border environment brings to information sharing initiatives. This paper brings together Brunet- Jailly's theory of borders [10] and definitions of crossboundary information sharing from Gil-Garcia et al. [39] to develop a framework that incorporates the

information sharing and technology dimension with the economic, political and cultural contextual factors impacting border regions. This study is an initial step toward understanding the challenges that the border environment brings to information sharing initiatives. Future research is necessary to empirically test the utility of the proposed theory as a tool for understanding this new area of both practical and theoretical importance.

## **Collaborative Governance and Cross-Boundary Information Sharing: Envisioning a Networked and IT-Enabled Public Administration**

Paper prepared for presentation at the Minnowbrook III Conference, Lake Placid, New York, September 5-7, 2008, er 5-7, 2008

Governments around the world are moving toward a more global perspective in their efforts to address complex social, political, and economic issues. New requirements for international cross-boundary collaboration, driven by this global view, demand a new understanding about how individual nations respond to public problems and how nations work together in response to transnational problems. In addition, new forms of government enabled by information technologies and made possible through new models of collaboration are emerging. The future of public administration is clearly linked to the development and management of new forms of collaborative governance and the use of information technologies. Globalization is also contributing to the internationalization of the public sector, in which cross-boundary collaboration and information sharing will happen not only within a country, but between nations. This paper contributes to the exchange of knowledge about the future of public administration by presenting a view that considers important trends in public management and public service around the world. As a backdrop we first present a discussion about the emergence in public administration toward post-bureaucratic organizations and interorganizational networks. E-government and cross boundary information sharing are then introduced as part of the new context of public administration. We then draw the focus back to the importance of collaboration and information sharing in transnational public problems and international cooperation and characterize the need for new capability in working across the boundaries of organizations, governments, regions, and nations. Finally, drawing on this discussion we outline four topics of critical importance for inclusion in the public administration classroom to fully prepare students to work in the government of the 21st Century; Post-Bureaucracy and Organizational Networks, Information Technologies and Inter-organizational Information Integration, Collaborative Governance and Interoperability: Creating policy, management, and technology capability, and Transnational Problems and the Internationalization of Public Administration. The new generation of public administrators must understand the importance of collaborative governance, information technologies, and the internationalization of complex social problems for the public administration of the twenty first century.

## **Governance structures in cross-boundary information sharing: Lessons from state and local criminal justice initiatives**

Proceedings of the Forty-First Annual Hawaii International Conference on System Sciences (HICSS 2008), Jan 2008, p.211

Governments are increasingly using collaborative, cross-boundary strategies to face complex social problems. Many of these cross-boundary initiatives have at their core the use, and in many cases, the sharing of information and communication technologies. In fact, government managers and researchers alike are now recognizing the value and great opportunities offered by cross-boundary information sharing, in particular. Current research has identified important factors that affect these cross-boundary information sharing initiatives. Governance structures are among those factors found to be important in cross-boundary information sharing. However, there is little research about the determinants of an effective governance structure in these multi-organizational settings. Based on semistructured interviews with participants in four state and local government criminal justice initiatives, this paper systematically identifies the determinants of governance structures for cross-boundary information sharing initiatives. By doing so, this study contributes to theory, but also supports the development of more specific guidelines for public managers and other individuals involved in crossboundary information sharing.

## **Informal leadership and networks: Lessons from the response to the West Nile Virus outbreak in North America**

Paper presented at the eChallenges e-2007 Conference, The Hague, Netherlands, Oct 2007

Sharing information across organizational boundaries in support of a governmental response to crises requires intergovernmental collaboration and information sharing. Examining these efforts provides an opportunity to

explore questions about the role of various actors in such response efforts; in particular, informal leaders. This paper, based on a comparative case analysis of the response to West Nile virus (WNV) in two US states, New York and Colorado, extends what is known about leadership by providing new understanding about how informal leadership affects collaborative information sharing. The case analysis contributes to current knowledge about government leadership in complex networked environments such as a public health crisis. A set of propositions drawn from the analysis provides a preliminary model of the mechanisms through which informal leadership affects intergovernmental information sharing in crisis response. The findings also provide lessons about the role informal leaders play in cross-boundary information sharing and, consequently, in generating government capacity to respond to complex public problems as well as the foundation for a set of recommendations for practitioners.

## **Government leadership in multi-sector IT-enabled networks: Lessons from the response to the West Nile Virus outbreak**

Paper presented at “Leading the Future of the Public Sector” – The Third Transatlantic Dialogue, Newark, DE, Jun 2007

Government leaders at all levels are realizing that sharing information across organizational boundaries is essential to effectively respond to the most pressing public problems facing governments. A public health crisis, such as the outbreak of the West Nile virus in the United States, represents one of these pressing public problems. Sharing information across organizational boundaries in support of a governmental response required intergovernmental and multi-sectoral collaboration and information sharing. Examining these efforts provides an opportunity to explore questions about various actors in such response efforts; in particular, executives and informal leaders. This paper, based on a comparative case analysis of the response to West Nile virus (WNV) in two US states, New York and Colorado, extends what is known about leadership by providing new understanding about the mechanisms through which executive involvement, and formal authority, informal leadership affect multi-sector collaborative information sharing. The case analysis contributes to current knowledge about government leadership in complex, multi-sectoral network environments such as a public health crisis. A set of propositions drawn from the analysis provide a preliminary model of the mechanisms through which leadership variables affect intergovernmental and multi-sector information sharing in crisis response. The findings provide new insight for practitioners about the mechanisms through which executives and informal leaders influence cross-boundary information sharing and ultimately the capability of government organizations to respond to complex public problems.

## **Emergence of the governance structure for information integration across governmental agencies: A system dynamics approach**

Proceedings of the Eighth Annual International Conference on Digital Government Research: Bridging Disciplines & Domains (dg.o 2007), May 2007, pp.47-56

The purpose of this paper is to describe a dynamic theory of the socio-technical processes involved in the definition of an Integration Information problem in New York State (NYS). In April 2003, the Criminal Justice Information Technology (CJIT) group of NYS was tasked with developing a framework to give users of criminal justice data and information systems “one-stop shopping” access to information needed to accomplish their mission. CJIT collaborated with the Center for Technology in Government (CTG) for an eight-month period during 2003 to accomplish this task. The theory consists of a system dynamics model for understanding the dynamics of the collaboration involved in the problem definition stage of a project. The model was developed in facilitated group modeling sessions with the CTG team. The model is capable to generate interesting scenarios that show the importance of social accumulations in project management. Moreover, the model illustrates a powerful way to use modeling and simulation as theory-building tools.

## **From Agency to Structure: Analysis of an Episode in a Facilitation Process**

Human Relations, Volume 59, Number 4, Mar 2007, pp 533–565

In recent publications in organizational communication, the phenomenon of nonhuman agency has been highlighted as a key element whose recognition might allow researchers to better account for the nature and functioning of organizations. This approach consists of showing that the roles machines, tools, documents, architectural elements, and artifacts more generally play in collectives tend to be neglected in social sciences in general and organizational studies in particular, and that recognizing the active contribution of these elements

might help us solve both theoretical and analytical problems.

## **Authority and Leadership Patterns in Public Sector Knowledge Networks**

The American Review of Public Administration, Volume 37, Number 1, 007, pp 91-113

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

## **Understanding Context through a Comprehensive Prototyping Experience: A Testbed Research Strategy for Emerging Technologies**

Proceedings of the 40th Annual Hawaii International Conference on System Sciences (CD-ROM), January 3-6, 2007, Computer Society Press, Jan 2007, Ten pages

Information and Communication Technologies (ICTs) are rapidly changing and new technologies, processes, and skills are constantly emerging. An important challenge for the research community is to gain knowledge about these emergent technologies in specific contexts, sometimes before they are actually implemented. This paper draws on our experience in the use of comprehensive prototyping as a methodology for building understanding of emerging technologies in new contexts. A Testbed research strategy combines various prototyping, business analysis, team work, and training techniques to understand the specific characteristics of a technology and the context in which it is going to be embedded. The paper presents three cases of Testbed research approaches developed within a 10 year period and presents some insights based on those experiences to inform the efforts of both practitioners and researchers.

## **Challenges And Strategies for Conducting International Public Management Research**

Administration & Society, Vol. 38, No. 5, Nov 2006, pp 596-622

Cross-cultural management research is a valuable but complex and error-prone endeavor. The main challenges the authors encountered in conducting a multinational research project included nonequivalence of key concepts, cultural stereotypes, assumptions of universality, and difficulties in comparative analysis. The authors identified crucial questions that need to be asked at each stage of the research for it to be both reliable and valid. These questions address such pitfalls as the importance of focusing on culture as an independent variable, the cultural dynamics of the research team, and the importance of translation and of finding culturally equivalent definitions of key concepts.

## **Measuring Return on Government IT Investments**

Proceedings of the 13th European Conference on Information Technology Evaluation, Genoa Italy, 28-29 September 2006, Oct 2006, Thirteen pages

Based on findings from CTG's Advancing Return on Investment Analysis for Government IT project this paper discusses the similarities and differences of approaches, models, and methodologies developed and utilized for measuring ROI in IT investment, particularly in the public sector. The paper also provides a descriptive data analysis of trends in IT investments in the United States.

## **Multi-method approaches to understanding the complexity of e-government**

International Journal on Computers, Systems and Signals, Volume 7, Number 2, Oct 2006, pp. 3-17

Electronic government is a complex phenomenon which involves technical, organizational, institutional and

environmental aspects. Researchers from different disciplines are increasingly finding that using multiple methods can help to deal with complexity and obtain more comprehensive explanations. This paper argues that multi-method approaches can be useful for e-government research. A set of advantages and challenges to multi-method approaches are introduced and then used to frame a case analysis. Two case studies involving multi-method approaches to e-government research are presented to illustrate strategies for responding to implementation challenges in both large-scale and small-scale projects. This case analysis contributes to the discussion about multi-method research designs and their role in digital government research. Insights into management strategies specifically designed to respond to the digital government context and the adoption of relevant methodologies drawn from the experiences of the authors are provided.

## **Building response capacity through cross-boundary information sharing: The critical role of trust**

Paper presented at the eChallenges e-2006 Conference, Barcelona, Spain, Oct 2006

Governments around the world are increasingly turning to information sharing and integration to help solve problems in a wide range of programs and policy areas. These complex interorganizational efforts face not only the technical challenges of many information technology initiatives, but also the difficulties derived from interacting among multiple and diverse organizations. Trust has been identified as one the most important organizational factors for cross-boundary information sharing and integration. However, more research is needed regarding the determinants of trust building in this multi-organizational contexts. This paper highlights the relevant role of trust in cross-boundary information sharing initiatives and provides evidence about three of its most important determinants.

## **The Effect of Organizational/ Technological Factors and the Nature of Knowledge on Knowledge Sharing**

Proceedings of the Thirty-Ninth Annual Hawaii International Conference on System Sciences (CD-ROM), January 4-7,2006, Computer Society Press, Feb 2006, Ten pages

This study investigates the dynamics of a knowledge sharing effort in New York State government that involved multiple organizations, divisions, and geographically separated offices in the development of the Multi-Purpose Access for Customer Relations & Operational Support System.

## **Can Government be a Good eBay? The Use of Online Auctions in the Sale of Surplus Property**

Proceedings of the Thirty-Ninth Annual Hawaii International Conference on System Sciences (CD-ROM), January 4-7,2006, Computer Society Press, Jan 2006, Eight pages

E-commerce, and online auctions in particular, represent important examples of how information and communication technologies have been employed by public organizations to gain benefits in both efficiency and effectiveness. In this article, we discuss the three-year experience gained by New York State in the use of online auctions for the sale of surplus inventory and property.

## **Enacting State Websites: A Mixed Method Study Exploring E-Government Success in Multi-Organizational Settings**

Proceedings of the Thirty-Ninth Annual Hawaii International Conference on System Sciences (CD-ROM), January 4-7,2006, Computer Society Press, Jan 2006, Ten pages

E-government is increasingly been used for government administrative reform. In fact, spending in e-government initiatives continues to rise and, among these projects, Internet-based applications are increasingly important. Using a nested research design, this study explores the complex relationships among the relative success of state websites and certain organizational, institutional, and contextual factors.

## **Learning about Interoperability for Emergency Response: Geographic Information Technologies and the World Trade Center Crisis**

Proceedings of the Thirty-Ninth Annual Hawaii International Conference on System Sciences (CD-ROM), January

4-7,2006, Computer Society Press, Jan 2006, Ten pages

Using structuration theory, this paper argues that the World Trade Center crisis was a catalyst for a change in the conceptualization of GIT for emergency response and, consequently, much was learned about interoperability and inter-organizational geographic information systems.

## **Multi-Method Approaches to Digital Government Research: Value Lessons and Implementation Challenges**

Proceedings of the Thirty-Ninth Annual Hawaii International Conference on System Sciences (CD-ROM), January 4-7,2006, Computer Society Press, Jan 2006, p.67a

Digital government is a complex organizational and social phenomenon. It involves technical, organizational, and policy elements, as well as their complex and recursive interactions. Multi-method approaches have been shown as capable of presenting more comprehensive explanations of complex situations. This paper argues that multi-method approaches are valuable alternatives for e-government research.

## **Understanding the Complexity of E-Government: Multi-method Approaches to Social Phenomena**

Paper presented at the 66th Annual Conference of the American Society for Public Administration, Milwaukee, WI, Oct 2005, Eleven pages

This paper contributes to the ongoing debate about multi-method approaches to studying social phenomena; in this contribution e-government is the social phenomenon of interest. A set of advantages and challenges to multi-method approaches are introduced and then used to frame a case analysis. Two case studies involving multi-method approaches to e-government research are presented to illustrate strategies for responding to implementation challenges in both large-scale and small-scale projects. The case discussion provides new insight into how the challenges to multi-method approaches can be managed.

## **Interorganizational Information Integration in the Criminal Justice Enterprise: Preliminary Lessons from State and County Initiatives**

Proceedings of the Thirty-Eighth Annual Hawaii International Conference on System Sciences (HICSS 2005), Jan 2005

Traditional governmental structures have organized the capture, use, and management of information along agency lines. These "information silos" are not very useful in a dynamic environment. Information integration is considered one of the most significant ways to change the structure and function of public organizations. It has the potential to support the transformation of organizational structures and communication channels between and among multiple agencies working in different locations. This article contributes to this knowledge-building effort by examining the factors that influenced the success of selected criminal justice integration initiatives. Useful integration strategies are also identified.

## **Criminal Justice culture in the United States: A context for understanding aspects of organizational change**

Paper presented at the National Conference of Hungarian Psychological Association (PSZICHOLOGIA 2004), Debrecen, Hungary, Oct 2004

As statistics show, violent crime is more prevalent in the US than in Hungary. Consequently, U.S. law enforcement, and a wide range of criminal justice agencies, are seen as an important part of government. These agencies embody characteristics that make them similar to and different from their counterparts in other areas of government. The research reported on here unveils some of these characteristics as it looks at interactions among criminal justice agencies in their efforts to develop structures within which to share and integrate information across organizational boundaries in order to reduce crimes.

## **Emergence of the governance structure for information integration across governmental agencies: A system dynamics approach**

Proceedings of the Twenty-Second International Conference of the System Dynamics Society, Oct 2004,

pp.82-83

The purpose of this paper is to describe a dynamic theory of the socio-technical processes involved in the definition of an Integration Information problem in New York State (NYS). In April 2003, the Criminal Justice Information Technology (CJIT) group of NYS was tasked with developing a framework to fulfill the goal of giving users of criminal justice data and information systems "one-stop shopping" access to the information needed to accomplish their mission. The research team of the Center for Technology in Government (CTG) collaborated with the CJIT group for an eight-month period during 2003 to accomplish this task. The CJIT-CTG team went through a series of conversations to specify the business problem and its context, and to identify feasible solutions and alternatives. This paper reports on a system dynamics model for understanding the dynamics of the socio-technical processes that took place during this project. This model building effort is looking for the development of a theory of interorganizational collaboration. The model is being developed in facilitated group model building (GMB) sessions with the team at CTG. Although the model presented in this paper is still preliminary, the model is capable to generate interesting scenarios with reasonable changes in the initial values of some parameters. Moreover, the model illustrates a powerful way to use group model building and simulation as theory-building tools.

### **Scripts for interrupted group model building: Lessons from modeling the emergence of governance structures for information integration across governmental agencies**

Proceedings of the Twenty-Second International Conference of the System Dynamics Society, Oct 2004, pp.83-84

The system dynamics group at Albany has been developing approaches to decision conferencing using a combination of group facilitation techniques linked to projected computer models in the room for more than 20 years. Over the years, the group has developed a series of pieces of small group processes to build system dynamics models with groups, i.e. scripts. The Group Model Building (GMB) process reported here has several characteristics that make it different from most other experiences in the group. While the common setting involves managers interested in tackling a specific problem, this work involves a research team interested in building theory about the complexity of intergovernmental information integration. Additionally, the reported GMB process took place in small sessions of two to three hours, while the common practice at Albany involves intensive one or two-day meetings. In this way, the paper will include general thoughts about the implications of these differences for the GMB process.

### **Modeling the social and technical processes of interorganizational information integration**

Proceedings of the Thirty-Seventh Annual Hawaii International Conference on System Sciences (HICSS 2004), Jan 2004, p. 50120.1

Government leaders and IT executives increasingly recognize that interorganizational information integration (III) is a critical and complex process. Due to the need for integrated information at all levels of government, interorganizational information integration can no longer be pursued through ad hoc approaches that primarily rely on intuitive understandings of the way government operates. This paper presents an effort currently underway to model the social and technical processes of interorganizational information integration to improve our understanding of information system development and of interorganizational collaboration. This research seeks to enhance both the conceptual and practical models of III by building new understanding of the interaction among the social and technical processes in interorganizational information integration.

### **Designing electronic government information access programs: a holistic approach**

Government Information Quarterly, r 13, 2003

That electronic government information repositories are growing in number, use, and diversity is one manifestation of the emergence of e-government. These information-centered programs both shape and respond to user demand for electronic government information as computer-mediated user access has displaced traditional staff-mediated access. These programs are no longer concentrated in statistical agencies but increasingly are offered by a wide array of mission-driven operating agencies to complement their other services. This study identified the design dimensions of electronic information access programs by examining mature

existing programs. These dimensions address users, uses, organizational capabilities, data characteristics, and technology. The study then explored the application and interdependence of these dimensions in three efforts to design and develop new access programs. The study produced an empirically based, testable model of observable dimensions that shape the cost, complexity, and potential performance of these programs. In addition, the article offers government managers some insight into the practical implications they will face in designing and operating electronic information access programs.

## **Understanding New Models of Collaboration for Delivering Government Services**

Communications of the ACM, Volume 46, Number 1, 2003, pp 40-42

More and more government agencies are creating collaborative relationships to improve services they provide. This article presents a summary of an international research project that is studying eleven collaborative partnerships developed to deliver government information.

## **Electronic Government: A Vision of the Future that is Already Here**

Syracuse Law Review, Volume 52, Number 4, , 1243-1251

Though they may be going unnoticed, e-government initiatives are changing the way that the public sector works. This article introduces a four-faceted vision of e-government and describes some of the ways that it is already changing government.

## **Implications of Legal and Organizational Issues for Urban Digital Government Development**

Government Information Quarterly, Volume 18, , 269-278

Legal and organizational issues converge when developing digital government in large urban settings. This paper contends that this convergence is a powerful determinant of how these projects develop and how likely they are to succeed.

## **Realizing the Promise of Digital Government**

IMP Magazine, 2000

Many of us have already experienced the potential of the Web to change our relationships with other individuals, businesses, and now government. This article discusses the transformation needed before we can realize the promises of electronic government.

## **The Internet, the State Library, and the Implementation of Statewide Information Policy**

Journal of Global Information Management, Volume 7, Number 4, -December 1999, pp 27-33

Geographic Information Systems (GIS) are used by government, researchers, and businesses to support a wide range of activities. This article documents the implementation of an Internet-based GIS Clearinghouse in New York State, and highlights the role of the State Library as a critical implementer and value-added facilitator.

## **Four Realities of IT Innovation in Government**

The Public Manager, Volume 28, Number 1, 1999

Throughout CTG's partnership projects, there are four realities that stand out as success factors for IT innovation. This article presents the four recurring factors that we have encountered working on dozens of projects with hundreds of government individuals and organizations.

## **Models for Action: Developing Practical Approaches to Electronic Records Management and Preservation**

Bulletin of the American Society for Information Science and Technology, Volume 23, Number 5, ly 1997

Organizations often lack adequate tools to manage the growing number and variety of electronic records. This article presents a set of practical tools that can help government agencies manage the records that are electronically created, maintained, and accessed.

### **Building a state government digital preservation community: Lessons on interorganizational collaboration.**

Proceedings of the 7th Annual International Conference on Digital Government Research, USA, 277-284, , Eight pages

Based on the findings of 2005 Library of Congress workshops and previous efforts on digital preservation, this paper discusses the challenges and opportunities regarding interorganizational collaboration and community building for digital preservation of state government information.

### **Challenges of Treating Information as a Public Resource: The Case of Parcel Data**

Proceedings of the Thirty-Ninth Annual Hawaii International Conference on System Sciences (CD-ROM), January 4-7,2006, Computer Society Press, , Ten pages

Land parcels are the foundation for many aspects of public and community life. This report presents the findings of a study of information about land parcels in New York State. It identifies stakeholders and their interests as well as the needs and issues associated with the uses of parcel data in the public, private, and nonprofit sectors.