US-European Union Collaboration on Digital Government Research: Developing New Models

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ABSTRACT

This paper reports highlights of a current project exploring international collaboration on digital government research. The project seeks models and lessons for encouraging and developing joint US-European Union research projects in information technology generally, and also with specific focus on government. The collaborating projects all involve digital government themes: an NSF-ITR funded project on interorganizational information integration in US state governments, a project on use of IT in urban regeneration in Manchester, UK, and one on the introduction and assessment of open sources software in local governments, housed on Bolzano, Italy.

General Terms

Management, Experimentation,

Keywords

Digital Government, research collaboration, international, modeling.

1. INTRODUCTION

As a way to support expanded collaboration among IT researchers, the National Science Foundation and European Union IST program officials began some new initiatives in 2004. In one of these initiatives NSF provided supplemental funds for current projects funded under the ITR Program to establish collaboration with EU-funded work. One such ITR project, studying interorganizational information integration in government, was underway at the Center for Technology in Government (University at Albany).[1] The investigators in that project found two IST-funded projects that involved the same research theme, the IntelCities and COSPA projects, described below. The investigators from those IST projects agreed to collaborate and the supplemental funding was provided. This paper reports on the initial phase of that collaboration; the activity is underway and the funded portion of the work will continue into October, 2005.

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[1] NSF Grant Number: ITR-0205152. Modeling the Social and Technical Processes of Interorganizational Information Integration.

2. JOINT PROJECT DESCRIPTION

Two EU-IST funded projects and an ITR research project at the Center for Technology in Government (University at Albany) have commonalties in their research that provides a valuable opportunity for collaboration. The EU projects are IntelCities Work Package 5 on IT for urban regeneration in East Manchester and the COSPA project on creating and assessing open standards and open source software for government. The ITR project at CTG is modeling information integration processes in justice and health agencies in the US. Research at each venue focuses on a core problem of information technology research: How does IT innovation occur in complex, multi-organizational settings? This is a central question for research on the social and technical processes of IT development in both the public and private sectors. It is also central to improving government performance through IT innovations.

Multi-national collaborative research enhances the ability to address this question The collaboration will be used to test the validity of models developed for one setting and issue context in other culturally and technically diverse settings and issue contexts. The new insights and tests resulting will enrich the theory building possibilities for all participants. The improved models of IT development and adoption will update understanding of these key phenomena and contribute to improving government performance.

Moreover, the collaboration supports testing and improvement of methods for modeling the dynamics of IT innovation and technology development. All three sites are using various forms of modeling to better understand IT innovation and implementation, including some form of system dynamics modeling as part of their research design. CTG and Manchester are using more soft systems methods while the COSPA methods are more quantitative. The results will be new empirical findings about IT innovation in government, new theory about the core processes involved, and enhanced modeling methods for these and similar processes.

The Center received supplemental funding from the NSF ITR program for two small, research-focused workshops on methods for modeling and how to support such complex government IT

innovation processes. The current collaboration includes the first workshop held in Albany (March 21-24, 2005) and the second planned for June 27-28 in Manchester (University of Salford). These multi-national research workshops offer a rich opportunity to experiment with, examine, and extend methods for the design and management of geographically dispersed cross-cultural research. The difficulties of distance and culture are major impediments to shared research programs. For example, attention to early group formation in face-to-face meetings will establish familiarity among researchers and build working relationships. These factors are generally regarded as a necessary foundation for working virtually and electronically.

The workshop designs provide opportunities to: (1) share knowledge and further develop modeling and innovation support methods, (2) test exiting models in new settings, and (3) initiate collaborative writing and publication efforts related to these modeling efforts. These experiences contribute to identifying and creating new research management methods that can be used regardless of discipline or research focus. The first workshop focused primarily on the information integration and sharing themes in the three projects. The second workshop will focus on models of IT support for urban regeneration developed there and methods for assessment risk and effectiveness in multi-organizational Government IT projects. In addition, the researchers from this collaborative project will join those from other NSF ITR-funded collaborations in a final workshop to beheld at the eChallenges conference in Ljubljana, Slovenia in Oct. 2005.

3. PARTICIPATING PROJECTS

3.1.1 CISE-ITR: Modeling the Social and Technical Processes of Interorganizational Information Integration

The purpose of this research is to develop and test dynamic models of information integration in multi-organizational government settings. Integrating and sharing information in these settings involves complex interactions within social and technological contexts. The two-year research program concentrates on integration activities in two critical policy areas: law enforcement and public health (specifically on response to West Nile virus outbreaks). These policy areas include a full range of functions across all three levels of government. Data have been collected through participant observation and interviews in four justice integration projects and through retrospective interviews of West Nile virus responses in three states. A survey is under development to test hypotheses derived from the modeling results.

3.1.2 COSPA – Consortium on Open Source in the Public Administration

Public Administrations (PA) annually spend considerable funds for commercial off-the-shelf software licenses. By using appropriate technologies, such expenses might be either dramatically reduced, or re-routed to further develop local business ecosystems. The Consortium aims to introduce, analyze, and support the use of Open Data Standards (ODS) and Open Source (OS) software for personal productivity and document management in European Public Administrations.

3.1.3 Intelcities – Work Package 5: Regeneration

Work package 5 focuses on the development of systems for use in urban regeneration and their integration with other city systems. It encompasses the physical, social and economic elements of regeneration and their interdependencies. The research components for this project are located at the Center for Urban and Regional Ecology, University of Manchester, and the Research Institute for the Built and Human Environment (BuHu) at the University of Salford and also includes a wide range of other internationally respected research institutions. The work package will produce a vision for the city in the knowledge economy and a system to support improved decision making about strategic planning of cities and use it to support citizen engagement in planning regeneration.