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Notes on the Impact of Research on the Development of eGovernment

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ABSTRACT

In this article, the author sketches three dimensions of a research program that would have significant impact on European politics, economy and society. First, the design and political development of institutions is central to a mature research program, given the role played by these structures and systems in the capacity and behaviour of governments. Second, civil servants are the human actors within institutions who are the agents of change, the designers of the particularised elements of policy design and implementation, and the "nodes" of networked governance. Third, inequality reduction is one of the central tasks of a democratic society.

These three dimensions outline the critical structures, actors and purposes of eGovernment. Emerging technologies do not necessarily liberate and decentralise; they must be designed to do so. Inequalities stemming from globalization, increasing cultural complexity and marketisation require attention to eGovernment research priorities in order to focus them for maximum impact on society's most pressing challenges.

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Research exerts an impact when it examines and explains underlying structures, relationships and possibilities. Applied, or practical, research goes further to prescribe or recommend improvements to structures and systems. The language and stance of research is skepticism in order to maintain the highest levels of rigor to test claims and assertions, particularly those concerning desired futures. The ultimate goal of research should be the improvement of the human condition and society. These are the starting points for a broad, important research program with impact.

There are three critical domains to examine in order to deepen the EU research agenda in eGovernance and to increase the impact of research: institutions, the civil service, and inequalities.[1] In this brief article, I take up these three topics in turn and sketch possibilities for research highlighting the likely impact. As noted in *Building the Virtual State: Information Technology and Institutional Change*, institutions of governance have been a dominant concern in political and social thought since antiquity.[2] The rise of information societies does not invalidate this observation. Policymakers in developed countries globally view the Internet and associated technologies as levers for government modernization and reform. In some cases, authoritarian oriented "reforms" tend toward greater centralization and control over the polity by means of the very same powerful tools – such as integrated databases, data mining, extraordinary data collection, real time analysis – that are lauded by democratic policymakers as the means to build greater transparency and access.

Thus, the political uses of seemingly neutral technological tools may have far-reaching and unintended implications for democracies as they become embedded within institutions. In democracies, there has been broad agreement since antiquity that inequalities are social conditions that require amelioration and that the institutions of governance exist, in part, to reduce inequalities.

Institutional Analysis and Development

The reality of integration in European life, as exemplified by cross-border labour flows, seamless financial and other economic systems, and the increasing use of global market mechanisms, has outstripped the pace of institutional change in governance models. The structure and behaviour of the state -- that is, its governance models, systems, processes and expert civil servants -- functions best when it is properly aligned with the current realities of economic and social systems and practices. I define the "state" here as the formal institutions of governance. Institutions not only encode regularized practices and behaviours, they convey legitimacy in democratic systems by means of the fact that they are widely shared, even taken for granted, social constructions of deep durability.

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1 This invited article is based in part on remarks prepared for the Keynote Plenum "A live debate on the contribution of eGovernment to growth and jobs," convened as part of the 4th Ministerial eGovernment Conference, "Reaping the Benefits of eGovernment" which met in Lisbon, Portugal on September 20, 2007. (See http://www.megovconf-lisbon.gov.pt/)

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2 J. E. Fountain, Building the Virtual State: Information Technology and Institutional Change (Washington, D.C.: Brookings Institution Press, 2001).

They include laws, regulations, societal norms, organizational structures and systems, as well as regularized routines, standards, and practices that define professional behaviour.

A key area for research is theoretical and practical inquiry into the relationship of institutional structures and processes and currently used technologies for governance. Complicating matters is the federalism of Europe and simultaneous innovations at the local, regional, national and EU levels. Research on eGovernment in Europe has reached a level of maturity to allow it to move beyond a primary focus on service provision. A more forward-looking emphasis would focus on institutional redesign. In some cases such efforts would include possibly radical redesign of government processes. For example, eGovernment developments that support and enable global financial systems and global trade offer important examples that are currently either already well defined or that are emergent. The Office of Harmonization in the Internal Market (OHIM) provides one such powerful example concerning trademarks and related intellectual property.[3] With respect to spatial data, central to environmental policies, the EU has recently launched the INSPIRE Community Geoportal, a gateway to geographic data and services increasingly standardized and rationalized as the Infrastructure for Spatial Information in Europe.[4]

Service production and delivery might be seen as activities near the end of long value chains in government decision making. Working upward in the value chain might entail research into knowledge production, knowledge sharing, and knowledge activation within and across boundaries in Government. The research questions related to institutional design at the upper ends of the value chain are of the type: What governance structures, processes and tools support cross-boundary and networked activities? Rather than simply focusing at the boundary between Government and citizen, working upward in the value chain might focus attention on enabling legislation, budgetary processes, optimal workgroup structures and management, and flows of information and data that define many of the policy-related problem solving capacities of the state. With respect to growth and jobs, there is value to be created through integration of services across the boundaries of programs, departments and Governments. These cross-Governmental initiatives yield great promise and represent a key “next step” in producing “better public services.” As a complement to these activities, research emphasis should be given to Governmentwide – and to EU wide – projects that would shift some attention in eGovernment to structures and information flows across the entire Governmental enterprise. Working at this higher level in the value chain would allow sufficient scope and authority for redesign efforts.

The substantial risk in not taking this step into cross-boundary redesign is that systems are being built upon outdated institutional and management arrangements and such systems will be difficult and expensive to change due to sunk costs and path dependence. So the timing of this “next step” and its urgency are important issues with economic as well as political impact.

In the 1980s, management attention increased to service economies, service organizations, customer service and, finally, service oriented Government. While Governments provide services to citizens, and should do so as responsively and effectively as possible, eGovernment often has focused too narrowly on services and operations.

3 http://oami.europa.eu/en/default.htm
4 http://geoportal.jrc.it/index.htm

In doing so, opportunities for research on process redesign, organizational and cross-organizational redesign and networking, and data-driven policymaking have been missed.

Often, the structures and systems that are invisible to citizens are of greatest importance to their well-being. Thus, a deeper research program might include a focus on currently available modes of policymaking – powerful uses of data, mapping, other visual tools, scenarios, modelling, etc. New capacity allows policymakers and civil servants to better compare alternatives, estimate outcomes and future states based on policy choices, to visually depict current states, to share knowledge and deliberate together across boundaries.

My definition of "better public service," therefore, requires a thorough rethinking and re-examination of the structure of public services to identify and exploit possibilities to create value by working across boundaries and jurisdictions. Again, it is imperative to avoid putting the status quo online and accepting "second best" gains in speed and cost while forgoing the potential larger gains of institutional redesign.

Epistemic Communities of Knowledge Creating Civil Servants

Civil servants are the chief actors within government institutions. Their behaviors instantiate institutionalized rules, norms, and codes. They are the human element that breathes life into structures and systems. As a practical matter, the quality of government institutions is inseparable from the quality of the civil service. The civil service of the future -- or the civil service for the knowledge economy and information society – implies that new skills will be needed. Central research questions along this second dimension, therefore, are What are these skills? and How will these skills be developed?

Civil servants function within countries and within the EU, but are increasingly influenced by global policy developments. International standards in health, safety, finance, trade, environment are pushing civil servants in many countries toward global practices. This set of pressures also makes traditional boundaries within Governments more fluid as national institutions articulate more closely with regional, EU and global institutions. As civil servants become more cosmopolitan, they open up to new ways of conceptualizing, framing and accomplishing their complex work. They carry these changes into other areas of policy practice that are more domestic in nature. Ironically, it may be that civil servants responding to global influences in their policy domain develop broader perspectives than legislators who may be responding internally to their constituents.

The importance of civil servants as carriers of practice implies logically that a research agenda should include thought to the production of strong epistemic communities, or "communities of practice," among civil servants. This will require a significant strengthening of the education and training of the young people who will become the next generation of civil servants. It is the professional civil servants who will work out the intricate policy, legal, operational and technological details of future institutional systems. Their partnership with IT industry professionals needs to be one of equals rather than a simple outsourcing relationship by government actors of IT strategy and development.

A two-pronged research initiative would include, first, support and facilitation of communities of practice among civil servants and related experts at the European and regional levels.

The second prong of this initiative entails support for the development of the future civil servants who will be guiding Europe and the countries within it for the next generation. Funding and planning for modernization of university programs within which such civil servants would be trained is a key imperative. Universities, working with industry and other research institutes, are (or should be) a central source of knowledge creation, long-range thinking, innovation, experimentation and a place for the linking of the traditional legal and Governmental knowledge base with the realities and challenges of pervasive computing.

The risk in ignoring the second research dimension is a civil service unable to effectively partner with industry to re-envision public services and an inadequate translation of e-commerce practices to eGovernment without the necessary thinking through of fundamental differences between the public and private sectors. Simplistic views of contracting and outsourcing are now giving way to more realistic views of partnership. A second risk of underinvestment in the professional growth of the civil service is to assume that civil servants are, on average, an impediment to progress when in fact they are central and key knowledge experts at the core of the initiation, design, development, implementation and productive operation and refinement of eGovernment public services.

Research that connects structure and behaviour – institutions and civil servants -- offers potentially powerful results.[5] Research consortia such as the eGOVERNET Project have been assiduously seeking out the most innovation and far-sighted practices of policymakers and civil servants in order to surface, articulate, and share forward-looking practices across the public administrations of Europe. Such fine-grained, contextually specific knowledge sharing is critical to building an understanding of what works in actual practice, in contrast to predictions based solely in theory. These data collection efforts also illuminate how different countries and experts in various policy domains are solving the many puzzles of eGovernance in practice as well as leveraging opportunities afforded by emerging technologies. As a complement to such ground-level, practice oriented data gathering, researchers might also examine streams of theory and research drawn from political science, sociology and economics to rethink institutional perspectives in light of emerging technologies. The deeper research questions for scholars as well as practitioners are: Do the far-reaching and fundamental shifts emergent in the use of current information and communication technologies imply correlatively fundamental change in institutions? If so, what might these be? How far and to what extent can institutional and other normative governance changes be predicted or forecast and to what extent are societies subject to trial and error or, more accurately, the slow accumulation of experience?

A research program with impact should systematically focus on opportunities for and thorough examination of “best practices” in cross-jurisdictional initiatives. There are many such successful initiatives in Europe to be mined for information and then shared across the EU. Several researchers globally examine the success factors underlying such initiatives. This emerging knowledge base should also be mined and shared widely to form a base for knowledge exchange.

5 Jane E. Fountain, “Challenges to Organizational Change: Multi-level Integrated Information Structures (MIIS),” in David Lazer and Viktor Mayer-Schoenberger, eds. Governance and Information Technology: From Electronic Government to Information Government (Cambridge, MA: MIT Press, 2007).

At the cutting edge of research is the working out of core governance challenges in such networked projects. These include but are not limited to joint accountability, joint budgeting and resourcing, joint management and leadership, and joint operations. Laying the management and practical foundation for integrated initiatives is a key imperative for eGovernment and "next generation" public services. Funding should include on-the-ground experiments as well as university and research institute examinations and synthesis of current knowledge.

Reducing Inequalities

In our quest to build the Government of tomorrow, a research program with deep impact will not ignore the most difficult challenges of today. Many have assumed that new technologies will erase the democratic deficit. This is in itself a matter for serious empirical research. Unpacking this deficit, one finds several trends unlikely to abate in the near future. These include immigration, the further development of global labor markets, and inequities in education. How can ICT be used to improve education, job prospects, socialization of new immigrants in ways that respect cultural foundations? In short, how can ICTs help to address such fundamental social challenges? In addition, much of European society is aging. Can ICTs be used to decrease cognitive decline, to reduce the isolation of the elderly, to increase the effectiveness and reach of health care systems? Can technology be used within the care economy rather than as a form of labour-substitution to reduce costs?

Thinking of inequalities more broadly, a research program should provide clarity on the rate and types of participation in eDemocracy and eGovernment processes. For example: What are the current empirical numbers for digital participation in political processes? What types of people (in terms of age, education level, income, region) tend to participate using digital modes? How are these subpopulations similar to or different from the "average" population? Who and what do they represent? This is important to know because we cannot otherwise attach conceptions of representation or legitimacy to such modes. For example, in the U.S. one can observe online activity of young people in political websites, particularly those with video, such as uTube, but researchers have not seen the translation of such participation into voting behaviour and other traditional modes of political participation. Research is needed to better describe the growing constellation of political participation modes and how the portfolio of participation types is changing. We also need to better understand how new modes relate to traditional modes, which ones have the most impact, and the importance with which policymakers should interpret and "measure" new modes of voice.

Inequality reduction usefully may be linked with knowledge activation. One of the major opportunities for ICT to contribute to growth and jobs is to align the recommended eGovernment research efforts with existing policies meant to *activate knowledge*, that is, with an emphasis on the building of knowledge societies and information economies. Many eGovernment service efforts support traditional sectors and industries, which is entirely appropriate and necessary. Yet there is considerable growth potential in eGovernment efforts to develop and support knowledge industries. Moreover, many traditional industries themselves are being transformed by ICT and rely on alignment with eGovernment processes that facilitate such transformation.

In sum, eGovernment efforts should be aligned with policies to *activate knowledge*; thus, they should support, enrich and catalyze existing policy orientations toward knowledge production, knowledge sharing, and the Governmental and economic information infrastructure necessary to develop and support the information economy.

Information technologies increase the ability of citizens and businesses to participate in decision making at all levels, hence they hold potential to reduce the present democratic deficit. Yet the confluence of informatization with globalization has produced a rich stew of political and social challenges with respect to participation and deliberation. A research program with impact also must grapple with the effects of waves of recent immigrants from developing countries who form an important part of the labour force and societies of Europe. If these groups are not explicitly designed "into" the democratic process, severe problems of dislocation are likely to continue. Given the digital divide and challenges of digital literacy (e.g., ability to search, navigate, express oneself in text form) what research avenues hold the greatest promise to reduce the democratic deficit as societies grow more complex culturally?

Citizens may choose whether and how to enter participative and deliberative processes, but they have little choice regarding the facticity and importance of their personal data. Some experts predict that during the next 20 years or so, businesses and citizens will control and manage their own personal data throughout the life cycle. Further, they might "authorise" access to their data by governments. This scenario stands in stark contrast to the present in which governments exert considerable effort and expense to order, update and maintain the accuracy of citizens' data. It is highly desirable for citizens to have access to and control over the accuracy and timeliness of all of their data organized by the Government. Yet this may not feasible. One has only to examine the debacle regarding personal information with respect to eCommerce and the inability even to control opting in and opting out to imagine some of the complexities of managing all of one's personal data over the lifecycle of an individual, family or business. The ability of most individuals to organize and maintain the currency of personal data is limited.

At the same time, innovations such MyPage on norway.no, "the gateway to the public sector" in Norway, offer a glimpse of the possibilities Governments might provide for access to and control over personal data.[6] MyPage allows individual citizens to see an overview of the information that Norwegian public agencies, from local to central level, have for that individual. These data are stored and maintained in several different agency databases, but are brought together online through the central gateway. It is a matter of empirical research to determine exactly what the time, labor and cognitive demands of managing one's personal data would be. We should not assume that individuals will spend any more time and effort in front of screens and with digital devices than they do now.

The barriers to citizen participation are not technological, nor can they be erased by technology. Barriers include apathy, ignorance, lack of time, lack of knowledge. Political scientists and sociologists, as well as information scientists, might produce knowledge with impact regarding the possibilities and limitations of technology to deepen deliberation and participation. It is time to retrieve Herbert Simon's prescient warnings concerning lack of time and attention deficits in the information society.

6 http://www.norway.no/minside/default.asp

Several decades ago, Simon wrote:

> ...in an information-rich world, the wealth of information means a dearth of something else: a scarcity of whatever it is that information consumes. What information consumes is rather obvious: it consumes the attention of its recipients. Hence a wealth of information creates a poverty of attention and a need to allocate that attention efficiently among the overabundance of information sources that might consume it.[7]

How are citizens to integrate and synthesize broad areas of knowledge available digitally? Tools can help. But the complexities of policy and politics remain, as ever, fraught with highly challenging normative judgments. There is no analytical or technological solution to override these value judgments. Powerful tools that assist with aggregation do not necessarily provide integration, which lies at the heart of compromise and judgment.

Conclusions

In this brief article, I have sketched three dimensions of an eGovernment research program that would have significant impact on European economy and society. The design and political development of institutions is central, given the role played by these structures and systems in the capacity and behaviour of governments. Civil servants are the human actors within institutions who are themselves the agents of change, the designers of the minutely particular elements of policy design and implementation, and the "nodes" of networked governance.

Finally, inequality reduction is one of the central purposes of democratic society. Emerging technologies do not necessarily liberate and decentralize; they must be designed to do so.

The inequalities stemming from globalization, cultural complexity and marketization require close attention to the priorities in eGovernment research programs as well as to the effects of those programs.

7 Herbert A. Simon, "Designing Organizations for an Information-Rich World," in Martin Greenberger, Computers, Communication, and the Public Interest, Baltimore, MD: The Johns Hopkins Press, 1971, pp. 40-41.