Digital Government and E-Rulemaking:
New Directions for Technology and Regulation

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Each year hundreds of federal regulatory agencies issue more than 4,000 new regulations. Before adopting a new regulation, agencies must publish a notice of proposed rulemaking in the Federal Register and allow an opportunity for the public to comment on the proposed rule. They also need to complete scientific, engineering, and economic analyses, as well as respond to comments submitted by outside organizations and individuals. The demands of analysis and information processing can strain limited agency staff, as well as limit the public's capacity to review and comment upon major regulations as they are developed. Electronic rulemaking, or e-rulemaking, offers the potential to overcome some of the informational burdens associated with developing regulations. E-rulemaking harnesses the power of advanced digital technologies and may help make the rulemaking process more manageable for federal agencies, as well as help expand and enhance the public's involvement in the rulemaking process. Interest in e-rulemaking is growing in Washington, D.C. Electronic government has become a major element of the Bush administration's overall management plan, and e-rulemaking forms one of the components of this e-government strategy.

This project, conducted by the Regulatory Policy Program at the John F. Kennedy School of Government at Harvard University, seeks to stimulate a long-term research agenda on the use of information technology in the rulemaking process. Specific aims include:
- Identifying opportunities for regulatory problem-solving using IT in the rulemaking process
- Identifying priorities for information science and social science research on IT and rulemaking
- Identifying needs for interdisciplinary research
- Developing a collaborative, interdisciplinary research community around e-rulemaking

We have organized two major workshops on e-rulemaking. The first session was held Washington, D.C. in March, 2002. The second was held at Harvard University in January, 2003. These sessions brought together specialists from the information sciences, law, social sciences, and public management, as well as key regulatory officials. The workshops connected members of the IT and social science research communities to government officials involved in the Administration's major e-rulemaking initiative. The aim was to forge a research agenda for the next five to ten years that addressed major and persistent questions raised about the use of information technology in the rulemaking process.

The workshop sessions elicited broad recognition from participants about the significance of e-rulemaking as a new arena for research and policy development. The sessions also helped forge linkages across research communities and connected researchers who are already beginning to pursue new, interdisciplinary research on the role of information technology in the rulemaking process. Participating agencies included: Department of Agriculture, Department of Transportation, Department of Commerce, Environmental Protection Agency, General Accounting Office, General Services Administration, Office of Management and Budget, National Archives & Records, and the National Marine Fisheries Service.

Following the January, 2002, workshop, we wrote a report distilling conference discussions and outlining a future research agenda. The report, published in the *Social Science Computer Review* and forthcoming in the *Administrative Law Review*, identifies steps required to fulfill e-rulemaking's potential. An important initial step will be to make electronic dockets and electronic sorting of public

comments universal among agencies. Beyond this basic requirement, agencies could use information retrieval and extraction software to isolate relevant data for rulemaking proceedings. Similarly, agencies could use text categorization software to organize public comments, all of which could help agencies lower costs and improve performance.

The report offers four goals for e-rulemaking. The first is to increase the democratic legitimacy of the rulemaking process. This could be accomplished by using information technology to increase public understanding of rulemaking, to increase the quality and quantity of public comments, to make the process more interactive and deliberative and to make it easier for more democratically accountable institutions, such as the Congress or President, to oversee the rulemaking process. The second goal of e-rulemaking is to improve regulatory policy decisions. E-rulemaking could improve policy decisions by making it easier for regulatory officials to analyze large volumes of data drawn from multiple sources. A third goal is to decrease administrative costs. Information technology can enable agency managers to better coordinate rulemaking staff and other resources. In fact, some cost savings from e-rulemaking have already been reported. A fourth goal is to increase regulatory compliance. Agencies can use information technology to increase regulatory compliance both by increasing public understanding of what regulations require and, possibly, by reducing the cost of compliance through compliance assistance software.

The report lays out two frameworks for organizing research in the field: a policy analysis framework, and a functional perspective. In a policy analysis framework, researchers define a policy problem as precisely as possible, examine its cause, and determine criteria for comparing alternative solutions to the status quo. Such an approach could help to integrate contributions from various disciplines, since different disciplines (computer sciences, social sciences, and the law) will tend to focus on different steps in the policy analysis framework. A functional perspective focuses on the tasks agencies perform in rulemaking rather than the procedures they must comply with. Such tasks include gathering information, securing public input, drafting rules, sharing information, securing compliance and managing rulemaking. The functional aspects of developing regulation have remained understudied. More research will therefore be useful for uncovering the specific challenges regulatory officials face in addressing each of these tasks.

The report also recounts over twenty-five research questions articulated by the conference participants. These research questions fall in four main categories: (1) developments in information technology, (2) agency management of rulemaking, (3) public involvement in the rulemaking process, and (4) regulatory compliance.

We anticipate that the project will have a number of broad impacts. The workshops demonstrated the significant and meaningful advances available in the area of e-rulemaking for IT research, institutional analysis, and interdisciplinary collaboration. The project will lead to further collaborations among researchers and government and provide a focus to the research agenda in this area of digital government. The workshop report establishes a direction for long term research. A project listserv and web portal (www.e-rulemaking.org) link researchers and policymakers from around the country, providing a single source for research and policy developments related to e-rulemaking.

Remaining challenges include developing specific research proposals and securing adequate support to sustain the enthusiasm for pursuing a long-term research agenda. The community of researchers that we have formed in the last year around the issue of e-rulemaking will need to be supported through ongoing research colloquia where research in this area of digital government is presented and subject to peer discussion. Funding from the DG Program will be an important component of maintaining the research momentum.