

eRulemaking at the Crossroads



A collection of white papers prepared for

dg.o 2006

The 7th Annual International Conference on Digital Government Research

San Diego, California

May 24, 2006

Overview

The topic of “eRulemaking” (electronic rulemaking) has gained prominence in the Digital Government research community and with personnel working in the federal government. Over the past five years, with funding from the Digital Government program, government officials, citizens, activists, business leaders, and a range of scholars from several disciplines have converged around the specific problem of building tools to manage the flow of public comments into the U.S. federal government. At the same time, the Office of Management and Budget has overseen the development of government-wide eRulemaking Initiative, which created a portal for reviewing all open rulemakings and a Federal Docket Management System (FDMS). Recent acts of Congress have called attention to the funding authority for the FDMS and have also raised issues about how best to adopt a common information management system for over 180 distinct regulatory agencies and sub-agencies. Meanwhile, there is an ongoing debate about the utility of encouraging massive numbers of public comments via electronic means. As a result, despite considerable scholarly and practitioner interest and hopes for a better rulemaking system, eRulemaking is at the crossroads. The target audience is a mix of federal government officials, as well as scholars from law, public administration, as well as the social and computational sciences. For more information see:

<http://erulemaking.ucsur.pitt.edu/>

<http://www.ksg.harvard.edu/cbg/rpp/erulemaking/>

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Table of Contents

1. The Future of the FDMS

<i>eRulemaking's Federal Docket Management System</i> Oscar Morales and John Moses	1
---	---

<i>Federal Government Inter-Branch Integrated Regulatory Information</i> Richard D. Otis and Stuart C. Miles-McLean	4
--	---

<i>Keeping E-Rulemaking on the Docket: Analog Challenges to Digital Government</i> Jeffrey W. Seifert	6
--	---

2. Metadata and ICT Needs

<i>Metadata for the FDMS</i> Robert D. Carlitz	9
---	---

<i>E-Rulemaking: Needs from ICT Perspectives</i> Kincho H. Law and Gloria T. Lau	11
---	----

3. Building Better Systems for Better Rules

<i>Better Inputs for Better Outcomes: Using the Interface to Improve e-Rulemaking</i> Cynthia Farina, Claire Cardie, Thomas R. Bruce, and Erica Wagner	13
---	----

<i>The Next Generation of E-Rulemaking: A User's Perspective</i> Richard W. Parker	15
---	----

4. Mass Public Comments: Anomaly or Harbinger?

<i>When Do Interest Groups Use Electronic Rulemaking?</i> John M. de Figueiredo	19
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<i>Trust in Government and the Role of Public Participation in Rulemakings with Large Numbers of Public Comments</i> Stuart W. Shulman, Lisa Thrane, and Mack C. Shelley	21
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eRulemaking's Federal Docket Management System

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ABSTRACT

The federal E-Government eRulemaking Initiative developed the Federal Docket Management System (FDMS) (publicly accessible at www.regulations.gov) to provide citizens with a central place to learn about proposed regulations and to have their comments shape the rulemaking process of all federal agencies. The eRulemaking Initiative, through a consortium of federal agency staff and external stakeholders, designed and developed a robust and flexible docket management system that benefits both agencies and the public. The system was launched in September 2005 with the goal of incorporating agencies comprising of over 90% of federal rulemaking activity into the system by the end of 2007. In meeting this goal, the eRulemaking Initiative has dealt with, and will continue to face, challenges regarding cultural and process changes within agencies, securing program funding, and satisfying stakeholder needs (both federal and public users). Through it all, the eRulemaking team remains optimistic about the future of the Initiative and the benefits that are being realized by both agencies and the public from the implementation of FDMS.

Categories and Subject Descriptors

H.3.5 [Information Storage and Retrieval]: Online Information Services – *data sharing, Web-based services*

General Terms

Management, Design

Keywords

eRulemaking, regulations, docket, E-government

1. INTRODUCTION

The federal E-Government eRulemaking Initiative is managed by the Environmental Protection Agency in conjunction with over 25 partner Departments and Agencies. Since January 2003, the Initiative's *Regulations.gov* has enabled millions of citizens to search, view, and comment on regulations via a single Web site. In September 2005, the Initiative launched the Federal Docket Management System (FDMS), a full-fledged content management system that dramatically expands the capabilities of the first *Regulations.gov*. FDMS is the government-wide electronic repository of rulemaking information (Federal Register documents; supplementary materials such as scientific, technical analyses; and public comments) and transaction website for public commenting. eRulemaking is a groundbreaking achievement on the road toward citizen-centered government and

is transforming the regulation development process across federal agencies.

2. THE ROAD TO THIS JUNCTION

The eRulemaking Initiative has faced and overcome some immense challenges since its inception in 2002. The eRulemaking team (comprised of EPA and its many partner agencies) deployed the first and second generations of *Regulations.gov* creating a widely recognized brand image; built an intra-agency platform for decision-making and action; issued a \$100 million IT support contract, and devised a multi-year budget and funding process.

2.1 Federal-wide and Interdisciplinary Development Effort

eRulemaking needed to develop an FDMS technical solution that minimized costs and operational complexity yet was sufficiently flexible to accommodate unique Agency business processes. In February 2004, the eRulemaking Executive Committee (comprised of senior-level officials from partner agencies) decided that FDMS would be based on a central IT solution to maximize cost containment, security, and simplicity in operations. A cross-agency FDMS development workgroup was created comprised of more than 100 IT, regulatory, and docket managers and staff across 25 federal agencies. Over the course of a year, the workgroup collaboratively defined the functional requirements and design of a centralized FDMS, ensuring that each Agency retains ownership and control of the data contained in the system and access rights. In a recent analysis of the design of FDMS and management of the Initiative, the Government Accountability Office (GAO) found that the eRulemaking Program fulfilled 28 out of 30 key management practices (GAO, September 2005).

The year-long effort produced a system design that incorporates "best-of-breed" capabilities from predecessor Agency systems and uses state-of-the-art technology to manage the huge volume of data that passes through its servers each day. In addition, the system interfaces with existing information systems at GPO and NARA to automatically import Federal Register documents.

During the system development, the eRulemaking team conducted extensive system testing, including a multi-month Beta test with 100 agency testers, formal public usability testing (with separate usability testing with prospective agency users), and an ongoing third party Section 508 compliance review. Since 2003, there have been over 150 eRulemaking presentations given to agencies,

organizations, and interest groups. eRulemaking has conducted extensive public outreach through trade conferences, academic collaboration, and a national public forum dedicated to gaining input on FDMS functionality and design.

One of the most difficult challenges facing this project was addressing business processes over 150 government agencies, many with varying organizational cultures. To overcome this, eRulemaking established a multi-level, inter-agency governance structure comprised of topic-based workgroups (e.g., Legal, Budget), a multi-disciplinary management Advisory Board, and an executive level Executive Committee. All together, the Program has established a community of more than 300 lawyers, scientists, technologists, and rule writers from nearly 50 Federal Agencies. In the same GAO report referred to above, GAO officials noted that “E-Rulemaking officials extensively collaborated with rulemaking agencies and most officials at the agencies we contacted thought the collaboration was effective.” (GAO, September 2005)

2.2 A Robust and Flexible Solution

FDMS serves as a secure, robust electronic rulemaking repository, enabling Departments and Agencies to post all rulemaking documents (e.g., Federal Register notices, supporting analyses, and comments) for public access and comment. Public users can access rulemakings open for comment as well as those with a closed comment period from the *Regulations.gov* home page. *Regulations.gov* offers the public quick searches, such as all rules published today / closing today, rules by subject, and documents by keyword. It also provides advanced and Boolean search capabilities, sortable search results (e.g., by date posted, document ID, or type of document), a reporting feature to compile statistics on rulemakings, and a configurable comment form in which agencies can ask the public specific questions about a topic. For agencies, FDMS provides role-based access control, configurable workflow management, e-mail notification, full text search, and an electronic system that can incorporate digitized paper documents. One of the most innovative features of FDMS is that each Agency is able to configure the system to meet the requirements of its own regulatory process, maintain its own agency procedures and agency system operation, and retain control over the information contained in the system. The configurable feature of FDMS has dramatically reduced, if not eliminated, costs typically experienced with re-configuring IT systems to meet the needs of iterative implementations of back-end users with differing business requirements.

Agencies will have the option of using FDMS as an electronic system of record as a replacement for the paper-based systems currently in use by most agencies. An inter-agency workgroup is currently developing requirements to create electronic records management capabilities in the FDMS. This functionality will meet the Federal government’s Design Criteria Standard for Electronic Records Management Software Applications (e.g., DOD 5015.2) and provide agencies sufficient flexibility to manage the materials that they include in FDMS in accord with their existing record schedules. The electronic record management component is scheduled to be available in FDMS during fiscal year 2007.

The eRulemaking team considers all enhancement requests received from both Agency and public users. In response to

public and agency user feedback, the eRulemaking team deployed two FDMS version releases in November 2005 and February 2006 since its initial launch. The new releases have dramatically enhanced search speed, simplified searches (e.g., *Regulations.gov* Home Page quick searches of open or closed dockets), provided easy to understand user tips and helpful hints to better navigate the system, to list a few examples. The eRulemaking Initiative continues to ensure broad, collaborative inter-agency involvement in Program decision-making, therefore it may be a lengthy process to evaluate and approve extensive and technically complicated enhancements to the system. The future of eRulemaking is promising. The system will continue to be enhanced to provide additional functionality such as e-mail notifications, additional report features, and full text search for public users and content categorization for Federal agencies.

FDMS was designed to accommodate and manage various types of documents available for public comment and participating agencies are using FDMS to manage non-rulemaking documents and processes, such as Information Collections Requests, in addition to regulations. With FDMS, Agencies are able to distribute workload across staff, track docket management performance, and will improve document storage and management which can reduce paper storage needs, thereby lowering costs. It is important to remember that while FDMS provides extensive capabilities and flexibility, it is up to each Department or Agency to determine what information is made available on the site and to enter the documents and metadata into the system.

2.3 Securing Financial Resources

The eRulemaking Initiative does not receive its own Congressional appropriation nor is it funded from a specific appropriation in EPA’s (the managing agency) budget. Instead, the Initiative is funded by participating agencies’ contributions. The Initiative has overcome the absence of a certain and stable budget by working with participating Agencies to develop projected budgets and a usage-based funding allocation model, moving resources to activities with the greatest return, establishing measures, and monitoring implementation. A GAO report analyzing E-Government budgets noted that eRulemaking was under funded by 51% in FY04 and was able to overcome this obstacle and was able to continue to deploy FDMS (GAO, April 2005).

3. STATISTICS AND USAGE

Regulations.gov is one of the most heavily trafficked E-Gov web sites. From January 2003 to mid-September 2005 (33 months), the first generation *Regulations.gov* received over 11 million hits, with 1.6 million visitors viewing 8.6 million pages and files, and submitting 13,000 comments through the system. These statistics represent annual increases of: 125% in hits, 175% in unique visitors, and 375% in pages downloaded and viewed.

In September 2005, the eRulemaking Program launched FDMS, the second generation of *Regulations.gov*, greatly expanding public access to information and improving agency management of the rulemaking process. As of December 2005, 33 rulemaking entities comprising of all or portions of 10 Federal Departments and Independent Agencies have implemented FDMS, which collectively account for approximately 25% of Federal rules

promulgated annually. Over the next two years, the eRulemaking team plans to implement additional Federal Departments and Independent Agencies which collectively account for more than 90% of the Federal rules promulgated each.

The launch of FDMS has witnessed an even more dramatic increase in usage than the first generation *Regulations.gov*. From September 2005 through April 4, 2006, FDMS has received over 39 million hits to the system (and more than 4,000 comments have been submitted via the *Regulations.gov* Web form). Agencies have created 22,000 regulatory and non-regulatory dockets in the system (increasing 12% each month). The public presently can access more than 250,000 documents via *Regulations.gov* (with the volume increasing by more than 5% per month) and more than 13,000 new public submissions have been posted to the system since deployment. Also, more than 1,500 Agency staff are registered users of the application.

4. ALL ROADS LEAD TO FDMS FOR THE FEDERAL GOVERNMENT

The eRulemaking Initiative is a cross-Federal agency, multi-year IT effort. Upon completion, the project will consolidate more than 20 previously existing Federal IT systems and integrate 135 Federal agencies with only paper-based rule-writing processes into a single Federal system to better serve the public. Federal Departments and Agencies must use the eRulemaking Initiative's Federal Docket Management System to post regulatory dockets on the Internet, mandated by the E-Government Act of 2002. However, Departments and Agencies are dedicated to ensuring the success of the system as evidenced by the high level of inter-agency cooperation and enthusiasm. The Office of Management and Budget (OMB), who oversees all E-Government programs, remains a strong supporter of the Initiative.

5. CONCLUSION

FDMS is a notable achievement resulting from the significant effort of cross-agency and stakeholder collaboration. The road leading to this junction has not been without bumps; however, the magnitude of its impact on the federal regulatory process is yet to be observed as the eRulemaking program continues to place agencies with paper-based regulatory processes online and consolidates existing agency docket management systems. As FDMS and *Regulations.gov* opens federal rulemaking processes, the eRulemaking program looks forward to continued collaboration with the academic community in order to address the effect of e-rulemaking on the quality of rulemaking and public involvement

ACKNOWLEDGMENTS

The eRulemaking Initiative would like to express appreciation to all partner agencies that have shared responsibility for the eRulemaking Initiative (including detailing staff, contributing in-kind and financial resources, participating and leading workgroups) and have been instrumental in the design and functionality of the federal-wide docket management system. The authors are indebted to many people who have contributed to the project since its inception and would like to thank those individuals who have worked in or served on detail to the Initiative's Program Management Office, have led workgroups or Executive bodies, or have provided senior-level guidance and support: Tad Anderson (formerly at OMB), Don Arbuckle (OMB), Andrew Battin (EPA), Valerie Brecher Kovacevic (EPA / eRulemaking Program), Duncan Brown (Department of Interior), Rick Carro (Department of Treasury), Tim Crawford (EPA/ eRulemaking Program), Shivani Desai (SBA, formerly at OMB and EPA), Karen Evans (OMB), Mark Forman (formerly at OMB), Mike Grinstead (formerly at the Department of Transportation and EPA), Monica Lewis (EPA / formerly at the eRulemaking Program), Mark Luttner (EPA), Andrew Malone (USDA), Sara Hisel-McCoy (EPA), Bridget Medeiros (Lockheed-Martin), Ron Medina (EPA), Patrick Micielli (EPA / eRulemaking Program), Asfara Moghis (EPA / eRulemaking Program), Chris Nelson (USDA), Kim T. Nelson (formerly at EPA), Quang Nguyen (EPA/ Region 6), Rick Otis (EPA), Mike Panchura (USDA), Dawn Roddy (EPA / OAR), Joe Sierra (EPA), Rebecca Smith (Department of Labor), Kristin Tensuan (EPA / eRulemaking Program), Patricia Toppings (Department of Defense), Linda Travers (EPA), Joel Wallinga (Department of Veterans Affairs, formerly at EPA / eRulemaking Program), Amy Welch (Government Printing Office), Sharon Whitt (Department of Interior, formerly at the National Archives and Records Administration), Tim Young (OMB).

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Federal Government Inter-Branch Integrated Regulatory Information System

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ABSTRACT

In this paper, we propose an integrated electronic information system to record and track the status of regulatory actions between the three branches of the Federal government with the goal of breaking down barriers to transparency and information access during the full regulatory lifecycle.

Categories and Subject Descriptors

H.3.0 [Information Storage and Retrieval]: General

General Terms

Management, Documentation, Performance

Keywords

eGovernment, electronic information system, regulatory development

1. INTRODUCTION

We are still at the dawn of the “information age” where one might expect a more languid pace of change and yet, even here at the rise of this new age there are virtually continuous leaps forward in computing power, internet connectivity, and user sophistication. The legislative, executive, and judicial branches of the U.S. Government have each responded energetically to the information challenges and public expectations by developing and implementing ambitious and important projects to increase the transparency of the government’s procedures and improve public access to information. The extent and sophistication of the Federal Government’s ramp-up to its current on-line presence is laudable and has many benefits, but we believe at least one important integrating piece is still missing.

2. CONTEXT

Only a few years ago, typewriters and telephones were the best ways to communicate with the government. Now it is generally assumed that a quick web search will find websites for each member of Congress and each Congressional committee; for every executive agency and many programs within those agencies; and for the various levels of the U.S. Court system. Moreover, users landing on these sites expect each to be a fast well designed useful source of relevant information, as well as a portal through which they can link to many other sources of related information.

Our system of government draws strength from the separation of powers between its three branches. Each branch is like one leg of a three-legged stool and the stool cannot stand without all three functioning legs. Just as the three branches of government are interdependent at the macro level, this interdependency should also be reflected in an information system which captures data on regulatory actions that flow to and through each branch of government. The data currently available online generally allows users to find information about a particular issue within a single government branch, but it can be very difficult and time consuming to find corresponding information about that same issue in another branch.

3. PROPOSAL

Under the envisioned integrated information system, when a new piece of legislation is signed into law, Congress would list all provisions requiring action by an executive branch agency (with meta-data such as the lead agency, due date, and process requirements) along with links to the related text of the new law, legislative history, and U.S. Code. Each regulatory requirement on the list would include a link to the lead agency for that action. Clicking on the link would take the user to the lead agency’s website with information about that particular rulemaking action. From there the user could link to related agency-specific regulatory development information (e.g., programmatic website, stakeholder involvement opportunities, rulemaking docket, and Federal Register notices).

As the regulatory action moved through development, promulgation, implementation, enforcement, and possibly litigation, a user could simply follow the links to the next stage. In this way, a user could pick a single legislative requirement and click their way from Congress, through the regulatory agency, to the Court system and at each step find specific information about that action.

The Energy Policy Act (EPAAct), for example, was signed into law last summer. EPAAct included new requirements, amended some existing statutes, and directed more than one agency to undertake a range of rulemaking activities. Presently, however, there is no simple way to find a concise listing of EPAAct’s assignments, either on an agency by agency basis, or a topic by topic basis. And even if there were such a listing posted on a Congressional website, there would be no way to link from that hypothetical list directly to the responsible agency and its public information about progress on a particular assignment. As things stand today, an interested party must review the new law for provisions of

interest, determine which agency has the lead for each provision, go to that agency’s website and search sometimes dozens of program sites for information.

Under this proposed inter-branch integrated information system, tracking new legislated requirements would be one use, but the system wouldn’t be limited to new actions. Once the system was populated with data, a user could enter at any step, for example the regulatory implementation step, and then surf upstream in the system to discover the legislative source of the rule, or downstream to learn if there have been any related court actions. (see Figure 1).

We believe there is a large and ready audience for a system that allows users to follow a particular regulatory issue through the legislative, regulatory, and judicial processes. Prospective users include members of Congress and their staff who want to check on the implementation status of enacted legislation. Regulatory agency managers and staff who need to know what actions are expected in order to project and plan resource commitments. Similarly, lobbyists, associations, advocates, academics, and other observers of and participants in the government’s regulatory process would find in this system a valuable tool to track and stay informed on regulatory programs of interest.

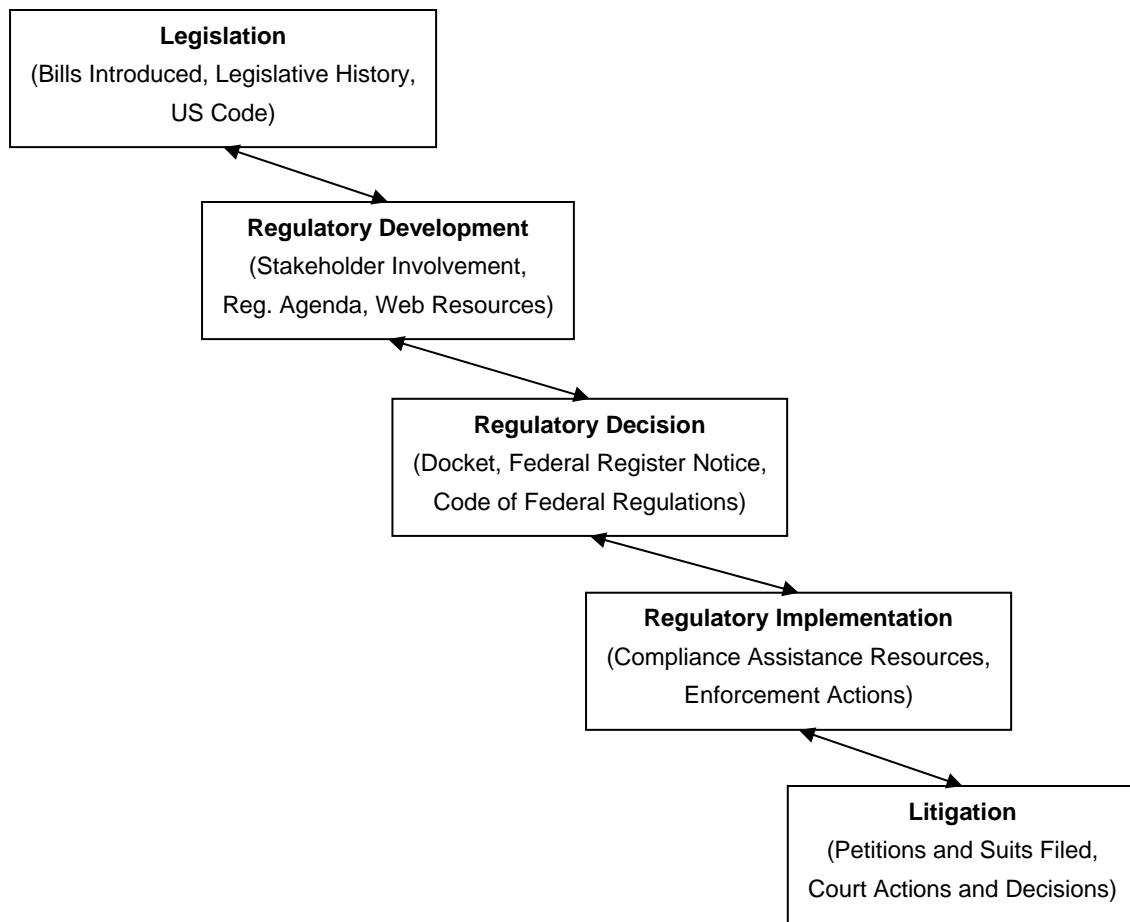


Figure 1. Inter-Branch Information Flow Schematic

Keeping E-Rulemaking on the Docket: Analog Challenges to Digital Government

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ABSTRACT

This paper provides a brief overview of the E-Rulemaking initiative in the context of the ongoing evolution of the U.S. federal e-government strategy. Three critical challenges are identified; the lack of a natural constituency, an entrenched conflict between the horizontal nature of e-government and the vertical nature of governance, and an undervalued placement on the policy agenda. A failure to address these challenges suggests not the end of e-government, but instead a more discordant future.

Categories and Subject Descriptors

K.5.2 [Legal Aspects of Computing]: Governmental Issues - regulation.

General Terms

Management, Human Factors, Standardization, Legal Aspects.

Keywords

Digital government, e-government, e-rulemaking, E-Government Act, Lines of Business, President's Management Agenda, Quicksilver projects.

1. INTRODUCTION

At various points in its brief history, the U.S. federal government's e-rulemaking initiative has had to overcome a number of challenges, including bureaucratic resistance and an initial lack of awareness by potential users. Most recently, a temporary suspension of interagency fund transfers required project managers to ration its reserves to keep the project solvent. Despite the resourcefulness and tenacity of e-rulemaking supporters to overcome setbacks, these problems are representative of a larger struggle within the policy community to adapt to a more networked form of government [2].

Three challenges in particular need to be addressed to ensure the longer term success of e-government generally, and e-rulemaking specifically. These include cultivating a constituency, adapting vertically organized funding and oversight mechanisms to intersect more effectively with horizontally designed e-government initiatives, and raising the status of key initiatives, such as e-rulemaking, to that comparable to a Line of Business (LoB). Following a brief overview of the context in which the e-rulemaking initiative was created, each of these challenges is discussed in turn.

2. RULEMAKING GOES ONLINE

Electronic government is one of five government-wide initiatives that comprise the President's Management Agenda (PMA), which serves as the Bush Administration's primary vehicle for government reform efforts. Pursuant to a July 2001 Office of Management and Budget (OMB) memorandum [6], the E-Government (Quicksilver) Task Force was established to create a strategy and select projects for achieving the Bush Administration's e-government goals. Special attention was also paid to the initiatives' potential to reduce redundancy and transform the way government interacts with citizens, as well as the likelihood of being deployed within 18 to 24 months [7]. A total of 24 projects, sometimes referred to as the Quicksilver initiatives, were ultimately selected. Among these was the E-Rulemaking initiative.

In a May 2002 memorandum to agency heads [8], OMB announced it would use its authority under the Clinger-Cohen Act to direct agencies to "consolidate redundant IT systems relating to the President's on-line rulemaking initiative." OMB identified "several potentially redundant systems across the federal government," including those at the departments of Transportation, Labor, Defense, Agriculture, Health and Human Services, as well as the Food and Drug Administration, and the Environmental Protection Agency (EPA). OMB estimated that migrating to a single e-docket system and shutting down existing systems would save millions of dollars and make it "easier for citizens and businesses to participate in the regulatory process."

In December 2002, President Bush signed the E-Government Act of 2002 (P.L. 107-347, 116 stat. 2899). Among its provisions, Section 206 codifies some aspects of the E-Rulemaking initiative. It directs agencies, "to the extent practicable," to make electronic dockets publicly available through a federal web site and to accept public comments on proposed rules electronically.

The E-Rulemaking initiative currently consists of three modules. The first module consists of an interim portal to allow individuals to search and comment on federal rules notices from across the government. Comments submitted through this site

The views expressed in this article are those of the author and do not necessarily reflect the position of either the Congressional Research Service or the Library of Congress.

are then forwarded to the appropriate agency for inclusion in their docket (e or otherwise). This module was completed with the launch of Regulations.gov [http://www.regulations.gov] in January 2003. The second module, launched in September 2005, involves a unified e-docket system to be used by all federal agencies, which will be required to migrate from, and shut down, any existing e-docket systems. The third module will focus on the development of a set of electronic tools, or a desktop, to help regulators with back office functions, such as document management, communications, analysis, and rule writing [5,9].

3. ANALOG CHALLENGES FOR DIGITAL GOVERNMENT

While technology problems are endemic to every major modernization effort, it is the organizational and human challenges that are often the most intractable. In the case of e-government, these problems have long existed, like icebergs largely hidden beneath the ocean surface. When e-government represented single standalone initiatives, government managers were able to navigate through these hazards relatively unscathed. However, as e-government has moved beyond proof of concept projects to promoting deeper cross-agency process changes, resolving these challenges has become more critical.

3.1 E-Government: No Natural Constituency

It is often said that foreign affairs has no domestic constituency to advocate on its behalf. The same could be said for e-government. While some surveys [1,3] suggest that there is citizen demand for e-government services, this demand appears passive at best. Beyond a handful of interested user communities and good government advocates, and perhaps a more generic interest in efficient government, e-government is not an issue that brings voters to the polls. The fact that the e-rulemaking initiative is categorized as a government-to-business (G2B) project belies its relatively narrow target audience, compared to initiatives such as IRS Free File or Recreation One-Stop, which are more likely to be used by the citizenry as a whole.

Moreover, U.S. federal e-government has been an almost solely executive branch-led enterprise. The E-Government Act notwithstanding, e-government is largely an instrument of government reform to facilitate the President's Management Agenda (PMA). The congressional role in e-government has been primarily confined to appropriations for the E-Government Fund and oversight focusing on specific issues or initiatives.

Contrary to some people's expectations, the multi-actor, networked nature of e-government can dilute responsibility and rewards, working against the likelihood of creating organic centers of gravity and power that could be leveraged to overcome organizational obstacles. In the absence of organized citizen support, the best chance for success is to build a stronger governmental constituency by cultivating joint executive and legislative branch vested interests and continuing to nurture them over time.

3.2 Horizontal Implementation Meets Vertical Governance

Related to the constituency problem is the fundamental mismatch between the horizontal nature of government-wide e-government initiatives, and the vertical organization of government funding and oversight mechanisms. One of the overarching goals of e-government is to eliminate the stovepipes that exist within and between federal agencies. However, many of these stovepipes are mirrored in the organization of congressional committee jurisdictions. The problem of cross agency funding highlights this clash. Congressional authorizing committees are organized by department and/or agency. The allocation of resources and the oversight of activities are likewise jurisdictionally defined. There appears to be relatively few mechanisms to facilitate cross-agency collaboration regarding the spending of funds. Although the E-Government Act authorizes more than \$345 million for FY2003 - FY2007 that can be spent on e-government initiatives through the E-Government Fund, concerns regarding oversight have prompted Congress to appropriate no more than \$5 million in any given fiscal year since the passage of the E-Government Act. Likewise, Congress temporarily froze the transfer and reimbursement of FY2006 funds related to the e-government initiatives pending the submission of a detailed report by OMB documenting the amounts, uses, relevance, and effects of this spending. Combined with the government-wide nature of many homeland security initiatives, there is a larger need to develop policy solutions that provide adequate flexibility for collaborative initiatives while maintaining appropriate oversight. In the interim, some realignment of regulatory and oversight stovepipes may be a middle step.

3.3 More than "Low-Hanging Fruit"

As one of the Quicksilver initiatives, e-rulemaking was considered to be "low-hanging fruit," capable of being implemented quickly and paving the way for future initiatives [4]. More than three years after the initiative began, there is still much to do to get the approximately 160 agencies with rulemaking authority aligned and online. The complexity and scale of creating the Federal Docket Management System (FDMS) suggests that rulemaking may have been better cast as a Line of Business (LoB) initiative, on par with the grants management or case management LoBs, rather than a portal project, like that of the FedzBizOpps e-commerce site. Like grants management, the FDMS involves creating a single citizen-facing interface that is driven by a dynamic workflow solution that is both robust enough to handle the user load and accommodate the customization requirements of the participating agencies. Rulemaking is a core function of government. Transparency, access, and adherence to protocol, as required by the Administrative Procedure Act (P.L. 79-404, 5 U.S.C. *et seq.*), are critical to the legitimacy of the process. Raising the profile of e-rulemaking to a LoB could help the initiative receive a planning and implementation resource allocation commensurate with the scale of the task.

4. E-GOVERNMENT IS HERE TO STAY

The challenges facing the federal government are formidable, but not insurmountable. The failure to address these challenges successfully, however, would suggest a delay in the

transformation process, although not necessarily a halt to the continued development of e-government. Instead, e-government would continue to evolve, but in a more incremental way that could introduce new IT management challenges (e.g., divergent data standards, duplicative investments, and incompatible systems), which will make full transformation harder to achieve later down the road. Choices being made regarding the selection of new initiatives, and the technological solutions to implement them, reflect the values, priorities, and needs of the government. For these reasons, it is important to be aware that the decisions being made now will likely have a lasting impact on the options and opportunities for the future development of e-government in the United States.

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Metadata for the FDMS

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ABSTRACT

The new Federal Docket Management System offers a promise of enhanced public participation in federal rulemaking. How well this promise will be realized will depend upon details of the system's implementation. We at Information Renaissance have studied the selection and quality of metadata currently used in this system by constructing a mirror of the official site, in which the structure and content of the metadata fields can be examined. This approach highlights problems in the official version as of April 2006, including errors, omissions and inconsistencies. The approach also suggests a model that can be used to build a collaborative platform through which people not part of the federal project management team can work to develop enhancements and extensions of the basic electronic docketing system. We propose to develop such a platform and use it to test new models for public participation in the rulemaking process.

Categories and Subject Descriptors

H.2.1 [Database Management]: Logical Design – *schema and subschema*. H.5.3 [Information Interfaces and Presentation]: Group and Organization Interfaces – *computer-supported cooperative work*. J.1 [Administrative Data Processing]: *government*.

General Terms

Management, Performance, Design, Experimentation, Human Factors, Standardization, Verification.

Keywords

Rulemaking, public participation, e-government, metadata, collaboration.

1. INTRODUCTION

The Bush Administration, through the Office of Management and Budget, has focused upon 24 initiatives as a showcase for e-government [1]. Like many e-government projects in the Clinton era, these initiatives focus mainly on online access to governmental services. One project is distinguished by seeking to facilitate a greater role for members of the public in the formulation of federal policy. The e-rulemaking initiative aims to move federal rulemaking online by creating a unified electronic docketing system through which agencies' proposed rules may be viewed, comments offered and the proceedings followed as they unfold in real time.

The potential significance of this project is vast. Rulemaking, for the most part, follows a notice and comment procedure laid out in the Administrative Procedure Act of 1946. Although anyone can

participate, in practical terms the process has been dominated by special interest groups, since only these groups have had the resources to follow the evolution of paper dockets housed in Washington offices of the various federal agencies. As a result, small businesses and individuals have been at a relative disadvantage. With the advent of online dockets there is no longer a need to have a Washington representative, and the cost of entry for any participant in a given rulemaking is greatly reduced.

Moreover, an electronic docket should be more than an online incarnation of the old paper-based system: it should be a gateway to new forms of public participation, encouraging interaction among participants who can read each other's comments as they are submitted; and it should provide a platform for online dialogue. It should also facilitate multi-media contributions, allow for complex, linked submissions and have the capacity for direct access to computer models used to generate data for specific comments.

2. PERFORMANCE AND DESIGN

The first question to ask of the Federal Docket Management System [2] (FDMS) is whether it works: can information that has been added to the system be retrieved in a manner that is efficient and reliable enough to meet the needs of individuals, researchers and other stakeholders? We have begun to address this question by constructing a simple robot that can make queries in the manner of a typical user. We have instructed our robot to browse through the system, focusing upon the metadata that characterizes documents in the system. We emphasize metadata for several reasons. (1) As presently structured, the FDMS does not provide public users with full-text search capabilities. Hence the only way these users can find information in the system is through the metadata fields used to index that information. (2) Previous online docketing systems have been found to save money for the agencies that operate them, but only when these agencies have been able to discard their paper records. If the FDMS is to serve as an official record, it is imperative that no information should disappear through misfiling. (3) Well-chosen metadata fields provide users with a roadmap of the system. If the metadata is accurate and complete, it should be possible to construct graphical interfaces to speed navigation through the system. (4) Researchers require a clear categorization of the data they use. Good metadata is thus both an enabler of research and a prerequisite for valid conclusions.

Our findings for metadata in the present FDMS (April 2006) are mixed. There is a data dictionary, but few fields are mandatory, and there appears to have been little or no effort to verify the metadata supplied with each entry. Hence there are many misspellings, invalid dates, blank fields and inconsistencies.

Furthermore, since agencies have been allowed to create their own individual metadata fields, there is a lack of standardization across agencies that a unified docketing system might have been expected to address.

Performance is also problematic. The system has an internal timeout of five minutes for all queries. When this time is exceeded in response to any request, the system fails. We have found it fairly easy to generate this type of failure by requesting a long list of items and attempting to move around in the resulting list. While most users will not typically bump up against this internal time limit, they will find it difficult to extract information from the system due to other constraints: responses are uniformly slow and system design impedes the flow of information. As a result we have found it impossible to extract metadata from the system at a rate higher than 1 Megabyte per hour, a limitation due almost entirely to the response speed and design of the FDMS.

The system is designed around a search engine and a page viewer that displays search results. Because the search results are dynamically generated, it is not possible to bookmark responses. Thus it is rather awkward to return to individual documents in the system. Related to this design limitation are restrictions on workflow. The system presumes that users will follow a particular set of steps to search for and retrieve desired information, and it locks them into this presumed unique path of inquiry. Thus, for example, it is impossible to open multiple windows, as one might want to do to explore in turn the documents returned by a given search. This design slows things down, since the system insists upon redisplaying the same index page again and again, and it crashes if a user attempts to circumvent this restriction by using multiple windows on her browser. Error handling in the present version is poor in general, with users repeatedly being subjected to lengthy and uninformative messages from the underlying Java code.

The design philosophy of the FDMS is oriented toward individual users searching for small amounts of information. While there are no doubt many such users, we suspect that many professional users will ultimately be interested in accessing large amounts of information from the system, such as the entire contents of selected dockets. For such users, and certainly for researchers, the value of the present system is very limited. Such users require mechanisms for bulk download, which are not currently implemented. Also of interest is the possibility of bulk uploads, as might be appropriate for a set of linked comments or a set of anecdotes linked to an analytic summary. Web Service interfaces could easily provide this level of functionality.

3. ENHANCEMENTS

The technical issues that underlie metadata problems in the present FDMS should be relatively easy to correct. There should be more standardization of metadata fields, and verification tools should be provided to assist agency staff in entering this information. Standardization won't be trivial, since it will require agreements among many agencies and the training of a large number of agency personnel. A participatory process is needed, in

which agencies identify common needs and seek mutually acceptable solutions. This process would itself be valuable, by forging collaborative bonds and encouraging agencies to develop shared resources, such as validation tools, that will save time and effort for their personnel. In the meantime we have constructed a mirror of the official FDMS, where cleaned-up metadata can be provided, and experimentation can be done with the structure of the system.

Fixing the user interface may more difficult, since many of the problems reflect design decisions that were made early in the process of putting the system together. There was clearly a strong commitment to making everything dynamic, at the cost of easy indexing, bookmarking, system performance and flexibility. One lesson that may be drawn from this project is the need to involve user communities in the design process, rather than leaving crucial details in the hands of the system integrator.

We propose to bring the user community into the design process at the present stage of the system's development. This will be possible if we develop the mirror site that we have created into a more general collaborative resource. This will provide a window into the official site, with tools added that make it easier to view information in the system, to analyze this information and to model future enhancements, including alternative user interfaces. Since the mirror site works with real (and real-time) data in the FDMS, it can also be used to provide a platform for experiments with public participation in the rulemaking process.

We propose to open this platform to researchers and members of the public who are interested in exploring the potential for online participation in rulemaking. Some specific enhancements that we would like to explore are (1) the use of online dialogue in rulemaking; (2) development of other linked comments, such as individual experiences with a regulated drug, coupled with statistical analyses of these testimonials; (3) open modeling, that is, access to computer models that underlie agencies' or commenters' assertions or proposals; (4) provision of bulk downloads; and (5) graphical displays of information in the FDMS, including the dynamics of the rulemaking process.

4. ACKNOWLEDGMENTS

We would like to thank The William and Flora Hewlett Foundation and the Deliberative Democracy Consortium for partial support of this research.

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E-Rulemaking: Needs from ICT Perspectives

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ABSTRACT

E-Rulemaking aims to increase public participation and to improve governmental processes in creating rules. A central Federal docket system has been established for posting of proposed rules and facilitating the submission of public comments. While the Federal docket system is an important first step, other rulemaking activities, including legislation/rule drafting, public participation, processing and management of public comments, validating consistencies of rules, compliance assistance and rule enforcement, need further developments in order to fully realize the benefits of e-Rulemaking.

Categories and Subject Descriptors

H.3.3 [Information Storage and Retrieval]: Information Search and Retrieval – *retrieval models*, I.7.1 [Document and Text Processing]: Document and Text Editing – *Document management*, K.4.1 [Public Policy Issues]: Regulation.

Keywords

E-rulemaking, Comments, Drafting, Compliance, Enforcement.

1. INTRODUCTION

As one of the key E-Government initiatives by the Executive Office, e-Rulemaking has drawn significant interests from both government agencies and academic research community. The e-Rulemaking initiative aims to transform the Federal rulemaking process by enhancing the public's ability to participate in regulatory decision-making, with the expectation that "businesses [and public citizens] will no longer need the assistance of a lawyer or lobbyist to participate in the regulatory process [4]". Currently, a Federal docket system is in place to provide some infrastructure support for e-rulemaking. However, further advances in the use of information and communication technology (ICT) are needed to realize the benefits of e-Rulemaking.

2. CURRENT EFFORTS

During the notice-and-comment process of rulemaking, government agencies are required to inform and to invite the public to review proposed rules. Interested and affected parties then submit comments accordingly. Electronic media, such as the Internet, provide an environment for the public to comment on proposed rules and regulations. Currently, the most noticeable effort is the establishment of a one-stop Federal e-Rulemaking docket system *Regulations.gov*. The web portal system provides supports for posting proposed rules and submission of public

comments. The docket system will eventually allow users to access and search all publicly available regulatory material, such as Federal Register notices and rules, supporting analyses, and comments submitted by the public.

One immediate issue is that electronic submission can draw a large number of public comments that need to be reviewed and analyzed along with the drafted rules. An "effortless" electronic comment submission process can easily turn into a huge data processing problem for a government agency [13]. As noted by Eisner [3], government e-Rulemaking needs better tools to

- Organize, assess and respond to public comments
- Track and interact with commenters
- Summarize huge documents
- Detect duplications or contradictions with other proposals or existing requirements.

Various digital government research activities are now working towards supporting comment processing activities. Methodology is being investigated to compare drafted rules with public comments, with the objective to better organize public comments with proposed provisions and rules [7]. Language processing technologies are being developed to enable information retrieval, detecting near-duplicate comments, text summarization, and other tasks [11].

3. FURTHER APPLICATIONS OF ICT

The current web portal supports the basic notice-and-comment rulemaking process. In reality, however, the rulemaking process is more complex [2]. Rulemaking process involves "transforming legislation into specific, legally binding rules which are to be enforced by agencies [3]", where notice-and-comment is one, though important, step of the process. A holistic view of e-Rulemaking activities would include the drafting of legislation/rules, public notice and comment, rule validation, rule publication, and rule compliance assistance and enforcement. These activities need to be better coordinated in order to streamline the overall rulemaking process.

1. Rule Drafting: Properly designed tools can enhance the production of regulatory documents that can be read and interpreted by computer, and support advanced information retrieval services. Theories, models, and systems have been developed to support drafting of legal text [8]. Formal representations which include not only the rules but also useful

information such as definitions, references and background information, related rules and exceptions, need to be developed and possibly standardized. With that, a drafting system can be developed to automatically build formal representations from the “semi-structured” rule documents.

2. **Public Participation:** Engaging public participation is one of the stated objectives of the e-Rulemaking initiative. To this end, user-friendly interfaces are needed to assist in the commenting process. Commenters should be able to submit comments on a per provision basis, in addition to a per draft basis. Doing so will not only save participants time to paraphrase or cite their concerned provision but also will help rulemakers to locate related comments. Since cross references are often embedded in the rule, the system should also provide assistance to help searching and accessing multiple sources of regulations citing each other as references. Tools that encourage continued participation and support public deliberations will be beneficial [9].
3. **Rule Validation:** Regulations are frequently updated by agencies to reflect environmental changes and new policies. Tools that can detect ambiguity, consistency and contradiction are needed. Ambiguity could be difficult to deal with since it may arise in regulation texts intentionally and unintentionally. Inconsistencies and contradictions sometimes result from various regulations being issued by different governing bodies, each with different missions, authorities, stakeholders and modes of operation. Previous works have developed a semi-automated reference extraction parser, which can potentially be extended to locate cross citations and check for consistency of rules issued by different agencies [5,6].
4. **Rule Publication:** Governmental regulations should ideally be understandable and retrievable with ease by the general public. Meta information should be included to aid retrieval by identifying context, roles, and cross referencing. Tools should be developed to facilitate search and retrieval of rules according to needs. Facilitations for rule retrieval can also enhance research of applicable rules by the public and policy makers.
5. **Rule Compliance and Enforcement:** Deciphering and complying with regulations is a legal and paperwork nightmare for many businesses. As noted by Spence, “...a growing percentage of ... violations result from a misunderstanding of regulatory requirements or are otherwise unintended [12].” Complex rules can be detrimental to small businesses. Specific drafting tools should be developed to help policy writers in orchestrating clean and comprehensive rules. Having rules expressible in some suitable computational forms will also allow for automatic and quantitative processing [10]. Computable rules will promote performance-oriented standards versus overly detailed rules that often constrain business innovation.

4. DISCUSSION

While current Federal docket system represents an important first step, further advances and deployment of ICT can play a key role to enhance the e-Rulemaking process, from rule creation to rule management and compliance assistance. Regulations are

increasingly recognized to be an important part of business planning and strategy [1]. It is fundamentally important that rulemaking process becomes more citizen-centric and promote business innovation. E-Rulemaking provides a rich, multi-disciplinary research platform involving government agencies, social scientists, legal scholars, computer scientists, engineers and businesses as well as interested and affected citizens. Improvements and innovations of an integrated e-Rulemaking framework are much needed to help various parties to create, locate, retrieve, review, validate and comply with regulations.

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Better Inputs for Better Outcomes: Using the Interface to Improve e-Rulemaking

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ABSTRACT

We believe that e-rulemaking does indeed have potential to increase both the transparency of, and participation in, regulatory policymaking. We argue in this paper that this potential can be realized only if the public interface at www.regulations.gov is substantially redesigned.

1. INTRODUCTION

The E-Government Act of 2002 directed that regulatory government should become “more transparent and accountable” and more “citizen-centric” by providing web-based access to agency records, and by allowing Internet-facilitated participation in agency proceedings such as rulemaking.

With EPA serving as lead agency, and directed by the Office of Management and Budget (OMB), the first phase of compliance has created an electronic docketing system, the Federal Docket Management System (FDMS). At least theoretically, this e-docket will comprise the official record of all agency proceedings. The second phase is creation of an interface for rulemaking, the legal procedure through which agencies give notice of proposed rules, with supporting data and reasoning. Interested members of the public are then allowed to submit comments, which the agency must legally take account of before issuing a final rule. For all federal executive agencies, the e-docket and the e-rulemaking interface will be found at a single portal, www.regulations.gov.

Prior to the emergence of www.regulations.gov, some agencies had been using their own e-mail and Web-based systems to solicit rulemaking comments. The alarmingly large number of public comments received in a few high-profile rulemakings raised concerns about whether a wholesale move to e-rulemaking would overwhelm agencies with high volume (and, often, duplicative or near duplicative) comments.

Thus, research attention was focused quite early on *ex post* issues of *comment management* and the development of tools to help agency rulewriters categorize and analyze comments -- as opposed to *ex ante* issues of *facilitating informed participation* and *comment enrichment*.

2. PROBLEMS WITH THE NEW INTERFACE

Ironically, given the announced “good government” goals of the E-Government Act, there is virtually no chance that the interface being constructed at www.regulations.gov will make regulatory government more transparent or accountable, and little chance that it will enable the public to participate in rulemaking more effectively.

Human-computer interaction (HCI) experts at Cornell asked to assess the interface rated it “absolutely horrific.” Fundamental design problems include: (i) the interface assumes the knowledge of a repeat player (e.g., lawyer) who knows how the regulatory process works, rather than providing information for lay persons new to the process; and (ii) it is built from the perspective of the underlying database “outward” and therefore violates the most basic tenets of webpage usability.

Moreover, legal educators and experts in legal informatics pointed out that no effort is being made to use technology proactively: (i) to educate users about the regulatory process; (ii) to provide meaningful assistance in locating the agency or proceeding relevant to the issue of interest to them; (iii) to understand the objectives, steps, and general context of the notice and comment rulemaking process; or (iv) to facilitate the submission of comments richer in substance and thus more useful to the agency. Indeed, elements of the current website design (such as the apparent limitation on comment size) might affirmatively hinder effective comment management by encouraging submission in forms more difficult to process.

3. OUR PROJECT

We believe that e-rulemaking does indeed have potential to increase both the transparency of, and participation in, regulatory policymaking. *However, this potential can be realized only if the public interface at www.regulations.gov is substantially redesigned.* The focus of redesign efforts should, at minimum, include:

- better guidance in locating the relevant agency and/or proceeding
- basic educational cues about the objectives and procedure of the rulemaking process
- a Web presence grounded in an up-to-date, scientific understanding of web usability.

In addition, we wish to explore a variety of ideas on:

- input formats that facilitate comment management and analysis by the agency – in particular, how much issue channeling is useful at the point of interface?
- devices to encourage commentors who initially express “mere sentiment” to participate in more substantive (and therefore more useful) comments
- methods to use existing comments to help potential commentors formulate more meaningful inputs – e.g., information on number/content of comments to date; threaded comment chains
- methods to increase the transparency of the rulemaking process by providing appropriate post-submission feedback to commentors
- the use of “best-practices” guides to assist e-rulewriters in creating proposed rules and putting them before the public in ways that are efficient and effective in the Web environment
- exploration of legally and practically available incentives to “good” commenting.

4. OUR GOAL

Our aim is to produce a working interface of superior transparency and participatory potential that could be substituted for the current interface at www.regulations.gov, along with a Best Practices guide for agency e-rulewriters.

Working as closely as possible with relevant government officials, our design efforts will not only be based on existing HCI research and experience with legal informatics whenever possible, but also tested through laboratory and field simulation. We will collect both quantitative and ethnographic data on impact and functionality from both the public and the agency, thus grounding assessment of the effectiveness of the interface and providing a basis for continuous improvement.

We have a great deal of respect for the many agency officials who have worked hard over the years to make Web-based rulemaking a reality. By paying serious attention to the interface, it is possible both to facilitate current research efforts in comment management and to actually accomplish, to some modest degree, the goals of the E-Government Act.

The Next Generation of E-Rulemaking: A User's Perspective

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ABSTRACT

To date, e-rulemaking has offered the user little more than the opportunity to post or view agency documents and comments online, and then comment (or receive comments) electronically on proposed rules. While this is significant service it does not begin to exhaust the potential of digital technology to solve or ameliorate long-standing problems that have plagued traditional rulemaking, and thereby improve the rulemaking process. This paper examines these deficiencies, evaluates the current contribution of e-rulemaking from a user's perspective, and sketches the broad outlines of a concept and a research agenda for harnessing the full potential of information technology to improve government decision-making.

Categories and Subject Descriptors

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General Terms

Performance, Design, Experimentation, Legal Aspects.

Keywords

Digital government, rulemaking, e-rulemaking, docket, docket management, regulation.

1. INTRODUCTION

Government regulation is often derided, but it protects, among other things: the safety of our air, water, food, drugs, and consumer goods; the future of our physical environment; and the integrity of our financial markets. It also is extremely expensive, with estimates of the cost of federal regulation to the American economy exceeding \$500 billion per year.[6] It is therefore of fundamental importance that the regulations issued by our government be as well-informed, as rational and as fair as possible.

This goal has proved elusive for three main reasons. Agency bureaucrats often exhibit bounded rationality at best. Much of the data and analysis that is relevant to rulemaking lies in the hands of experts and regulated interests outside the agency. And many regulatory decisions confront questions of policy, value and fairness to which there is no "right" or expert answer. As a result, sound regulation is particularly dependent on an open and inclusive rulemaking process to inform agency decisions on both technical and normative issues.

Traditional rulemaking is not, and has never been, such a process. The remainder of this paper explores limitations on traditional rulemaking that administrative law scholars have long understood, evaluates the (limited) contribution of e-rulemaking to date in addressing those problems, and documents the currently unfulfilled potential of e-rulemaking to remedy or greatly ameliorate these shortcomings. It also proposes a research and development agenda for harnessing that potential.

2. USING DIGITAL APPROACHES TO TRANSFORM RULEMAKING

2.1 The limitations of traditional rulemaking

The minimal procedure expressly required under the Administrative Procedure Act (APA) assures the public of one official notice of a proposed rule and one chance to file written comments.[1] That's it. While agencies in practice have often gone beyond these statutory minima, the process they have embraced remains non-transparent to the public and non-dialogic (there is usually little opportunity in practice to respond to comments of others or track the evolution of agency thinking). As a result, there is no effective quality control on the information being used in the decision process, and no assurance of either balanced or effective representation of major stakeholders in the rulemaking process. Yet, despite these elisions, rulemaking is very slow: it is not uncommon for complex rules to take a decade or longer to promulgate, only to then be challenged in court.[5]

2.2 Enter the Digital Age

The advent of computers and the Internet offers the prospect of a "New Deal" for rulemaking. For the first time in history, it is now practical, not just desirable, for everyone to have instant access to the data and the studies on which the agency is relying. For the first time, one can realistically imagine a truly dialogic -- if not "deliberative" in the Utopian sense -- process which fosters effective fact-checking and informational quality control, and balanced representation of interests in the rulemaking process. The Internet makes possible "paper hearings" which were logistically unimaginable in a world confined to paper, postage and Washington, D.C. docket rooms. It makes it possible (indeed inexpensive and relatively easy) for these virtual hearings to include a broad range of stakeholders and technical experts drawn from all over the nation. In short, the Internet makes possible new approaches to rulemaking

which are more competent, more inclusive and more streamlined than the old way.

But they haven't happened so far. Agency documents and comments have been put on-line and this is a great service. But they are so lengthy, numerous, and difficult to search, under the current Federal Docket Management System (FDMS), as to be all but useless to all but a handful of cognoscenti (usually lawyers for regulated interests). For everyone else, too much information – badly disorganized – is not much better than too little.

Moreover, little or nothing has been done to harness the potential of the Digital Age to make rulemaking more dialogic, more transparent, more inclusive, or more expert. Though the Internet radically shrinks the intrinsic logistical barriers that used to limit the participation of outside experts and stakeholder representatives, little or no effort has been made, to date, to use email and the Internet to expand the pool of expert/stakeholder participants in rulemaking beyond traditional boundaries. Though the Internet makes possible both synchronous and asynchronous discussion fora that bring experts and stakeholders representatives nationwide in a truly dialogic environment, that hasn't happened either.

A few years ago, one observer wrote, with reference to rulemaking, that “the Internet changes everything.”[4] So far, however, main impact of e-rulemaking (beyond the indisputable service of taking documents out of the musty docket room and putting them on-line) has been to elicit, in many cases, avalanches of “spam” e-mail comments generated by special interests of all stripes.

2.3 What went wrong?

Three systemic factors account for the under-achievement of e-rulemaking to date. First, it would appear that the FDMS was developed in a hurry, by computer experts, without adequate demand-side input from those who use the system and without adequate Beta-testing. Second, the FDMS has been imposed imperiously on agencies, in a manner which has actually suppressed innovative and creative experimentation at the agency level. Third, and most of all, digital rulemaking has been implemented, so far, without adequate attention to the long-standing, fundamental shortcomings of rulemaking. The consequence has been a marked inattention to the potential of digital approaches to improve the rulemaking process by correcting these deficiencies.

2.4 Towards real rulemaking reform

As described more fully below, realizing the full potential of e-rulemaking will require innovation along two main dimensions.

2.4.1. Improving document access and opening the process

The online Federal Docket Management System (FDMS) is an important step forward: it makes key rulemaking documents much more readily available to the public than was ever possible previously. Nonetheless, it could and should be improved by expanding the range of documents in the system and improving searchability. At present the only categories of documents that are readily accessible through the FDMS are those associated with final rules and proposed rules currently open for comment. Yet as all administrative law practitioners appreciate, the proposal of a rule in the Federal Register actually

comes quite late in the process -- after the problem addressed by the rule has been identified, after the main facts relevant to the rule have been found, after the principal options for addressing the problem have been laid out, after an approach has been chosen, and, in many cases, after that approach has itself been studied at length through quantitative and qualitative cost-benefit analysis.

Throughout this entire pre-proposal period, the agency is conducting research, consulting stakeholders, commissioning and evaluating studies, and receiving information and comments from experts and stakeholders on the subject of the rule – all through essentially unstructured and *ex parte* contacts. Scholars, agencies and courts have long debated whether *ex parte* contacts are appropriate in the context of a rulemaking.[2][3] The assumption in the past has been that they are necessary to efficient information gathering in a polycentric decision process. The advent of email and Internet potentially calls that assumption into question, raising an issue – worthy of further research – into whether the time has finally come when *ex parte* contacts in rulemaking, with all their attendant consequences for accuracy of information and equity of access, may finally be laid to rest.

What seems clear in any case is that the rulemaking consultative process should begin earlier and that it should be made as transparent as possible. This means, at a minimum, that the FDMS as accessed through www.regulations.gov should be expanded to include the Unified Agenda of Federal Regulations along with *contemporaneous posting* of all documents associated with each proto-rule that are generated or received after the agency decision to initiate a rulemaking (a step typically taken long before proposal and formal opening of the official comment period).

Moreover, it turns out that few rules spring out of a policy void. Many new rules build on and make reference to prior rules, through modification, supplementation, or reference to related subject matter. In such cases, meaningful comment requires meaningful access to the prior final rules and actions that form the factual and policy predicate for the rule being considered, and to the key documents that informed those prior rules and actions. While agency budgets may not permit the scanning and digital posting of *all* prior final rules and related documents, certainly the FDMS can and should be expanded to include those “legacy” rules and materials that are directly relevant to the rule in question.

Beyond expanding the document base, the searchability of the FDMS leaves much to be desired. For example, searches are glacially slow by modern standards. There is no subject matter indexing or topical search capability, only keyword searching, the utility of which depends on the availability of distinctive keywords. Documents are sorted chronologically by date of *posting* to the FDMS, a date which matters only to the person doing the posting and which often bears little relation to the date of document generation and/or receipt. (It is the latter date that users need to chart the intellectual flow of the argument.) In short, the FDMS needs improving even as a simple repository of electronic documents.

2.4.2. Fostering on-line dialogue

A second line of innovation would make the FDMS something more than a passive repository of e-documents in order to address

a problem that has long bedeviled notice and comment rulemaking: the lack of open and structured dialogue with outside experts and stakeholders during the rulemaking process. As indicated earlier, iterative commenting is the exception rather than the rule in agency practice, and sustained dialogue with outside stakeholders virtually non-existent. This despite the fact that the Internet would seem to make iterative commenting and dialogue technically feasible for the first time. The result is that agency thinking must develop without the fact, logic and reality check that real-time stakeholder and expert feedback might provide.

Three principal factors have impeded progress toward iterative comment and/or dialogic rulemaking. First, there is simply the volume and length of comments received in many rulemakings. Agencies struggling to manage a single round of comments are unlikely to see the merit of opening the door to multiple rounds to promote replies.

Second, comments that come in are neither sorted by subject, nor indexed, nor readily searchable. They are simply posted in chronological order, by date of posting. If reply comments tend to be rare, this may be because commenters have no way to know which issues matter most to agencies and which of all the many submissions – and arguments contained within submissions -- merit a reply. In many cases, simply *reading* all the submissions is beyond the capability of all but the largest organizations.

Third, agencies in practice make a policy of ensuring that the flow of information is almost entirely one-way: from the public to the agency. As one senior agency official put it: “I tell my staff that when it comes to conversation with the public, ‘Remember, you’re a sponge, not a spigot.’” This reticence is sometimes explained by the observation that agency staff do not want to seem to be pre-judging issues, preempting decisions of their political superiors, or furnishing fuel for collateral legal attack if the staff position is rejected later on. Also, agency staff interviewed for this project have expressed a perceived need to avoid privileging (or appearing to privilege) certain comments over others in the process. Either way, the result is that the evolution of agency thinking occurs largely within a black box during the interval between the initial notice and the final rule (except for those playing the “ex parte game”), a circumstance which greatly impedes the ability of all but a handful of stakeholders to follow the evolution of agency thinking and comment meaningfully on it.

The last problem mentioned above is not something that digital government can address. Solving it will require that agencies be willing to recognize publicly what should be obvious in any case: all comments are not created equal and do not merit equal treatment. They will not get equal treatment in the final rule (some will be accepted, others not), so there is little merit in maintaining the pretense of equality prior to that. Meanwhile, the appearance-of-prejudgment problem can be managed by simply adopting a public policy or rule that “nothing is final until everything is final” and that thoughts, opinions, views expressed by staff in the rulemaking process are offered in the fact-finding and brainstorming mode and have no legal significance whatsoever.

If the black-box problem is readily managed (and is unrelated to digital government in any case), the first two problems mentioned above – length and volume of comments and lack of searchability – are more difficult and fall squarely within our scope. They pose the most fundamental and important challenges for those designing the next generation of e-rulemaking. We close with a brief review of these interrelated challenges and the most promising lines of research and development for addressing them.

The problem of mass email campaigns or “spam commenting” has been much studied by other scholars.[7][8] Therefore the discussion here will be limited to the observation that (1) it is by no means a ubiquitous problem (most rules do not attract mass email campaigns); (2) it now appears technically feasible to identify duplicative emails using computer programs now under development, and (3) if duplicative emails thus identified do not merit individual consideration neither should they be simply ignored. They constitute public opinion which may not matter much on technical issues, but is quite relevant to the disposition of both normative issues and factual issues that turn on public perception or behavior. Ideally, such emails would be identified, sequestered, tallied, and then, in appropriate cases, *probed* to identify where possible the solicitation message which triggered the mass mailing, the veracity of that message, and (possibly) the response of mass e-mailers to a computer-generated reply message which offers a corrected version of the facts. Sampling techniques can be used to glean the content of such messages without having to read all of them.

A more-difficult and less-explored issue is how best to obtain and manage the often lengthy and complex submissions of outside experts and principal stakeholders, be they States and localities, other agencies, regulated interests, or public interest groups. These non-duplicative submissions also can be quite numerous, and they typically deal with a multitude of issues raised by the rule. Keeping track of all the points of view on all the issues is a huge challenge for agency staff and this author is aware of at least one case where an agency actually hired a contractor to go through the comments and create a matrix of issues and viewpoints on issues to help inform the agency’s analysis. Unfortunately, this matrix was never made public or tested as a device for facilitating responsive, iterative public comment on the issue. But it is a promising idea, made even more interesting by the fact that the next phase of scheduled FDMS implementation appears to include a rule-makers’ desktop management system. Why not put a version of such a matrix in the public domain during the rulemaking to inform and guide public comment? Indeed, Peter Strauss reports that the European Union has already developed a questionnaire format for soliciting outside input on emerging Directives which might serve as a model for how to structure a dialogue as opposed to aimlessly soliciting comments and then compiling them in a list.[9]

In any case, it seems clear that comment management is the next frontier of e-rulemaking research, with enormous potential for improving the process. Hopefully, computer experts will approach that frontier this time in consultation with administrative process experts and users and so avoid some of the unnecessary pitfalls that have plagued the FDMS to date.

3. ACKNOWLEDGMENTS

I would like to thank the members of the ABA Administrative Law Section for their many thoughtful contributions to this project as it has developed.

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When Do Interest Groups Use Electronic Rulemaking?

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ABSTRACT

This paper analyzes how electronic rulemaking is affecting the propensity of interest groups to file comments and replies at the Federal Communications Commission. The paper shows that exogenous events and a handful of issues drive filing behavior. Implications of the analysis are discussed.

Categories and Subject Descriptors

D.1.d. Computer Applications; Administrative Data Processing; Government

Keywords

E-rulemaking, administrative law, telecommunications, Federal Communications Commission.

1. INTRODUCTION

There have recently been a number of empirical papers examining the micro-detail of e-rulemaking. Most of these papers conduct an in-depth analysis of a single or very small sample of docketed proceedings or issues before an agency to determine the mechanics, mechanisms, and success of e-rulemaking. [1,2,3,4] This paper uses data on all electronic filings at the Federal Communications Commission (FCC) to examine how e-rulemaking has changed the nature and composition of filings. In this paper, the identification of broad trends in e-filings is the focus, one that may be overlooked in the micro-analysis found in other work.

2. DATA

The data used here were kindly provided the FCC Reference Information Center. Since 1999, this Office of the FCC has tracked, on a monthly basis, the number of electronic filings the FCC has received through its Electronic Comment Filings System (ECFS). Figure 1a provides a graph of the number of ECFS filings at the FCC from January 1999 to December 2004. There is a noticeable jump in the number of electronic filings in October 2004 and a smaller jump in electronic filings in October 2002. Figure 1b presents the same data, with October 2004 omitted, and the data rescaled to reflect the lower variance in electronic filings. An additional pattern is noticeable. There is another small increase in the months proceeding the September 11 terrorist attacks upon the United States, and yet another in October 2002.

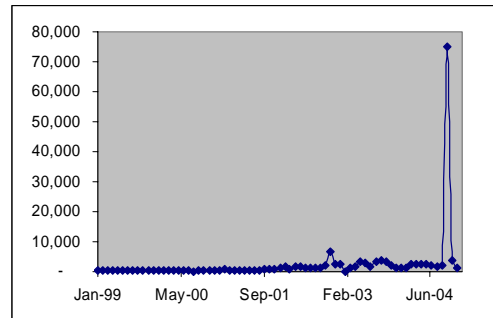


Figure 1a: Number of Monthly ECFS Filings, 1999-2004

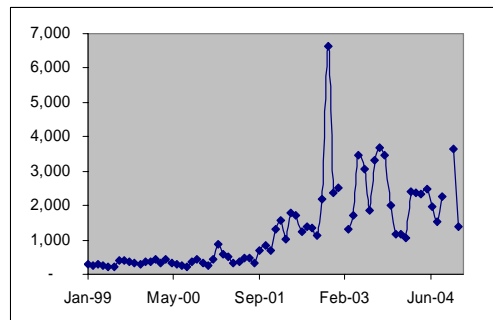


Figure 1b: Number of Monthly ECFS Filings Omitting October 2004, 1999-2004

3. DESCRIPTIVE STATISTICS

From 1999-2004, the Commission had electronic rulemaking infrastructure. Yet, except for these four events, the filings during this time look much like the filings when there was only a paper filing option. In four cases, however, there was an increase in filings. What has caused the increases in filings? The claim here is that two basic types of events will catalyze interest groups to increase their use of the electronic rulemaking infrastructure: exogenous events and issues. Exogenous events are those events which occur that are outside the control of the Commission. Issues are those very few dockets that attract interest group attention to the Commission, and thus cause a spike in filings.

In the months after September 11, the U.S. was on-guard against terrorism and worried about an Anthrax scare. Lobbyist, lawyers, and interest groups, not wishing to expose themselves to harm, shifted away from paper filings to electronic filings. These types of events are exogenous—they are out of the control of the Commission and are largely unpredictable. The spikes in filings

in October 2002 and 2004 are due to two issues that were before the Commission: The Telecommunications Protection Act (Do-Not-Call List) and the Media Ownership Rules (limiting how many media outlets and market share that one company could own in a media market). These are Issues that increase in filings.

4. STATISTICAL ANALYSIS

To examine the validity of these claims, a statistical analysis is of monthly ECFS data is conducted. To do this, two ordinary least squares regressions are run where the dependent variable is the number of ECFS filings in a given month, beginning in January 1999. We examine two main independent variables. The first independent variable, Exogenous Events, is an indicator variable which is equal to one for the months covering the three months after the September 11 attacks and the months covering the Anthrax scare (December 2001 to May 2002), and zero otherwise. It is designed to measure how these exogenous events affected ECFS filing behavior. The second variable, which is named Issues, is an indicator variable which is equal to one for the months in which the Do-Not-Call List and Media Ownership Rules (first and second review) were being considered by the Commission, and zero otherwise. It is designed to measure the effect that these issues had on ECFS filing behavior.

In addition to these variables of interest, the statistical analysis includes a constant, and a variable called Trend, which is a count variable starting with 1 in the first month of the sample and counting each additional month. This variable is designed to control for variables that are increasing over time, such as more issues before the Commission, more inherent participation by interested parties in issues, and the rise of e-advocacy and information technology over time. All months preceding the variable of interest the months with the variable of interest are used.¹ The results of the analysis are presented in Table 1.

Model 1 presents the results with the Exogenous Events variable, and Model 2 presents the results with the Issues variable. In all Models, the F-statistic shows that the coefficients are jointly statistically significant at the 99% level of confidence, despite the relatively small number of observations. The standard errors are in parentheses beneath the coefficient estimates.

In Model 1, the coefficient on Exogenous Events is both positive and statistically significant. The coefficient means that in the months after the September 11 attack, there was an increase of 671 filings per month on the ECFS system. In Model 2, only the coefficient on Issues is statistically significant. A “key” issue before the Commission results in a 6,796 increase in monthly ECFS filings. These results hold even when we include the Trend variable in the models.

¹ For example, in Model 1, we measure the impact of Terror on ECFS filing behavior. We include in the sample frame all months preceding the September 11 terror attacks (January 1999 to September 2001) and the three months immediately after the terror attacks (October 2001 to December 2001).

Table 1. Table captions should be placed above the table

Variable	Model 1	Model 2
Exogenous Events	671.27 (117.14)	
Issues		6,796.36 (2862.04)
Trend	8.03 (3.92)	68.91 (51.40)
Constant	229.08 (76.58)	-1,354.02 (1,982.71)
n	41	71
F-Statistic	50.25	6.05

5. CONCLUSIONS

A number of ideas can be taken away from the descriptive data and this analysis. First, exogenous events and issues do cause spikes in e-filings. Second, these events are quite rare. That is, during the entire six years of data presented, only two exogenous events or issues registered a significant effect on filing behavior. Third, most issues seem unaffected by e-filings rules, outside of these four instances. That is, electronic rule-making does not seem to noticeably alter filing behavior. In all other instances, e-filing looked very much like the paper filing regime before it. That leads to a fourth conclusion, that a “build-it-and-they-will-come” attitude for IT infrastructure development will likely not work. Finally, we must be careful about what we learn from empirical studies of e-rulemaking. A sample frame that includes only dockets with many filings may be sampling only outlier dockets. That is, the lessons we learn from these studies may not be generalizable.²

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² The arguments presented in this paper are further developed in [5].

Trust in Government and the Role of Public Participation in Rulemakings with Large Numbers of Public Comments

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1. INTRODUCTION

For several years now, hopes and concerns have been expressed about the role of the Internet as a salve for wounded public trust in the United States [1][7]. Officials, scholars, and activists alike have alternately praised and lamented the idea of bringing the public more fully into the regulatory rulemaking processes [3][5]. In theory, Internet-enhanced rulemaking could result in more and better participation by citizens in a highly transparent policy process [5]. In practice, however, the potential of e-rulemaking may be limited by entrenched attitudes about the nature of the governmental process and the efficacy of voicing concerns via the public comment process [2][8].

This brief white paper reports several findings from a National Science Foundation-funded study (SES-0322622) examining the deliberative potential of Internet-enhanced public participation in U.S. federal rulemaking.³ The complete survey (n=1,553), which compares both electronic and paper commenters, as well as form letter submitters and writers of original comments, is reported elsewhere[6]. Here the focus is on those indicators that help explain the attitudes of participants toward government and the role of public participation in decision-making in three recent U.S. federal regulatory actions.

2. DATA AND MEASURES

A survey frame was created using large public comment datasets supplied by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Transportation (DOT). Each of these rulemaking events was controversial, generating large numbers of citizen comments (numbering in the tens or hundreds of thousands). The survey frame was assembled from the following regulatory actions: the EPA's advanced notice of proposed rulemaking (ANPR) on the Clean Water Act regulatory definition of the "Waters of the United States," the EPA's proposed National Emissions Standards for Hazardous Air Pollutants, and the DOT's ANPR on the Corporate Average Fuel Economy Standards.

A telephone survey instrument was administered using a computer-assisted telephone interviewing (CATI) system.⁴ Thirty trained interviewers completed the telephone surveys. The interviews took an average of 14 minutes to complete. Respondents qualified to complete the interview if they recalled submitting a comment to a Federal public agency and if they were 18 years of age or older. The survey was completed by 1,553 respondents between August 30 and November 24, 2004. This represented a cooperation rate of 48%, with a margin of error of plus or minus 2.5 percentage points.

The following variables were employed in statistical analysis. Age was treated as a continuous variable, ranging from 19 to 95 years (mean = 52.37). Male was coded "0 = male" and "1 = female." Males represented 53% of the sample. White was a dichotomous variable, coded "0 = Non-White" and "1 = Non-Hispanic White." Most (90%) were White. Conservative was coded "0 = other political perspective" and "1 = Conservative." In our sample, only 12% reported that in politics today they considered themselves to be conservative.

Respondents indicated the number of times they had submitted a comment in the federal rulemaking process. The variable Times was treated as a continuous measure, with response categories of 1 = "1 time," 2 = "2 times," 3 = "3-5 times," 4 = "6-10 times," 5 = "11-20 times," 6 = "21-50 times," and 7 = "more than 50 times." The mean response was 4.67. Form was a dichotomous construct (0 = original letter; 1 = form letter) that indicated the nature of the respondent's most recent public comment. The majority (51%) commented using a form letter.

Respondents indicated which sources of information they were most likely to use prior to commenting on a rule. Interest group data was a dichotomous variable (0 = otherwise; 1 = received a direct mailing from an interest group or consulted their website). Nearly half (47%) said that interest groups were a key source of information. Agency dissatisfaction was a dichotomous measure (0 = otherwise; 1 = negative). Respondents indicated whether

³ This project was funded by a grant (SES-0322622) from the National Science Foundation, Social and Economic Sciences, Program on Social Dimensions of Engineering, Science and Technology (SDEST), Ethics and Values Studies. Any opinions, findings, conclusions, or recommendations expressed in this material are those of the authors and do not necessarily reflect those of the National Science Foundation.

⁴ The first author wishes to acknowledge his collaborators, David Schlosberg and Steven Zavestoski, who took the lead designing the survey instrument. The survey was implemented by Fred Solop and the staff at the Social Research Laboratory at Northern Arizona University (<http://www4.nau.edu/srl/>). Primary statistical support for this white paper was provided by Dr. Lisa Thrane of the Research Institute for Studies in Education at Iowa State University.

their participation in the rule-making process led to a negative view of the agency involved. Over one-quarter (27%) suggested that they held a negative view.

Principal components factor extraction, with oblimin rotation using Kaiser normalization, was performed with SPSS on the five items measuring attitudes toward the rulemaking process. The Anderson-Rubin procedure was used to save the resulting factors as standard normal composite variables with mean zero and standard deviation one. Missing values were not replaced. Two factor scales were extracted: involvement in the process and efficacy.

Involvement in the process is a scale comprised of 3 items. Respondents indicated if they learned about and were satisfied with agencies' final decisions on commented issues, as well as if their participation influenced satisfaction with the final decision. Factor loadings were fairly robust (.65 - .73). Higher values of the scale indicate more involvement in the rule-making process.

Efficacy is a two-item scale. Respondents indicated whether they believed that individuals had the ability to change a proposed rule by commenting (.75) or whether mass mailing campaigns by groups (.81) were an effective strategy. Higher values of the scale reflect increased levels of efficacy.

Governmental trust is a construct that measures trust in the federal government. Individual item response categories range from 1 = "never," 2 = "rarely," 3 = "some of the time," and 4 "all of the time." The majority of respondents reported that the government was trustworthy some of the time (Median = 3.00). Higher values indicate greater trust in the federal government.

Intercorrelations among the variables examined in this study, together with descriptive statistics, are presented in Table 1. Involvement and efficacy increased trust in government ($r = .20$; $r = .14$, respectively). Males ($r = -.16$) and conservatives ($r = .19$) were more trusting of government. Individuals who had commented fewer times ($r = -.14$) and who had written original letters ($r = -.18$) were more supportive of the government, whereas those who viewed interest groups as key sources ($r = -.06$) and who were more dissatisfied ($r = -.22$) were less trusting.

Younger ($r = -.06$), conservatives ($r = .12$), and males ($r = -.07$) were more involved in rulemaking. Higher levels of involvement was correlated with the number of times a letter was submitted ($r = .07$) and the number of original letter writers ($r = -.08$). Respondents who did not seek information primarily from interest groups ($r = -.07$) and held more positive attitudes toward agencies ($r = -.08$) were more involved in the rule-making process. Males reported higher levels of efficacy ($r = -.06$). Relying on interest groups ($r = .12$), being more satisfied with agencies ($r = -.10$), and participating more often ($r = .07$) increased reports of efficacy.

A structural equation model (estimated with LISREL 8.50 statistical software, using the maximum likelihood procedure) with observed variables (that is, a path model) was estimated (Jöreskog & Sörbom, 1996). The chi-square lack-of-fit test was nonsignificant ($\chi^2 = 20.29$; $df = 19$; $p = .40$ (Figure 1). Younger respondents ($\beta = -.07$), Whites ($\beta = .05$), conservatives ($\beta = .12$), repeated commentors ($\beta = .13$), and original letter writers ($\beta = -.10$) were more involved in rulemaking, but consumers of interest group information ($\beta = -.06$) and those who held negative agency attitudes ($\beta = -.07$) were not as involved. Younger individuals ($\beta =$

$-.07$), males ($\beta = -.07$), repeated commentors ($\beta = .08$), interest group consumers ($\beta = .12$), and respondents with positive opinions toward agencies ($\beta = -.10$) were more efficacious. Males ($\beta = -.10$), conservatives ($\beta = .11$), less involved commentors ($\beta = -.08$), original letter writers ($\beta = -.12$), and agency satisfaction ($\beta = -.18$) were associated with higher levels of governmental trust. Being more involved in the rulemaking process ($\beta = .15$) and more efficacious ($\beta = .11$) increased reports of trust as well. Indirect effects were modest.

3. CONCLUSIONS

Diffuse and specific support for government is essential to its long-term survival, and to its ability to function with an acceptable degree of effectiveness in day-to-day policymaking. Both regime survival and mundane democratic decision-making processes hinge in large part on the ability of citizens to communicate with government officials. With expanding public knowledge of and access to electronic communication, future studies of what Karl Deutsch referred to nearly half a century ago as "the nerves of government" must take into account the rapidly expanding use and impact of e-rulemaking. As Deutsch built on Norbert Weiner's cybernetic concepts of "feedback," "channel capacity," and "memory," his concept of "social learning" may provide the basis for understanding how contemporary e-communication can shape 21st century politics and government in the United States.

Our results provide a data-driven perspective on what should be considered relevant to the agenda for current and future research regarding e-government. Involvement in e-rulemaking is conditioned by at least age, gender, race, political ideology, consumption of interest group information, attitudes toward government, involvement in e-rulemaking, and self-efficacy. These findings point to at least some of the parameters of the ideological digital divide in e-rulemaking, and provide the basis for more fully elaborated models addressing who benefits and who may lose from the spread of e-government.

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Table 1. Correlation matrix for governmental trust (n = 1256)

	1	2	3	4	5	6	7	8	9	10	11
1 Trust	--										
2 Involvement	.20**	--									
3 Efficacy	.14**	.15**	--								
4 Age	-.07*	-.06*	-.08**	--							
5 Female	-.16**	-.07**	-.06*	.03	--						
6 White	.01	.05	.03	.03	.03	--					
7 Conservative	.19**	.12**	.02	-.00	-.21**	-.05	--				
8 Times	-.14**	.07**	.07*	.06	.12**	-.00	-.13**	--			
9 Form	-.18**	-.08**	.04	-.08**	.06*	-.01	-.07*	.23**	--		
10 Interest group	-.06*	-.07*	.12**	-.05	.02	.02	-.09**	.07**	.07*	--	
11 Dissatisfaction	-.22**	-.08**	-.10**	.08**	.01	.02	-.07**	.09**	.06*	.06*	--
M	2.52	.00	.00	52.37	.47	.90	.12	4.67	.51	.47	.27
SD	.63	1.00	1.00	13.63	.50	.30	.32	1.69	.50	.50	.45

**p*

<.05;

**

p

<.01.

