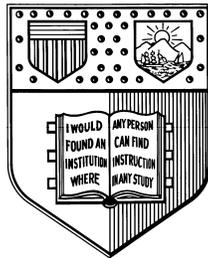


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Rulemaking 2.0

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RULEMAKING 2.0

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ABSTRACT

In response to President Obama's Memorandum on Transparency and Open Government, federal agencies are on the verge of a new generation in online rulemaking. However, unless we recognize the several barriers to making rulemaking a more broadly participatory process, and purposefully adapt Web 2.0 technologies and methods to lower those barriers, Rulemaking 2.0 is likely to disappoint agencies and open-government advocates alike.

This article describes the design, operation, and initial results of Regulation Room, a pilot public rulemaking participation platform created by a cross-disciplinary group of Cornell researchers in collaboration with the Department of Transportation. Regulation Room uses selected live rulemakings to experiment with human and computer support for public comment. The ultimate project goal is to provide guidance on design, technological, and human intervention strategies, grounded in theory and tested in practice, for effective Rulemaking 2.0 systems.

Early results give some cause for optimism about the open-government potential of Web 2.0-supported rulemaking. But significant challenges remain. Broader, better public participation is hampered by 1) ignorance of the rulemaking process; 2) unawareness that rulemakings of interest are going on; and 3) information overload from the length and complexity of rulemaking materials. No existing, commonly used Web services or applications are good analogies for what a Rulemaking 2.0 system must do to lower these barriers. To be effective, the system must not only provide the right mix of technology, content, and human assistance to support users in the unfamiliar environment of complex government policymaking; it must also spur them to revise their expectations about how they engage information on the Web and also, perhaps, about what is required for civic participation.

The day after his inauguration, President Obama issued a memorandum to federal Executive agencies directing them to use Web 2.0 and other information technologies (IT) to increase transparency, participation, and collaboration in their decisionmaking.¹ In December of

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2009, the Office of Management and Budget fleshed out that directive by giving agencies four months to create an “Open Government Plan.”² These plans were to include (i) proposals “to inform the public of significant actions and business of your agency,” (ii) “new feedback mechanisms, including innovative tools and practices that create new and easier methods for public engagement,” and (iii) “use [of] technology platforms to improve collaboration among people within and outside your agency.”³ Agencies had to identify at least one “Flagship Initiative” project representing a “specific, new transparency, participation, or collaboration initiative” being undertaken.⁴

Here we discuss a project, Regulation Room, chosen by the Department of Transportation (DOT) as its open-government flagship initiative and recently given a Leading Practices Award by the White House after a government-wide review of such projects.⁵ At the core of the project is an experimental online public learning and participation platform,⁶ which supports research in using social media outreach, web design, and facilitative moderation techniques to achieve broader, better public participation in “live” (i.e., ongoing) federal rulemakings. An example of

<http://regulationroom.org/whos-who>. The Legal Information Institute (LII), which hosts Regulation Room, is an indispensable partner in the project. We are indebted to LII Director Tom Bruce and staff members Wayne Weibel for creative input and technical support. The ideas and opinions expressed in this article are those of the CeRI research team and should not be attributed to the Department of Transportation, or any of its officials or employees.

¹ Transparency and Open Government: Memorandum for the Heads of Executive Departments and Agencies, 74 Fed. Reg. 4685 (Jan. 21, 2009), available at

www.whitehouse.gov/the_press_office/TransparencyandOpenGovernment.

² OFFICE OF MGMT. & BUDGET, MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES: OPEN GOVERNMENT DIRECTIVE 4 (2009), available at

http://www.whitehouse.gov/omb/assets/memoranda_2010/m10-06.pdf [hereinafter DIRECTIVE].

³ *Id.* at 7–10.

⁴ *Id.* at 10.

⁵ *Open Government Plan: Chapter 4*, U.S. DEP’T OF TRANSP. (2010), <http://www.dot.gov/open/plan/op-ch4.html>;

Aneesh Chopra & Cass Sunstein, *The Race to the Top for Openness and Innovation: Announcing Agency Open Government Plan Leading Practices*, OPEN GOV’T INITIATIVE (Aug. 12, 2010, 1:17 PM),

<http://www.whitehouse.gov/blog/2010/08/12/race-top-openness-and-innovation-announcing-agency-open-government-plan-leading-prac>.

⁶ Cornell e-Rulemaking Initiative, REG. ROOM, <http://www.regulationroom.org/about> (last visited Oct. 2, 2010). See Cynthia R. Farina, Paul Miller, Mary J. Newhart & Rebecca Vernon, *Rulemaking in 140 Characters or Less: Social Networking and Participation in Rulemaking*, 31 PACE L. REV. (forthcoming 2011), a companion piece to this article, for the social media dimension of the project.

what is now being called “socially intelligent computing,” the Regulation Room system comprises an evolving mix of human, automated, and computer-assisted elements. These elements support knowledge acquisition and creation by users, individually and collectively. It is one of the first instances of the second generation of federal e-rulemaking, “Rulemaking 2.0.”

Regulation Room is purposefully designed to include elements that could make rulemaking more transparent, participatory, and collaborative. As such, it applies the Administration’s open-government model to one of the federal government’s most important policymaking processes. But the project is collaborative in another sense specified in the Open Government Directive: using “innovative methods . . . to obtain ideas from and to increase collaboration with those in the private sector, non-profit, and academic communities.”⁷

Regulation Room is not a government site, and the project is not under federal direction. The site was created and the project is run by a cross-disciplinary group of faculty and students, the Cornell eRulemaking Initiative (CeRI), at a private research university;⁸ the site is hosted by the Legal Information Institute (LII). CeRI researchers develop the theories, generate the hypotheses, and prioritize the inquiries that ultimately determine Regulation Room design decisions and operating protocols. They summarize the public discussion that occurs on the site during the official comment period and submit that summary, through the federal e-rulemaking portal Regulations.gov,⁹ as a formal comment in the rulemaking. The private character of Regulation Room avoids some of the legal and organizational challenges agencies face in operating a

⁷ DIRECTIVE, *supra* note 5, at 10.

⁸ Cornell e-Rulemaking Initiative, *FAQ*, REG. ROOM, <http://regulationroom.org/faq> (last visited Oct. 2, 2010). Communications, conflict resolution, computing and information science, law, and psychology are the research domains currently represented in CeRI. The Cornell Law School takes the lead on the Regulation Room project. Funding comes from a variety of sources, including grants from the National Science Foundation and Google, budgetary and resource support from Cornell Law School, and, most recently, funding from the Department of Transportation for the airline passenger protection rule.

⁹ REGULATIONS.GOV, <http://www.regulations.gov/search/Regs/home.html#home> (last visited Oct. 2, 2010) (“Regulations.gov is the official web portal for submitting comments on all proposed federal rules.”).

Rulemaking 2.0 site; the project began in conversations with DOT officials about obstacles they encountered trying to set up a rulemaking blog.¹⁰ The site’s prominent affiliation with a research university¹¹ also allows flexibility to experiment with designs and methods that could be difficult on an “official” government site.

At the same time, agencies¹² whose “live” rulemakings appear on Regulation Room are closely involved in selection of rules, identification of likely stakeholder communities, and other areas described below. For the DOT, this collaboration to discover effective strategies for Web 2.0-enabled rulemaking is the latest chapter in more than a decade of leadership in technology-supported rulemaking.¹³ Two DOT rulemakings have been offered thus far on Regulation Room: a Federal Motor Carrier Safety Administration (FMCSA) proposal to ban texting by commercial motor vehicle drivers (the “texting rule”) and the second round of airline passenger rights regulations (the “APR rule”) proposed by the Office of the Secretary. In both, the Regulation Room project is described in an opening section of the Notice of Proposed Rulemaking

¹⁰ These included the following: standard contract terms and/or practices of software and social media providers that contradict federal policy; time-consuming clearance requirements under the Paperwork Reduction Act (“PRA”) for online polls, surveys, and other “information collection”; doubts about whether the agency would become responsible, under the Data Quality Act, for accuracy of data added by users; and First Amendment concerns about censorship when federal officials moderate online discussion. See Gregory C. Wilshusen, *Challenges in Federal Agencies’ Use of Web 2.0 Technologies*, U.S. GOV’T ACCOUNTABILITY OFFICE 1 (July 22, 2010), <http://www.gao.gov/new.items/d10872t.pdf> (noting that “agency use of these technologies . . . may present risks associated with properly managing and protecting government records and sensitive information”). The Administration is resolving some of these. For example, the General Services Administration has negotiated contracts with prominent social networking services like Facebook and MySpace and new interactive applications like Mixed Ink and Ideascare, see *id.* at 12, and OMB has issued PRA guidance on social media. See OFFICE OF MGMT. & BUDGET, MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES, AND INDEPENDENT REGULATORY AGENCIES: SOCIAL MEDIA, WEB-BASED INTERACTIVE TECHNOLOGIES, AND THE PAPERWORK REDUCTION ACT 1 (2010), http://www.whitehouse.gov/omb/assets/inforeg/SocialMediaGuidance_04072010.pdf.

¹¹ The Cornell University name and seal appear on all Regulation Room pages.

¹² Practice within the federal government carefully differentiates Cabinet “departments,” like DOT, and “agencies,” some of which are within departments (e.g., the Federal Aviation Administration) while others are freestanding (e.g., EPA). In legal academic usage, “agency” usually refers to both. We follow the latter convention here.

¹³ See Comm. on the Status & Future of Fed. e-Rulemaking, *Achieving the Potential: The Future of Federal e-Rulemaking*, CORNELL E-RULEMAKING INITIATIVE 21–22 (2008), <http://ceri.law.cornell.edu/documents/report-web-version.pdf> [hereinafter *Achieving the Potential*].

(NPRM);¹⁴ the website address is given there and in the official press release announcing the rule.¹⁵

Perhaps most important, Secretary of Transportation Ray LaHood is a vocal proponent of the project,¹⁶ and DOT's Office of Public Affairs actively publicizes availability of the site. Just as Regulation Room itself has few ready analogies,¹⁷ so the cooperative relationship between DOT and CeRI is a novel type of government collaboration with the academic community. As in any pioneering venture, there have been occasional mishaps and miscommunications, but if the Administration is serious about agencies developing “*innovative methods*” of government-academic collaboration, then practical exploration of this sort of relationship is itself valuable research. The DOT-CeRI collaboration has worked well because the agency leadership is strongly committed to using IT to improve rulemaking, and both sides have invested in forming relationships of trust among key personnel.¹⁸

This article describes the goals and early design of Regulation Room and presents some results from the texting and APR rules. These are placed in the broader context of the considerable challenges of Rulemaking 2.0—challenges that, we believe, have been underestimated in the push for rapid deployment of Web 2.0-enabled rulemaking platforms.

¹⁴ Limiting the Use of Wireless Communication Devices, 75 Fed. Reg. 16391, 16391–92 (Apr. 1, 2010) (to be codified at 49 C.F.R. §§ 383–84, 390–92), *available at* <http://www.gpoaccess.gov/fr/index.html> (search “limited the use of wireless communication devices” in 2010 Volume 75 search field); Enhancing Airline Passenger Protections, 75 Fed. Reg. 32318, 32318–19 (June 8, 2010) (to be codified at 14 C.F.R. §§ 234, 244, 250, 253, 259, 399), *available at* <http://www.gpoaccess.gov/fr/index.html> (search “enhancing airline passenger protections” in 2010 Volume 75 search field).

¹⁵ U.S. Transportation Secretary Ray LaHood Proposes Rule to Ban Texting for Truck and Bus Drivers, U.S. DEP'T OF TRANSP. (Mar. 31, 2010), <http://www.dot.gov/affairs/2010/dot5510.htm>; DOT Proposes Additional Consumer Protections for Air Travelers, U.S. DEP'T OF TRANSP. (June 2, 2010), <http://www.dot.gov/affairs/2010/dot11010.html>.

¹⁶ Ray LaHood, *More consumer protections on tap for air travelers*, FAST LANE: THE OFFICIAL BLOG OF THE U.S. SEC'Y OF TRANSP. (June 2, 2010, 1:15 PM), <http://fastlane.dot.gov/2010/06/more-consumer-protections-on-tap-for-air-travelers.html>; Ray LaHood, *Speak your mind in the Regulation Room!*, FACEBOOK: RAY LAHOOD (June 28, 2010, 1:18 PM), <http://www.facebook.com/sec.lahood> (scroll wall for June 28, 2010, Facebook update).

¹⁷ See *infra* Section D.

¹⁸ Assistant General Counsel for Regulation and Enforcement Neil R. Eisner and Attorney Brett Jortland are the DOT liaisons to Regulation Room, and the project could not go forward without their energy and support.

A. BACKGROUND: A VERY BRIEF HISTORY OF TECHNOLOGY-SUPPORTED
RULEMAKING AT THE FEDERAL LEVEL¹⁹

Federal government interest in e-rulemaking is almost as old as the Internet. The Clinton Administration National Performance Review urged the “computerization of rulemaking dockets” and the use of emerging communications technologies to “provide opportunities for early, frequent and interactive public participation” during the rulemaking process.²⁰ The George W. Bush Administration E-Government Initiatives included creating a government-wide “online rulemaking management” system to provide agencies with new information management tools and the public with better access to the process.²¹ The E-Government Act, passed unanimously by Congress and signed by President Bush in 2002,²² singled out rulemaking for special attention, requiring agencies to accept comments “by electronic means” and to make available online public submissions and other materials included in the official rulemaking docket.²³ Most recently, rulemaking is high in the Obama Administration’s open-government priorities.²⁴

¹⁹ For more detailed histories, see, e.g., Stuart W. Shulman, *E-Rulemaking: Issues in Current Research and Practice*, 28 INT’L J. PUB. ADMIN. 621, 627–32 (2005); Cary Coglianese, *E-Rulemaking: Information Technology and the Regulatory Process*, 56 ADMIN. L. REV. 353, 357–366 (2004); Oscar Morales & John Moses, *eRulemaking’s Federal Docket Management System*, ERULEMAKING AT THE CROSSROADS 1–3 (May 2006), <http://erulemaking.ucsur.pitt.edu/doc/Crossroads.pdf>; *Achieving the Potential*, supra note 18, at 21–31.

²⁰ Nat’l Performance Review, *Improving Regulatory Systems*, NPR LIBRARY (1993), <http://govinfo.library.unt.edu/npr/library/reports/reg04.html>; Nat’l Performance Review, *From Red Tape to Results: Creating a Government that Works Better and Costs Less*, NPR LIBRARY (1993), <http://govinfo.library.unt.edu/npr/library/nprpt/annrpt/redtpe93/index.html>; Jeffrey S. Lubbers, *Better Regulations: The National Performance Review’s Regulatory Reform Recommendations*, 43 DUKE L.J. 1165, 1172 (1994).

²¹ See OFFICE OF MGMT. & BUDGET, E-GOVERNMENT STRATEGY 27 (2002), available at http://www.usa.gov/Topics/Includes/Reference/egov_strategy.pdf.

²² E-Government Act of 2002, Pub. L. No. 107-347, 116 Stat. 2899 (2002) (codified as amended in scattered sections of 5 U.S.C., 10 U.S.C., 13 U.S.C., 31 U.S.C., 40 U.S.C., 41 U.S.C., and 44 U.S.C.), available at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=107_cong_public_laws&docid=f:publ347.107.pdf. The legislation was passed without objection by the House and by unanimous consent in the Senate.

²³ E-Government Act of 2002, Pub. L. No. 107-347, 116 Stat. 2916 (2002). See also 5 U.S.C. § 553 (2006) (providing “the agency shall give interested persons an opportunity to participate in the rule making through submission of written data, views, or arguments with or without opportunity for oral presentation” but not explicitly stating that such opportunity shall be “by electronic means”).

²⁴ See, e.g., OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, OPEN GOV’T PLAN (2010), available at <http://www.whitehouse.gov/sites/default/files/microsites/100407-omb-opengov-plan.pdf>; John Moses, *Improving Online Public Participation in Agency Rulemaking*, OPEN GOV’T INITIATIVE (June 12, 2009, 5:03 PM), <http://www.whitehouse.gov/blog/Improving-Online-Public-Participation-in-Agency-Rulemaking>.

As more than two decades of bipartisan, cross-branch interest show, rulemaking has seemed a “natural” focus for federal e-government efforts. Several characteristics make the process an attractive target for IT innovation.

First, rulemaking matters—a lot. Over the last century, the United States committed to extensive social and economic regulation at the federal level. Despite periodic deregulatory political rhetoric, this commitment is not abating: Both health care reform and the financial crisis have led to massive new federal regulatory responsibilities. Congress sets up regulatory programs, usually with the President’s concurrence and often at his urging, but the job of actually solving the problems that impelled political action is delegated to Executive agencies and independent regulatory commissions. Rulemaking is not the *only* process these entities use to accomplish this mission, but it is the most important. In volume, agency rulemaking dwarfs Congress’s annual production of legislation;²⁵ in effect, it often rivals the impact of statutes. The Patient Protection and Affordable Care Act contains at least forty sections to be implemented by agency rulemaking.²⁶ The Wall Street Reform and Consumer Protection Act requires more than 240 implementing rules by eleven agencies.²⁷ The targets of rulemaking are usually assumed to be large corporations, but in fact the range of stakeholders often includes individuals (such as small business owners), non-governmental and other non-profit organizations, and state and local

²⁵ Congress enacts 200–250 public laws per year. See Library of Cong., Bill Summary of the 105th Congress, THOMAS, [http://thomas.loc.gov/cgi-bin/bdquery/L?d105:.list/bd/d105pn.lst:27\[27-254\]\(Public_Laws:_House_Bills\)|TOM:/bss/d105query.html](http://thomas.loc.gov/cgi-bin/bdquery/L?d105:.list/bd/d105pn.lst:27[27-254](Public_Laws:_House_Bills)|TOM:/bss/d105query.html) (last visited Oct. 2, 2010). Federal agencies promulgate at least 3500–4000 new final regulations annually. See OFFICE OF MGMT. & BUDGET, EXEC. OFFICE OF THE PRESIDENT, DRAFT 2008 REPORT TO CONGRESS ON THE BENEFITS AND COSTS OF FEDERAL REGULATIONS AND UNFUNDED MANDATES ON STATE, LOCAL, AND TRIBAL ENTITIES 7 (2008), available at http://www.whitehouse.gov/sites/default/files/omb/assets/omb/inforeg/costs_benefits/2008_draft_cb_report.pdf (noting 3,552 final rules were published in the Federal Register “during the 12-month period beginning October 1, 2006, and ending September 30, 2007.”). The number is sometimes put as high as 8,000.

²⁶ CURTIS W. COPELAND, CONG. RESEARCH SERV., R 41180, REGULATIONS PURSUANT TO THE PATIENT PROTECTION AND AFFORDABLE CARE ACT (2010), available at <http://www.nga.org/Files/pdf/1004CRSPPACA.PDF>.

²⁷ DAVIS POLK & WARDWELL, LLP, SUMMARY OF THE DODD-FRANK WALL STREET REFORM AND CONSUMER PROTECTION ACT i–ii (2010), available at http://www.davispolk.com/files/Publication/7084f9fe-6580-413b-b870-b7c025ed2ecf/Presentation/PublicationAttachment/1d4495c7-0be0-4e9a-ba77-f786fb90464a/070910_Financial_Reform_Summary.pdf.

government units—sometimes as beneficiaries, but often as direct objects of regulation. For example, FMCSA estimated that the proposed texting rule would apply to millions of individuals holding commercial motor vehicle operating licenses, as well as to 357,000 “small entities” who represent the majority of motor carriers affected.²⁸

The second characteristic is rulemaking’s formal legal structure. Through a combination of statutes and judicial decisions, stakeholders and the general public are already entitled to get information about and participate directly in the process.²⁹ In most rulemakings, agencies must publicly announce what they are planning to do, identify their statutory authority and objectives, reveal significant facts and studies on which they rely, and permit *any* individual or entity to submit comments on the proposal during a defined period of time (typically sixty days, but sometimes considerably more). In announcing the final rule, agencies must demonstrate that they have actually reviewed the public comments by responding to criticisms, discussing alternatives, and otherwise acknowledging relevant and substantial comments. And federal courts have clearly demonstrated their willingness to enforce these obligations. As a result, in terms of its formal legal structure, rulemaking is probably the most transparent and participatory decision-making process used in any branch of the federal government. To be sure, the reality of rulemaking rarely resembles broad public monitoring and widespread stakeholder involvement.³⁰

But the important thing for present purposes is that a formal legal structure for transparency,

²⁸ Limiting the Use of Wireless Communication Devices, 75 Fed. Reg. 16391, 16401 (Apr. 1, 2010) (to be codified at 49 C.F.R. §§ 383–84, 390–92), available at <http://www.gpoaccess.gov/fr/index.html> (search “limited the use of wireless communication devices” in 2010 Volume 75 search field). “Small entities” is a term of art under the Regulatory Flexibility Act, 5 U.S.C. § 601(6) (2006), that comprises small businesses and not-for-profit organizations that are independently owned and operated and are not dominant in their fields, and government jurisdictions with populations of less than 50,000.

²⁹ See JEFFREY S. LUBBERS, A GUIDE TO FEDERAL AGENCY RULEMAKING 49–126, 295–314 (4th ed. 2006).

³⁰ A large body of literature suggests that the notice-and-comment process tends to be dominated by a limited range of mostly corporate participants. See, e.g., CORNELIUS M. KERWIN, RULEMAKING: HOW GOVERNMENT AGENCIES WRITE AND MAKE POLICY 182–84 (3d ed. 2003) (inter alia, collecting literature); Steven J. Balla & Benjamin M. Daniels, *Information Technology and Public Commenting on Agency Regulations*, 1 REG. & GOVERNANCE 46, 50–51 (2007); Cary Coglianese, *Citizen Participation in Rulemaking: Past, Present, and Future*, 55 DUKE L.J. 943, 958 (2006).

participation, and collaboration already exists. Seemingly, nothing fundamental about the process must change before new information and communications technologies could realize rulemaking's latent open-government potential for broader public understanding and participation.

Finally, rulemaking is a highly information-intensive process. Rulemaking agencies are directed to solve complex social and economic problems, and are required to publicly vet and extensively justify their solutions through an elaborate "paper hearing." As a result, they assemble, process, and communicate large amounts of text and numerical data. The basic rulemaking documents alone—the NPRM and the announcement of the final rule—often run to scores, even hundreds, of tightly packed Federal Register pages. Supporting studies, public comments, and the various impact analyses required by statute and executive order add to the formidable problems of information management. Digitizing these materials opens a range of possibilities for computer-assisted creation, retrieval, and analysis³¹ that would benefit not only agency rulewriters but also stakeholders trying to comment, and government overseers and private researchers trying to assess program performance.

In sum, it is not surprising that the desirability of IT-supported rulemaking has long been accepted, at least in principle, across the federal government. Some major rulemaking agencies were building their own e-rulemaking systems long before the E-Government Initiative put White House muscle behind moving the rulemaking process to a single central online system.³² A forward-thinking National Science Foundation (NSF) initiative created the Digital

³¹ See Cary Coglianese, *E-Rulemaking: Information Technology and Regulatory Policy*, 2004 HARV. REG. POL'Y PROGRAM REP. NO. RPP-05, at 15–18, 51–58, available at http://www.hks.harvard.edu/m-rcbg/rpp/erulemaking/papers_reports/E_Rulemaking_Report2004.pdf.

³² See U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-00-135, FEDERAL RULEMAKING: AGENCIES' USE OF INFORMATION TECHNOLOGY TO FACILITATE PUBLIC PARTICIPATION 2–12 (2000), available at <http://www.gao.gov/archive/2000/gg00135r.pdf> (describing various ways that federal government agencies have used IT in the rulemaking process); *Achieving the Potential*, *supra* note 18, at 21–22.

Government program, under which idea-generating conferences were held, reports outlining research paths were written, and, perhaps most important, research was funded.³³ Indeed, the creation of the present federal e-rulemaking system—with its Regulations.gov public interface and the agency-side Federal Docket Management System (FDMS)—occurred over the many years during which NSF-funded researchers interacted with agency personnel involved in building the system through programs, presentations, papers, and cooperation in specific research projects. Yet, after fifteen years of federal effort and private research interest, and millions of dollars, federal e-rulemaking has received very mixed reviews.

From outside government, sharp criticism has come from political scientists, legal academics, expert commissions and advocacy groups of all stripes. Their complaints include: the Regulations.gov interface is difficult to use, even for the relatively small portion of the public who understands the rulemaking process; the completeness and timeliness of posting rulemaking materials varies widely from agency to agency; the underlying data in FDMS is incomplete, inconsistent in quality, and difficult to extract; and most fundamentally, the system has not enticed new stakeholder voices into the rulemaking process and supported them in informed and meaningful participation.³⁴ At the same time, the Regulation.gov/FDMS system has received numerous awards for e-government innovation.³⁵

³³See NAT'L SCI. FOUND., DIGITAL GOVERNMENT: DIRECTORATE FOR COMPUTER AND INFORMATION SCIENCE AND ENGINEERING DIVISION OF EXPERIMENTAL AND INTEGRATIVE ACTIVITIES, PROGRAM ANNOUNCEMENT NSF 99-103 (1999), available at <http://www.nsf.gov/pubs/1999/nsf99103/nsf99103.pdf>; *National Science Foundation's Digital Government Research Program*, NAT'L SCI. FOUND., <http://www.digitalgovernment.org> (last visited Oct. 3, 2010).

³⁴ See, e.g., Barbara H. Brandon & Robert D. Carlitz, *Online Rulemaking and Other Tools for Strengthening Our Civic Infrastructure*, 54 ADMIN. L. REV. 1421, 1451–1455 (2003); Cary Coglianesi, Stuart Shapiro & Steven J. Balla, *Unifying Rulemaking Information: Recommendations for the New Federal Docket Management System*, 57 ADMIN. L. REV. 621, 626, 629 (2005); Stuart W. Shulman, *E-rulemaking: Issues in Current Research and Practice*, 28 INT'L J. PUB. ADMIN. 621, 632–33 (2005). See also *Achieving the Potential*, supra note 18, at 26 (noting that “[t]he lack of data harmonization, the acceptance of agency autonomy in configuration, and the incorporation of agency data ‘ownership’ all point[ed] to the absence of a shared vision among the participating agencies”).

³⁵See *Awards & Recognition*, REGULATIONS.GOV, <http://www.regulations.gov/search/Regs/home.html#aboutAwards> (last visited Oct. 7, 2010) (stating

Reviews from inside the government vary depending on who is making the assessment. The Congressional Research Service and the General Accountability Office have submitted several less-than-enthusiastic reports to Congress about federal e-rulemaking efforts,³⁶ and construction of the centralized system prompted enough individual member dissatisfaction that appropriations restrictions were placed on the e-rulemaking contributions of several large rulemaking agencies.³⁷ At the same time, e-rulemaking continues to have strong support in some powerful committees, and new supportive legislation is currently under discussion with the White House. Formal assessment of Regulations.gov/FDMS from the Executive Branch has been uniformly positive. The White House has backed online rulemaking for nearly a decade. The Office of Management & Budget (OMB) has strongly supported the centralized system, and all the executive agencies contributed substantial funds to system development during years of shrinking domestic program budget resources. In this political context, official statements and required annual reports to Congress about system accomplishments are understandably glowing.³⁸ However, federal agency rulemakers were less enthusiastic in a recent survey

“Regulations.gov . . . often receives recognition for technology and innovation” and listing awards received from 2003 through 2010).

³⁶See, e.g., CURTIS W. COPELAND, CONG. RESEARCH SERV., RL 34210, ELECTRONIC RULEMAKING IN THE FEDERAL GOVERNMENT 44–45 (2008), available at <http://www.fas.org/sgp/crs/misc/RL34210.pdf>; U.S. GEN. ACCOUNTING OFFICE, GAO-03-901, ELECTRONIC RULEMAKING: EFFORTS TO FACILITATE PUBLIC PARTICIPATION CAN BE IMPROVED 3–4 (2003), available at <http://www.gao.gov/new.items/d03901.pdf>; U.S. GOV’T. ACCOUNTABILITY OFFICE, GAO-05-12, FEDERAL AGENCIES HAVE MADE PROGRESS IMPLEMENTING THE E-GOVERNMENT ACT OF 2002, at 3–4 (2004), available at <http://www.gao.gov/new.items/d0512.pdf>.

³⁷ See Ralph Lindeman, *Government Operations: Lawmakers Continue to Place Restrictions on Agency Expenditures for E-Government*, BNA DAILY REPORT FOR EXECUTIVES, June 27, 2008, available at 124 DER A-12 (“[T]he committee approved provisions . . . that bar agencies from transferring any funds to the 24 E-Government initiatives without obtaining ‘explicit approval’ from the House and Senate appropriations committees.”); COPELAND, *supra* note 36, at 21–26.

³⁸ See, e.g., OFFICE OF MGMT. & BUDGET, EXPANDING E-GOVERNMENT: ACHIEVING RESULTS FOR THE AMERICAN PEOPLE (2009), available at http://www.whitehouse.gov/omb/egov/documents/2008_Expanding_E-Gov_Report.pdf (“The departments and agencies have accomplished a great deal, providing a sound foundation for the incoming Administration to implement their program priorities.”); OFFICE OF MGMT. & BUDGET, EXPANDING E-GOVERNMENT: MAKING A DIFFERENCE FOR THE AMERICAN PEOPLE USING INFORMATION TECHNOLOGY (2006), available at http://www.whitehouse.gov/omb/egov/documents/expanding_egov_2006.pdf (“The Federal Government continues to improve services and deliver results through the adoption and implementation of the President’s E-Government . . . initiatives and government wide solutions.”).

conducted by Jeffrey Lubbers. Professor Lubbers identified a common theme in their responses: “the new [Regulations.gov/FDMS] system is a ‘boon for the public but a bane for the agency.’”³⁹

B. A “SUCCESSFUL” E-RULEMAKING SYSTEM: OF BLIND MEN AND ELEPHANTS

The results of Professor Lubbers’ survey epitomize the conflict that has been part of federal e-rulemaking assessment from almost the beginning. For rulemakers, the system works for the public but not for them. For reviewers outside government, “boon” is decidedly not the word that describes Regulations.gov/FDMS from the public side. It could be that those inside government are completely oblivious to the experience of public users, and reform proposals have emphasized the need to create effective mechanisms for systematic outside input into the design and functionality of Regulations.gov/FDMS.⁴⁰ We agree that the lack of thoughtful and sustained public involvement is a genuine problem, but we suggest that there is an even more fundamental issue at the bottom of these disparate assessments: What exactly does “e-rulemaking” mean, and what is an e-rulemaking system “supposed” to be accomplishing?

From the beginning, e-rulemaking (literally, “electronic rulemaking”) has served as a shorthand descriptor for a breathtaking range of ideas about how information and communications technologies could be deployed within the rulemaking process. These ideas are variously targeted at helping new commenters, existing commenters, the public at large, agency frontline rulewriters, agency managers, other government overseers, and/or outside researchers. They have ranged from (i) proposals that now seem “old-school” given the rapid pace at which

³⁹ Jeffrey S. Lubbers, *A Survey of Federal Agency Rulemakers’ Attitudes About E-Rulemaking*, 62 ADMIN. L. REV. 451, 474 (2010).

⁴⁰ See, e.g., Robert Carlitz & Rosemary Gunn, *e-Rulemaking: A New Avenue for Public Engagement*, J. PUB. DELIBERATION (2005), http://www.auburn.edu/academic/liberal_arts/poli_sci/journal_public_deliberation/features/erulemaking.htm (“The FDMS could do a great deal to increase the likelihood of effective public engagement”); *OMB Watch Calls for E-Rulemaking Reforms*, OMB WATCH (July 6, 2009), <http://www.ombwatch.org/node/10177> (“Until now, the current governance has not allowed public input—ironic for a system designed to tap citizen minds.”); *Achieving the Potential*, *supra* note 18, at 35–36 (recommending a lead agency, an interagency e-rulemaking committee, and a public e-rulemaking advisory committee).

these technologies evolve (e.g., drafting rules with word-processing software; allowing electronic submission of comments via fax and email; teleconferencing with stakeholders); through (ii) proposals that capitalized on expansion of the Internet and the search technologies inspired by the World Wide Web (e.g., digitizing rulemaking documents and placing them in public online dockets to facilitate access, search and analysis; circulating rulemaking drafts and managing the process through collaborative drafting and work-flow software on agency intranets; allowing electronic submission of comments via online forms and file submission); to (iii) proposals drawn from the cutting edge of scientific research (e.g., automated “plain English” translation of rulemaking material; computer-generated summarization and categorization of comments).⁴¹

The first generation of federal e-rulemaking, which culminated in migration of all executive agencies and some of the independent commissions to Regulations.gov/FDMS, was conceptualized and developed against this background. Now, the Web has evolved from an environment in which users passively view pre-formulated content on their desktop computers to an environment (“Web 2.0”) in which users routinely create, transform, and share content—not only sitting at relatively fixed computing stations but also on the fly with mobile computers ranging in size from laptops to smartphones.⁴² The new technologies and use patterns of Web 2.0 have inspired yet another group of e-rulemaking proposals: blogging about proposed rules;

⁴¹ See Coglianesi, *supra* note 31, at 15–18 (discussing assorted technologies). One of the most visionary e-rulemaking advocates has been Beth Simone Noveck, appointed Deputy Chief Technology Officer for Open Government in the new Obama Administration. See, e.g., Beth Simone Noveck, *The Electronic Revolution in Rulemaking*, 53 EMORY L.J. 433 (2004); Beth Simone Noveck, *The Future of Citizen Participation in the Electronic State*, 11 S. J.L. & POL’Y FOR INFO. SOC’Y 1 (2005), available at <http://www.is-journal.org/V01I01/I-S,%20V01-I01-P001,%20Noveck.pdf>.

⁴² A smartphone is a cell phone with advanced capabilities made possible because it runs complete operating system software in addition to providing Internet access. As such, it is a species of handheld computer.

posting videos about the rulemaking process;⁴³ disseminating rulemaking information through social networking services like Facebook and Twitter; offering group comment drafting via wikis and other collaborative-work software; and using visualization tools to present rulemaking information and results.⁴⁴ This is the context in which the second generation of federal e-rulemaking—what we refer to as “Rulemaking 2.0”—is now being developed.

Because “e-rulemaking” has been such a capacious and evolving term, assessments of the success of federal efforts to date tend to resemble the allegorical debate among the six blind men about describing the elephant. Speakers from different political and social situations evaluate Regulations.gov/FDMS, and argue over necessary changes and improvements—while holding quite different perspectives on what an e-rulemaking system should accomplish. Any typology will inevitably oversimplify this rich conversation to some degree, but the following four perspectives have played a prominent role:

Regulatory Democracy: From this perspective, e-rulemaking is about a greater public role in the rulemaking process. Statutory delegations of power to agencies have shifted the center of gravity of federal policymaking from Capitol Hill and the White House to the roughly 200 federal entities with authority to make legally binding rules. Representative democracy must work differently in a world where the officials for whom citizens vote are only part of the federal policymaking process. The e-rulemaking system should enable citizens to monitor what unelected agency decisionmakers are doing, and to participate actively in the rulemaking process in ways that, until now, have been available only to well-resourced interests.

New Information: From this perspective, e-rulemaking is about getting more information into the rulemaking process. Cass Sunstein, Administrator of the Office of Information and Regulatory Affairs (the unit in OMB directly responsible for rulemaking review), speaks eloquently of how the Administration’s initiatives will enable policymakers to tap “the dispersed

⁴³See *Rulemaking Matters! Video*, U.S. ENVTL. PROT. AGENCY, <http://www.epa.gov/lawsregs/videocontest/index.html> (last updated Sept. 27, 2010), for a ninety-second video submitted to the EPA about public participation on Regulations.gov.

⁴⁴ See, e.g., BETH SIMONE NOVECK, *WIKI GOVERNMENT: HOW TECHNOLOGY CAN MAKE GOVERNMENT BETTER, DEMOCRACY STRONGER, AND CITIZENS MORE POWERFUL* 112–21, 150–52 (2009) (explaining the importance of visualization, collaborative-work software, and policy wikis).

knowledge of the American people.”⁴⁵ Expressed more colloquially, the “wisdom of crowds” is a core Web 2.0 belief⁴⁶—although the view that e-rulemaking will give decisionmakers better information predates Rulemaking 2.0. Improved information might include: (i) “local knowledge”—the kind of thing known only to those having on-the-ground, first-hand experience with aspects of the regulatory problem; (ii) disinterested expert input—data and other knowledge from experts beyond those produced by interested regulatory parties; (iii) better vetted comments—comments whose claims are challenged, facts disputed, models tested, and data closely examined because they are readily available to all stakeholders and participants are actively engaging one another. The e-rulemaking system should facilitate the emergence of information out in the world that is relevant but unknown to the agency.⁴⁷

Better Policy: From this perspective, e-rulemaking is about making better regulatory decisions. This is obviously related to the preceding perspective but it is explicitly outcome-focused. Thus, it can have a broader programmatic dimension as well as application to individual rulemakings. The e-rulemaking system should enable the kind of data collection and information management—discovery, acquisition, sharing, and analysis—that allow agency rulemakers and their overseers to lower regulatory costs, increase regulatory benefits, or both.

Doing More With Less: From this perspective, e-rulemaking is about lowering process costs. Rulemaking has become a highly resource-intensive process for agencies. Part of this is the human capital involved in performing analyses, reviewing comments, etc., especially for agencies that have seen their regulatory workforce shrink while their regulatory workload expands. Part is the expense of keeping and using large amounts of paper-bound information. Part is the difficulty of simply keeping track of a complex, multistage process involving many units within the agency as well as in the White House. The e-rulemaking system should harness technology to generate significant budgetary savings for agencies and facilitate efficient process management. Some of these savings—as when rulemaking dockets are kept electronically online—will also accrue to the commenting public.

⁴⁵ Stephanie Young, *OIRA Chief Sunstein: We Can Humanize, Democratize Regulation*, HARV. L. REC., Mar. 12, 2010, <http://www.hlrecord.org/news/oira-chief-sunstein-we-can-humanize-democratize-regulation-1.1266472> (quoting Cass Sunstein, Adm’r, Office of Info. & Reg. Affairs, Address at Harvard Law School: Humanizing Cost-Benefit Analysis (March 1, 2010)).

⁴⁶ See, e.g., Joshua Porter, *The One Crucial Idea of Web 2.0*, BOKARDO (Mar. 17, 2006), <http://bokardo.com/archives/the-one-crucial-idea-of-web-20> (“If there is one idea that encapsulates what Web 2.0 is about . . . it’s the idea of leveraging the network to uncover the Wisdom of Crowds.”). The phrase initiated in a non-online context. JAMES SUROWIECKI, *THE WISDOM OF CROWDS: WHY THE MANY ARE SMARTER THAN THE FEW AND HOW COLLECTIVE WISDOM SHAPES BUSINESS, ECONOMIES, SOCIETIES, AND NATIONS* 3–5 (2004). Yet another articulation is Tim O’Reilly’s “Harnessing Collective Intelligence.” Tim O’Reilly, *Harnessing Collective Intelligence*, O’REILLY RADAR (Nov. 10, 2006), <http://radar.oreilly.com/2006/11/harnessing-collective-intellig.html> (“[O]nce the internet becomes platform . . . you can build applications that harness network effects, so that they become better the more people use them.”).

⁴⁷ See Farina et al., *supra* note 6, for further exploration of the ideas in this section.

These different perspectives give rise to very different expectations about design and about success. And, as in the allegory, they can mean that speakers in the conversations about the federal system talk at cross-purposes and make assertions that, to others, are patently wrong.

The allegory of the blind men and the elephant suggests that “the truth” emerges when the many valid, but partial, perspectives are integrated into a single understanding. In this sense, as well, the conversations around federal e-rulemaking resemble the allegory. Efforts to isolate and separately consider the claims and expectations of the several perspectives on e-rulemaking have not happened because of a powerful, though largely tacit, assumption that they are all parts of a single truth: A successful e-rulemaking system will increase democratic accountability and public participation, *and* provide agencies with better information, *and* enable policymakers to achieve better outcomes in individual rulemakings and entire regulatory programs, *and* save agencies and the public money in the process. The problem so far has been implementation, not objectives.

But what if there is no elephant—no single, coherent e-rulemaking system that can simultaneously satisfy all these valid and important perspectives? We do not yet assert that this is in fact the case, but we believe the possibility must be taken seriously. As Stuart Shulman’s work on the phenomenon of mass email comments shows, more public participation can substantially increase agency process costs without improving information quality.⁴⁸ The report of a blue-ribbon committee of national experts has explained why digitization of the paper rulemaking process is highly unlikely to produce lower rulemaking costs (at least in the short to medium

⁴⁸ Stuart W. Shulman, *Whither Deliberation? Mass E-Mail Campaigns and U.S. Regulatory Rulemaking*, 3 J. E-GOV’T 41, 43–46 (2006) (noting that “e-mail and cyberspace” is not known for “widespread, technologically-driven transformation of passive citizens into thoughtful, deliberative, and engaged actors” and that the “brain-numbing quantity of duplicative e-mails leaves practitioners in federal agencies . . . sorting e-mails with mounting congressional and executive demands for efficiency and effectiveness”).

term) if the necessary steps are taken to produce uniform, reliable data that can be effectively accessed.⁴⁹ And some commentators have worried that increased rulemaking transparency and public participation may actually undermine the quality of policy outputs by making the process more vulnerable to politicization.⁵⁰

We propose that the development of Rulemaking 2.0 should not proceed on the assumption that e-rulemaking is a win-win-win-win situation. If—as the experience of first generation federal e-rulemaking suggests—some worthy goals cannot be pursued without sacrifice of others *at least in the near term*, then creators of Web 2.0-enabled rulemaking systems must make some hard choices, and be very clear about *which* goals take priority for *this* system at *this* moment in time.

Deliberate selection and clear identification of system goals is important for several reasons. When system builders are not clear about goals at every phase of the design and implementation process—or if they are attempting to pursue too many goals simultaneously—the result can easily be an e-rulemaking system whose elements poorly serve all objectives, and even actively frustrate some. In addition, measuring success is impossible without specifying what the system is trying to accomplish. To be sure, coming up with manageable metrics for some potential Rulemaking 2.0 goals is quite difficult. But claiming success based on what seem mismatched metrics undermines credibility and can create backlash. Finally, clearly identifying system goals helps expectations management. The public (typically represented by “good government” advocacy groups), frontline agency rulemakers, upper-echelon agency and White

⁴⁹ *Achieving the Potential*, *supra* note 13, at 29 & n.70.

⁵⁰ See, e.g., Stuart Minor Benjamin, *Evaluating E-Rulemaking: Public Participation and Political Institutions*, 55 DUKE L.J., 893, 924–25 (2006) (“[Increased public] participation may correlate to political mobilization, so an agency might bend to the participants’ wishes even if it did not believe that they represented the median American”); Bill Funk, *The Public Needs a Voice in Policy. But is Involving the Public in Rulemaking a Workable Idea?*, CPRBLOG (Apr. 13, 2010), <http://www.progressivereform.org/CPRBlog.cfm?idBlog=F74D5F86-B44E-2CBB-ED1507624B63809E> (“The notice-and-comment procedure of rulemaking isn’t supposed to be a political exercise.”).

House officials, and Congressional funders will understandably have different priorities for an e-rulemaking system. Thus, system builders who openly limit their goals will inevitably make *some* important rulemaking constituencies unhappy. But, experience from the Regulations.gov/FMDS project suggests that overclaiming is likely to make *all* constituencies unhappy. When some goals are explicitly given priority over others, there is at least the chance of shifting the conversation from finger-pointing about poor implementation to the more fundamental question of what the priorities of an e-rulemaking system ought to be, at least at any given point in time.

C. IN SEARCH OF “MORE BETTER” PUBLIC PARTICIPATION

In order to become involved in rulemaking in a way that holds some prospects for success, individuals, groups, and firms need resources, organization, and sophistication.

These prerequisites are not distributed evenly.

*~ Cornelius M. Kerwin, Rulemaking: How Government Agencies Write Law and Make Policy*⁵¹

The primary goal of Regulation Room is achieving “more better” public participation in rulemaking. Because this goal is still too unspecified to guide purposeful system design or generate assessment metrics, we have developed a set of more specific working conceptions:

- “More”: participation from a broader range of individuals and groups than are typically involved in the conventional rulemaking process. Although the site will be available to all stakeholders (and to the general public), efforts to elicit participation should focus primarily (though not exclusively) on stakeholders unlikely to participate in the conventional process.
- “Better”: (1) comments that comport with the nature of rulemaking as a technocratically rational (as opposed to preference aggregation) process, and that reflect the scope and focus of the particular agency proposal;⁵² or (2) participation satisfying to the user. “Better” in the first sense includes such factors as: relevant to the issues in the agency proposal; addressed to actions that are within the agency’s power and legal authority; clearly

⁵¹ CORNELIUS M. KERWIN, RULEMAKING: HOW GOVERNMENT AGENCIES WRITE LAW AND MAKE POLICY 111 (3d ed. 2003).

⁵² See Farina et al., *supra* note 6, for discussion of the sources and elements of regulatory rationality.

expressed; responsive to others' comments; and conveying more than mere sentiment for or against the rule. Including data or other factual support is decidedly "better," but the Regulation Room standard is *not* providing information that is novel from the agency's perspective. So far as we are aware, no empirical evidence has been gathered on the incidence of new information produced by the conventional process, but our impression from conversations with rulewriters is that even many "sophisticated" comments corroborate, rather than significantly add to, what the rulewriters already know. "Better" in the second sense includes: imparting knowledge the user values; creating a sense of personal involvement in deciding issues that matter; or contributing more generally to a positive feeling of civic engagement. We acknowledge the possible tension between these two meanings of "better," and recognize that experience may reveal the need to choose between the two.

- "Public": individuals and groups having a direct stake in the rulemaking, because their behavior is being regulated (or, as a practical matter, would be significantly affected) or because they would benefit from the rule. Engaging the general public is not, per se, a goal, although selection of rules may tend towards issues with broad public impact.
- "Participation": (1) adding comments to the online discussion of the proposed rule; (2) sharing information about the rulemaking through social media channels to encourage others to participate; (3) other use of the site that engages users with the particular rulemaking, or rulemaking generally, in a socially beneficial way. The third meaning reflects openness to the possibility that site users who read but do not make comments ("lurkers" in Web-speak) are engaging in a form of participation that does have value in the second sense of the "better" participation.⁵³

We recognize that these definitions are neither inevitable nor uncontroversial. Indeed, selecting "more better" public participation as the prime objective of Regulation Room is itself controversial. Pursuing it means that other worthy e-rulemaking goals are of tangential concern at best, and may even be sacrificed, in system design. We fully anticipate that the objectives of Regulation Room will shift over time, as the project produces knowledge about how human and technological interventions can support rulemaking participation. The most significant shift will

⁵³ See Farina et al., *supra* note 6, for exploration of the idea of "lurking" as participation.

almost certainly be toward cost-saving and scalability—that is, reducing the resources required to achieve identified levels, or aspects, of rulemaking participation. But “doing more with less” is not a priority of *this* system at *this* time, for reasons discussed in Section E.

D. BASIC ELEMENTS OF THE REGULATION ROOM SYSTEM

“Socially intelligent computing” is a new term that tries to capture the ways in which complex interactions between people and computers can produce results that neither alone could accomplish. The word “system,” used in this context, refers not simply to technological components like hardware and software, but also to the human element. The focus, in other words, is on understanding and supporting a dynamic and productive synergy between user and technology. We use “system” in this sense when we talk about Regulation Room.

For those interested in the underlying technology of the site, Regulation Room is built on WordPress,⁵⁴ a popular open-source⁵⁵ blogging tool that has evolved into a full online publishing platform. A recent upgrade to WordPress MU (Multi-User) allows us to track the evolution of design and functionality.⁵⁶ We have added several custom elements, many of which are open-source plug-ins.⁵⁷ These include Issuu, which allows uploaded rulemaking documents to look like a printed document with animated page-flip options,⁵⁸ and Vimeo, which allows us to create

⁵⁴ See WORDPRESS, <http://wordpress.org> (last visited Oct. 3, 2010).

⁵⁵ “Open-source” software makes publicly available the source code used to build it. This enables other users to modify the code to suit their particular needs or to improve the software for everyone. As the folks at WordPress put it, “[w]e like to say that WordPress is both free and priceless at the same time.” *Id.* Open source is a development philosophy fundamentally consistent with Web 2.0 and, in the view of many, with the Internet itself. See OPEN SOURCE INITIATIVE, <http://www.opensource.org> (last visited Oct. 3, 2010).

⁵⁶ After a rule closes, the research team works to design a new version for the next proposed rule. These revisions are an important element of the research, as iterations are driven by experiences, user feedback, and features specific to the current rule. The Multi-User version allows us to keep each version both separate and accessible.

⁵⁷ Plug-ins are small, modular programs that are added onto the main program, enabling it to perform additional functions.

⁵⁸ See ISSUU: YOU PUBLISH, <http://issuu.com> (last visited Oct. 3, 2010). According to its Wikipedia entry, “Issuu’s service is comparable to what Flickr does for photo-sharing, and what YouTube does for video-sharing.” ISSUU, WIKIPEDIA (Oct. 1, 2010, 2:48 AM), <http://en.wikipedia.org/wiki/Issuu>.

and embed videos via a site that is more content-controlled than YouTube.⁵⁹ The most important open-source plug-in, substantively, is Digress-it, which allows comments to be attached to specific sections of a blog post or document.⁶⁰

For reasons discussed below,⁶¹ we use the Digress-it targeted commenting feature on “Issue Posts” rather than directly on the NPRM or proposed rule text. Issue Posts are written by students and faculty on the Regulation Room team. Each presents a significant topic raised in the rulemaking, summarizing what the NPRM says and highlighting questions the agency has specifically asked commenters to address. So that we may open Regulation Room on the same day the proposed rule is publicly announced, the agency gives us a pre-release draft of the NPRM, typically when it has been cleared by the agency head (the Office of the Secretary for DOT) and is being sent to the Office of Information & Regulatory Affairs (OIRA) for initial review. Pre-publication access lets us decide how to break up the rule into chunks that are both useful for organizing and manageable for discussion, draft the various Issue Posts, and conceptualize and design rule-specific graphics and other visual elements. In addition, we prepare the NPRM for full Web interactivity by converting citations to statutes, regulations, and secondary sources into hyperlinks that allow users to click and view the material being cited.⁶² With respect to the proposed rule text, we prepare a Web version in which the new text, appropriately marked, appears in context of the existing Code of Federal Regulations (CFR) sections.

⁵⁹ See VIMEO, <http://vimeo.com/> (last visited Oct. 3, 2010). Vimeo does not allow commercial videos, gaming videos, pornography, or anything not created by the user to be hosted on the site. *Community Guidelines*, VIMEO, <http://vimeo.com/guidelines> (last visited Oct. 3, 2010).

⁶⁰ See DIGRESS.IT: GET SIDETRACKED, <http://digress.it> (last visited Oct. 3, 2010). Digress-it’s creator is Eddie A. Tejada, lead technologist for the Regulation Room project.

⁶¹ See *infra* Section F.3.a.

⁶² At least some of this functionality is increasingly available in the XML version of the NPRM provided by the Federal Register. *About FederalRegister.gov*, FED. REGISTER, <http://www.federalregister.gov/policy/about-us> (last visited Oct. 5, 2010). However, because of production lead time, the public announcement often precedes Federal Register availability by several days.

Pre-publication access to the NPRM is thus essential; in DOT rulemakings, it occurs under a pledge of confidentiality that is part of a carefully negotiated Memorandum of Understanding (MOU) between CeRI and DOT.⁶³ Under the MOU, we also have access to the agency personnel actually working on the rule *until* the comment period formally begins. This lets us learn about the underlying regulatory program, ask questions about the NPRM (including what issues the agency anticipates to be most controversial), identify the range of stakeholder groups, and so forth. DOT considers contact *during* the comment period to be problematic under its internal ex parte contact policies. Therefore, we have no direct access to rulewriting personnel from the time the comment period opens until work on the rule has been finalized, although we can speak with our primary liaisons in the Office of the General Counsel⁶⁴ as needed. This arrangement has worked well in the two rulemakings done so far on Regulation Room, although it does delay our ability to sit down with front-line rulemakers and “debrief” with them after the rule closes.

Discussion on Regulation Room is actively moderated by CeRI students trained in both law and group facilitation techniques.⁶⁵ Supervised by senior researchers, they police inappropriate content and, more important, facilitate discussion among users and mentor effective commenting.⁶⁶ A specially designed Moderator Interface supports these activities and also helps the final activity in the rule: Preparing the Summary of Discussion. DOT does not

⁶³ Cornell University is the actual signatory to the MOU.

⁶⁴ See *supra* note 18.

⁶⁵ See Brad Spangler, *Facilitation*, BEYOND INTRACTABILITY (July 2003), <http://www.beyondintractability.org/essay/facilitation>.

Facilitation is a term that means different things to different people. In the context of U.S. alternative dispute resolution (ADR) facilitation (or group facilitation) is generally considered to be a process in which a neutral person helps a group work together more effectively. Facilitators may work with small groups within an organization, or with representatives of different organizations who are working together in a collaborative or consensus-building process.

Id.

⁶⁶ See *infra* Section F.2.c.

want the entire file of individual Regulation Room comments submitted to the rulemaking record.⁶⁷ Therefore, in the final weeks of the comment period, the Regulation Room team creates a Draft Summary of the discussion. From survey questions, we can provide some information about users' prior experience with federal rulemaking⁶⁸ and their interest in the specific rule.⁶⁹ The draft is posted,⁷⁰ and an email to all registered users alerts them that the draft is available for them to review and suggest revisions. The team considers these suggestions and creates the final summary,⁷¹ which is posted on the site and submitted as a formal comment via Regulations.gov. Again, users are alerted by email; both this email and the Summary of Discussion itself reminds people that they can submit additional views, or disagreements with the summary, to the agency directly via a link to the rulemaking on Regulations.gov.

This process, which requires us to close general discussion of the rule several weeks before the comment period officially ends, is a compromise. DOT currently considers the summary from Regulation Room to be like any other comment. The agency's general policy is to consider late-filed comments to the extent possible, but because the length of time in which consideration is "possible" varies, our policy is to submit the summary within the official period.

⁶⁷ The word "comment" is unavoidably confusing in the context of Rulemaking 2.0. To lawyers, "comment" means a statement that the agency must consider as part of the rulemaking record. To online users, it means content that users post to a blog. Early in the project, the law researchers insisted that Regulation Room must avoid what we began to call "the 'c' word." However, this complicated design and explanation of a site that online users already found uncomfortably novel. So, we speak of "discussion" where we can—and use "comment" when we have to. This is one of many instances when Rulemaking 2.0 systems must balance using, and fighting, the Web. *See infra* Section F.

⁶⁸ When new users register, they are asked, "[h]ave you ever submitted a comment in a federal rulemaking?" Available responses are "yes," "no," and "not sure."

⁶⁹ *See infra* Section F.1.d for examples of this survey.

⁷⁰ The Draft Summary of the texting rule, along with user comment on it, can be found at *Texting "Draft Summary of Discussion"*, REG. ROOM, <http://regulationroom.org/texting/draft-summary-building> (last visited Oct. 5, 2010).

⁷¹ The Final Summary of the texting rule is available at *Texting "Final Summary"*, REG. ROOM, <http://regulationroom.org/texting/final-summary> (last visited Oct. 5, 2010). The airline passenger rule had not yet closed at the writing of this article, but its Draft and Final Summaries will remain available for viewing on the site. Because this rule drew vastly more comments than the texting rule, its Summary will not provide such fine-grained detail. *See Airline Passenger Rights "Final Summary of Discussion"*, REG. ROOM, <http://regulationroom.org/airline-passenger-rights/final-summary> (last visited Oct. 13, 2010).

As with the ex parte contact issue, the “right” legal analogy for the DOT/CeRI collaboration is debatable. So far, each party has taken a very cautious approach to these issues, although we believe that other approaches are reasonably possible with DOT in the future, or with our other agency partners. For example, since all Regulation Room discussion is publicly visible and time-stamped, our summary might be considered analogous to the comment summaries prepared after the comment period closes by outside contractors in some large rulemakings.

Subsequent versions of Regulation Room will incorporate some form of collaborative drafting functionality. Users might wish to work on joint comments when, for example, the Draft Summary reveals previously unrecognized relationships among ideas, or identifies points that were underdeveloped in the flow of discussion. While the team is finalizing the Summary, users could hone in on areas where they believe more could be said. Joint drafting could also be used in a rulemaking that attracts experts; productive expert discussion will probably require an area of the site apart from the general open discussion.⁷²

In addition, we will eventually extend facilitative moderation to a collaboration phase, in which moderators experiment with formats and methods for building areas of consensus. DOT is especially interested in possible consensus-building and, while some CeRI researchers remain skeptical, members of the dispute resolution community seem excited about this opportunity to learn whether techniques used in non-virtual group facilitation can be translated to the online environment. At present, ODR (online dispute resolution) is largely confined to systems for resolving consumer complaints and other financial disputes.⁷³ Online conflict resolution in the

⁷² Such an area might give “write” rights to experts, while other users have only “read” rights. In general, Regulation Room does not attempt to verify the information users provide about themselves; an “expert space” would require us to develop a credentialing protocol.

⁷³ For examples, see eBay’s Resolution Center at *Resolving Transaction Problems in the Resolution Center*, EBAY, <http://pages.ebay.com/help/buy/resolving-problems.html> (last visited Oct. 5, 2010), *Domain Name Dispute Resolution Policies*, ICANN, <http://www.icann.org/en/udrp> (last modified Aug. 13, 2010), and the Portuguese Ministry of Justice’s E-justice Centre, which “provides mediation and arbitration services for all avatars [resident] in

policy area is barely nascent. This is an area that may particularly benefit from multi-disciplinary thinking. Information scientists have been extensively studying how online knowledge creating communities such as Wikipedia and Slashdot, manage conflict and coordinate collaboration in the production of group-created goods.⁷⁴ In such communities, these functions are performed by moderators/administrators who come from the user community and remain actively part of it. By contrast, in the mediation and group facilitation contexts studied by dispute resolution researchers, a crucial aspect of the conflict management and consensus-building process is that the mediator/facilitator comes from, and must remain, “outside” the group in conflict—a stance captured by referring to these actors as “neutrals.”

In sum, Regulation Room has characteristics of a blog, a discussion forum, and an online education site, but it is not really “like” any of these familiar forms of online group engagement. Its moderators interact intensively with users to perform mentoring and coordinating functions somewhat like moderators/administrators of highly developed online knowledge-creation communities, but they are conspicuously situated outside the user community and have a stake in the outcome other than enabling users to participate as effectively as possible. For these reasons, existing analogies for the system are thus difficult to find and, as previously mentioned, design and operating protocols evolve rapidly. In Fall 2009, Regulation Room completed a limited public beta test using a DOT rule whose comment period had already closed. A significantly reconceptualized Version 2 was used for the first “live” rulemaking, the texting rule, which was open from March 31 to May 3 of 2010. DOT was very anxious to use Regulation Room to broaden opportunities for public participation in the second round of airline passenger rights

Second Life” (focusing on conflicts deriving from consumer relations and contracts signed between parties). See Marduken, *E-Justice Centre*, YOUTUBE (July 29, 2007), http://www.youtube.com/watch?v=oanmtQd_Wes.

⁷⁴ See, e.g., Fernanda B. Viégas, Martin Wattenberg, Jesse Kriss & Frank van Ham, *Talk Before You Type: Coordination in Wikipedia*, IBM RESEARCH VISUAL COMMUNICATION LAB, http://www.research.ibm.com/visual/papers/wikipedia_coordination_final.pdf (last visited Nov. 19, 2010).

regulations. Because the expedited timetable for that rule called for opening less than a month after the texting rule closed, Version 3 was a less sweeping redesign. The comment period for this rule ran from May 31 to September 23 of 2010. As this article goes to press, Version 4 is being created and, taking advantage of a significantly longer period before the next rulemaking, will make important design and functionality changes.⁷⁵

E. RULEMAKING AS OPEN-GOVERNMENT PARADOX: A TRANSPARENT, PARTICIPATORY PROCESS THAT FEW CITIZENS KNOW ABOUT OR CAN MEANINGFULLY TAKE PART IN

The team of students and supervising faculty—who work intensely before publication to prepare site content and identify stakeholders for outreach efforts, during the comment period to actively monitor and facilitate the discussion, and at the end of the period to develop summaries of hundreds, even thousands, of comments—is integral to Regulation Room. We did not set out to design a Rulemaking 2.0 system that involves such a high level of human resources. A system that requires *more* reliance on human effort seems in tension, at least, with the whole idea of technology-supported rulemaking. Even though Web 2.0 re-emphasizes the role of *people* in knowledge-creation and dissemination, Rulemaking 2.0 is supposed to be using technology to leverage, for the agency’s benefit, the work and contribution of those on the “public” side.

So how did we arrive at the current system? We posed what seemed a fundamental first question: Why has rulemaking proved so resistant to technological efforts to enhance public participation?

Asking this question has led us to conclude that, even though rulemaking *appears* an obvious candidate for e- government gains, there are actually extraordinary hurdles to realizing its open-government potential. Three barriers to public participation seem particularly significant:

⁷⁵ Details about the changes made in each version can be found on the About pages of the Regulation Room site.

(1) **Ignorance.** Political scientists have amply documented how remarkably little Americans know about their institutions of government.⁷⁶ Lack of understanding of the rulemaking process, however, represents another quantum level of civic ignorance. Most people emerge from high school with a general idea of *what* Congress, the President, and the courts do in our government, and a set of vague notions about *how* they do it. But, as anyone who has taught the basic Administrative Law course in law school can attest, even very intelligent college graduates are remarkably clueless about administrative agencies—and they find the rulemaking process a mystery that many only dimly apprehend even after taking the course. U.S. rulemaking is really not like what legislatures, presidents or courts do. This is simultaneously its innovative strength and its civic vulnerability. How can citizens participate meaningfully in a process they don't even minimally understand? The bane of first generation federal e-rulemaking—hundreds of thousands of duplicate and near-duplicate e-“postcards” that express passionate support or opposition, and not much more—has become the poster child for public participation that completely misses the point of the process.

(2) **Unawareness.** Even individuals and groups directly affected by proposed new regulations often do not have good information about ongoing rulemakings. Agencies typically publish several alerts about proposed rules in the Federal Register⁷⁷ but, even with a searchable version available online,⁷⁸ the contents of the Register's 70,000 to 90,000 annual pages reach a very limited range of regulatory stakeholders. Agencies routinely issue press releases, at least

⁷⁶ See Cynthia R. Farina, *False Comfort and Impossible Promises: Uncertainty, Information Overload, and the Unitary Executive*, 12 U. PA. J. CONST. L. 357, 378–90 (2010), for a discussion of the literature.

⁷⁷ Rulemakings typically appear in at least one of the agency's semiannual Regulatory Agendas before the Notice of Proposed Rulemaking is published. See *The Unified Agenda: Main Page*, GPO ACCESS, <http://www.gpoaccess.gov/ua/index.html> (last updated Apr. 26, 2010) (“The Unified Agenda . . . summarizes the rules and proposed rules that each Federal agency expects to issue during the next year.”).

⁷⁸ See *Federal Register: Main Page*, GPO ACCESS, <http://www.gpoaccess.gov/fr> (last updated Mar. 23, 2010) (“[T]he Federal Register is the official daily publication for rules, proposed rules, and notices of Federal agencies and organizations”).

about important rulemakings, and communicate directly with major regulated entities, associations, and advocacy groups, but these efforts leave many affected individuals (e.g., small business owners) and entities (e.g., state and local government units and NGOs) unaware that a rulemaking relevant to them is going on—or only vaguely apprised of what is happening.

(3) **Information Overload.** Rulemaking imposes huge informational and attentional demands on the public. To participate effectively—that is, to do more than simply express support or opposition in general terms—participants must master lengthy, intricate proposals embedded in a mass of linguistically, technically and legally sophisticated material. This intimidates and overwhelms most people, even those who have some relevant working knowledge of or experience with the substantive issues being addressed.

Focusing on these three characteristics offers insight into why first generation federal e-rulemaking systems have not produced “more better” public participation. Basically, Regulations.gov/FMDS (and its predecessor agency systems) put the conventional rulemaking process online. They digitized rulemaking documents created by agencies and commenters, placed them in an electronic docket accessible via a free public website, and allowed electronic submission of comments through email or an online submission form. All these are valuable steps, but none directly address public *ignorance* about the process, *unawareness* of particular rulemakings of interest, or *information overload* from rulemaking materials.⁷⁹

These barriers to “more better” public participation may be intractable—or addressing them may be so costly that rulemaking is simply not a sensible target for broad-scale open government effort. Perhaps Rulemaking 2.0 should focus on certain aspects of better

⁷⁹ DOT’s e-rulemaking system, that pre-dated its joining Regulations.gov, allowed users to sign up for alerts on rulemakings on certain subjects. Regulations.gov provides for email alerts, but only on a rulemaking docket of which the user is already aware. See *Frequently Asked Questions*, REGULATIONS.GOV, <http://www.regulations.gov/search/Regs/home.html#faqs> (follow “How do I sign up for e-mail alerts?” hyperlink) (last visited Oct. 2, 2010).

participation—or be reserved for certain kinds of rulemakings. But little from e-rulemaking approaches thus far gives us data to reach firm conclusions on any of these points. The Regulation Room project is attempting to fill in this knowledge gap.

F. DESIGNING FOR PARADOX: USING, AND FIGHTING, THE WEB

A year into the project, we have already learned what may prove the most valuable insight to come from Regulation Room: Web 2.0 technologies and methods offer extraordinary opportunities for lowering the barriers to public engagement in rulemaking, but Web culture and expectations often fundamentally conflict with getting “more better” participation. Designing Rulemaking 2.0 systems is thus an exercise in simultaneously exploiting and resisting Web 2.0. Even if this balancing act is possible, it is not easy.⁸⁰

1. *Unawareness: Using Social Media To Alert and Engage*

*Time spent on social network and blogging sites
[is] growing at over 3x the rate of overall Internet growth
~ The Nielsen Co.⁸¹*

We begin with stakeholder unawareness because this barrier seems especially well-suited to Web 2.0 solutions. “Social networking”—through Web-based services that allow users to share ideas, activities, events, and interests within a designated group or with the world at large—is a defining characteristic of Web 2.0. The astonishing growth of information-sharing services such as Flickr, YouTube, Facebook, and Twitter has created forms of communication

⁸⁰ See Farina et al., *supra* note 6, for a fuller discussion of the issues raised in this section.

⁸¹ Nielsen Co., *Global Faces and Networked Places: A Nielsen Report on Social Networking's New Global Footprint*, NIELSENWIRE 3 (Mar. 2009), http://blog.nielsen.com/nielsenwire/wp-content/uploads/2009/03/nielsen_globalfaces_mar09.pdf [hereinafter *Nielsen Report*].

with truly unprecedented speed and penetration.⁸² The phenomenon is captured by the current metaphor that information spreads “virally” on the Web.⁸³

Microblogging⁸⁴ services like Facebook and Twitter, when added to traditional blogs and first-generation e-methods such as email, have obvious potential to alert and engage stakeholders who would otherwise be oblivious to rulemakings of interest.⁸⁵ Hence, an important component of Regulation Room is something not visible on the website itself: an Outreach Plan tailored to the specific stakeholder groups of each rule. In the texting rule, for example, we estimated the potential audience of our outreach efforts at more than 250,000 people. On Twitter and Facebook alone, we estimated that nearly 35,000 people were exposed to messages about the texting rule.⁸⁶

Still, using Web-based social networking to lower the *unawareness* barrier turns out to be not quite as simple as it sounds.

⁸² Flickr is an image and video hosting website. YouTube allows video-uploading and sharing with few content restrictions. Facebook is a social networking site that supports multi-media sharing of text and images. Twitter is a social networking and microblog that allows users to post and share 140 character messages called tweets. These kinds of services are the fastest growing types of sites on the Web; it’s estimated that, by early 2009, usage of social networking services surpassed e-mail usage. *Nielsen Report, supra* note 86, at 2. Facebook is the dominant global social networking site, but Twitter is the fastest growing, with users increasing from 2.7 million to 18.1 million between December of 2008 and December of 2009. Nielsen Co., *Led by Facebook, Twitter, Global Time Spent on Social Media Sites up 82% Year over Year*, NIELSENWIRE (Jan. 22, 2010) <http://blog.nielsen.com/nielsenwire/global/led-by-facebook-twitter-global-time-spent-on-social-media-sites-up-82-year-over-year>.

⁸³ The “viral” metaphor reflects the fact that online social media allow a message to spread over the Web much faster than through traditional media sources. For example, Facebook status updates and Twitter feeds go out in near real time to the user’s “friends” and “followers,” respectively, and can be further shared easily with comparable speed. See Kevin Wallsten, “Yes We Can”: *How Online Viewership, Blog Discussion, Campaign Statements, and Mainstream Media Coverage Produced a Viral Video Phenomenon*, 7 J. INFO. TECH. & POL. 163 (2010), available at http://www.jitp.net/files/v007002/JITP7-2_YesWeCan.pdf, for more on viral phenomena.

⁸⁴ “Microblogging” involves posting smaller amounts of content than traditional blogs. The attraction is immediacy and accessibility: messages can be posted and read in real time, via a variety of devices including cell phones.

⁸⁵ According to recent GAO testimony before Congress, as of July 2010, “22 of 24 major federal agencies had a presence on Facebook, Twitter, and YouTube.” Gregory C. Wilshusen, *Challenges in Federal Agencies’ Use of Web 2.0 Technologies*, U.S. GOV’T ACCOUNTABILITY OFFICE 3 (July 22, 2010), <http://www.gao.gov/new.items/d10872t.pdf> (footnotes omitted).

⁸⁶ See Farina et al., *supra* note 6, for detailed discussion of outreach strategies and results relating to both the texting and APR rules.

A. The Role of Human Effort

*The first cardinal sin of running an online community:
“if I roll out a given technology set (blogs, forums, wikis, etc.),
users will automatically appear and congregate, forming a robust community”
-- Rob Howard (founder of enterprise collaborative software company)⁸⁷*

Even this quintessentially Web 2.0 activity does not happen spontaneously. Just as in the biological context, viral spread of information on the Web occurs only after a critical mass of people have been “exposed” to it.⁸⁸ Blogs inform those who come to the site to read them, or take the steps to set up automatic delivery of new content to their email account or browser homepage. Microblogs spread information through communities of declared “friends” and “followers,” who use Facebook and subscribe to Twitter tweets. The amount of such activity now occurring on the Web is mind-boggling: over 300 million blogs;⁸⁹ 500 million Facebook users interacting with 900 million pages, groups, events and community pages;⁹⁰ 190 million users a month sending 65 million “tweets” per day.⁹¹ These figures underscore the huge potential of Web 2.0 information dissemination—and reveal the challenge of tapping it. Relying on an “if

⁸⁷Rob Howard, *How To: Manage a Sustainable Online Community*, MASHABLE (July 30, 2010), http://mashable.com/2010/07/30/sustainable-online-community/?utm_source=feedburner&utm_medium=email&utm_campaign=Feed%3A+Mashable%2FSocialMedia+%28Mashable+%2C%BB+Social+Media+Feed%29.

⁸⁸The literature on diffusion of information online is extensive and often quite technical. See Damon Centola & Michael Macy, *Complex Contagions and the Weakness of Long Ties*, 113 AM. J. SOC. 702–34 (2007) (discussing the need for multiple sources of contact to spread more complex social behaviors); David Liben-Nowell & Jon Kleinberg, *Tracing Information Flow on a Global Scale Using Internet Chain-Letter Data*, 105 PROC. NAT'L ACAD. SCI. U.S. 4633 (2008) (observing the distribution of internet chain letters “in a narrow but very deep tree-like pattern, continuing for several hundred steps”); Ravi Kumar, Jasmine Novak, Prabhakar Raghavan, & Andrew Tomkins, *On the Bursty Evolution of Blogspace*, PROC. TWELFTH INT'L WWW CONF. 568 (2003); Daniel Gruhl, R. Guha, David Liben-Nowell, & Andrew Topkins, *Information Diffusion through Blogspace*, PROC. THIRTEENTH INT'L WWW CONF. 491 (2004).

⁸⁹Blogtracker Technorati estimates that the number of blogs doubles about every six months. See David Sifry, *State of the Blogosphere Part I: On Blogosphere Growth*, SIFRY ALERTS (Apr. 17, 2006), <http://technorati.com/state-of-the-blogosphere/>. Only a fraction of these blogs are updated often, but even a small fraction is a big number. The top 400 blogs tracked by Technorati have an estimated 1.5 billion pages of content. See Dean Takahashi, *Technorati to Change How It Measures Bloggers' Influence*, VENTUREBEAT (Oct. 2, 2009), <http://venturebeat.com/2009/10/02/technorati-to-change-the-way-it-measures-the-power-and-influence-of-bloggers/>.

⁹⁰Statistics, FACEBOOK, <http://www.facebook.com/press/info.php?statistics>.

⁹¹Erik Schonfeld, *Costolo: Twitter Now Has 190 Million Users Tweeting 65 Million Times A Day*, TECHCRUNCH (June 8, 2010), <http://techcrunch.com/2010/06/08/twitter-190-million-users/>.

you build it, they will come” strategy (i.e., simply creating a Facebook page, setting up a Twitter account, or opening a new Rulemaking 2.0 website) will have limited success reaching people who, by hypothesis, are not looking for a Facebook posting about a new proposal to ban texting or a website that lets them participate in an APR rulemaking. Successful social networking happens only when people (ideally, those with *large* networks of readers, friends or followers) both learn about and feel motivated to share new information.

For this reason, the Regulation Room outreach strategy has multiple proactive and reactive components: (i) working with the agency to identify the range of stakeholders for the rulemaking; (ii) locating gatekeeper groups and influential individuals who represent or speak to members of these stakeholder communities, as well as groups interested more generally in open government or the rulemaking process; (iii) segmenting these groups and individuals into categories for development of audience-targeted messaging; and then (iv) using a variety of methods, initially and throughout the comment period, to capture the attention of the gatekeepers long enough to motivate them to spread the word to their readers, members, friends and followers.

Technology certainly assists this process—we find individuals and groups through search engines, we use Hootsuite⁹² to schedule and manage tweeting—but considerable human time and energy is still required. In addition to daily Facebook posting and Twitter tweeting, we monitor blog traffic about the rulemaking and attempt to alert the blogger about the availability of Regulation Room if the blog has not included the site.⁹³ And, we use email and telephone follow-

⁹² HOOTSUITE, <http://hootsuite.com/> (last visited Oct. 2, 2010).

⁹³ We use *Google Blog Search*, GOOGLE, <http://blogsearch.google.com/blogsearch?hl=en> (last visited Oct. 2, 2010), to monitor blogs, and SOCIALMENTION, <http://socialmention.com/> (last visited Oct. 2, 2010), for microblogs.

up with the bellwethers to advocate that our message be among the content they feature online or through newsletters and other print sources.⁹⁴

B. The Role of “Old-School” Methods

Traditional media still drives online conversations!
~Social Media for Government Workshop, July 10, 2010⁹⁵

The importance of pre-Web 2.0 media is the second reason why overcoming stakeholder unawareness is not merely a matter of invoking Web 2.0 technology. Traditional wisdom among communications professionals was that print does not drive online traffic. However, the Regulation Room experience has been that conventional media—newspapers, television, and radio—can significantly affect success of a Web-focused outreach strategy. In the APR rule for example, conventional media coverage of the DOT press conference announcing the rule—in which the Secretary of Transportation emphasized DOT’s desire to hear from airline passengers and at several points urged the public to use Regulation Room—created significant early momentum.⁹⁶ Several weeks into the rule, an article about the site in the Sunday Travel section of the Washington Post⁹⁷ produced one of the largest spikes in site traffic.⁹⁸

Comment [D1]: Check here and FN

⁹⁴ In fact, we have found it difficult to motivate information-sharing by gatekeeper organizations formed before the Web to inform and speak for their members. See *infra* text accompanying note 111.

⁹⁵ Amy Mengel, *How To Blend Traditional and Non-Traditional New Media into Your Government Communications Plan*, SLIDESHARE (July 12, 2010), <http://www.slideshare.net/amymengel/social-media-for-government-4737748>.

⁹⁶ The initial DOT announcement was carried on more than 600 mainstream media outlets and blogs.

⁹⁷ Christopher Elliot, *Airline Passengers Get a Chance To Be Heard on Proposed Regulations*, THE WASHINGTON POST, July 11, 2010, <http://www.washingtonpost.com/wp-dyn/content/article/2010/07/06/AR2010070603957.html>.

⁹⁸ Google Analytics, one of the tracking applications we use to gather data about traffic on the site, provides information about the way users come to Regulation Room. From Sunday July 11 (when the print version came out) to Tuesday July 13, there were 1019 visits to Regulation Room. About 12.6% of these came from the link to Regulation Room in the online version of the story. More than 46% came from users who typed Regulationroom.org directly into their browser. More than 70% of these originated from IP addresses located in Virginia, DC or Maryland. For other data from the APR rule showing the positive impact of conventional media on site traffic, see Farina et al., *supra* note 6, at Section III.3A.

Our experience thus far confirms the value for Rulemaking 2.0 of the emerging strategy among communications professionals: conventional and electronic media should be integrated in a single outreach plan.

C. The Role of Novelty

*“[A]ll higher organisms are informavores”
Since the first moment that our Hayes SmartModems
connected to a network, we have been on the hunt
for new information.
~ Tim Young, Founder of Socialcast⁹⁹*

The principal hurdle to successful Web 2.0 outreach is a defining characteristic of the Web itself: the incredible proliferation of information available online. The statistics given earlier on blog, Facebook and Twitter activity capture only a portion of what social media technology has enabled. Opportunities to consume and create information include news aggregators,¹⁰⁰ sites where users review everything from movies to medical care, and crowdsourced answer sites where anyone can ask or answer any question and the “best” answers are selected by user votes. This technology-enabled information bloom leads some observers to suggest that we are moving from the Information Age to the Attention Age, “the age of human history in which information has become so abundant and readily available that attention has

⁹⁹ Tim Young, *Our Changing Information Diet*, KNOWLEDGE IS SOCIAL (Oct. 11, 2009), <http://knowledgeissocial.com/our-changing-information-diet/> (quoting cognitive psychologist George A. Miller).

¹⁰⁰ Aggregators range from sites like the Huffington Post where content is determined by the site owner, to crowdsourced sites like Digg, to websites with automatic feeds using algorithms that find and group related stories. “Aggregators reduce the time and effort needed to regularly check websites for updates, creating a unique information space or ‘personal newspaper’ One of the problems with news aggregators is that the volume of articles can sometimes be overwhelming” *News Aggregator*, WIKIPEDIA (October 6, 2010), http://en.wikipedia.org/wiki/News_aggregator.

become the greatest commodity.”¹⁰¹ More negative characterizations of the phenomenon include the “Inattention Age”¹⁰² and “infobesity.”¹⁰³

The fierce competition for the attention of information providers and consumers creates the need for proactive effort, as discussed above. But even the best laid plans of Rulemaking 2.0 outreach are hostage to fortuity in an environment described by one social media industry insider as “an ever-growing information buffet, [where] we’re there for the ‘all you can eat’ meal.”¹⁰⁴ This was brought home to us in the texting rule.

Proposed regulation of texting by commercial motor vehicle operators became the first “live” Regulation Room rule because DOT expected it to be widely controversial, both among safe driving groups and among the 800,000-plus truckers who would be affected. Our outreach plan was designed around this expectation, and we somewhat anxiously prepared for massive use of the site. In fact, the amount of activity was nowhere near expectations. What happened? In late January 2010, the Secretary of Transportation held a major news conference announcing that DOT had just banned texting by commercial motor vehicle operators.¹⁰⁵ In fact, DOT was issuing an interpretation that existing trucking regulations covered texting; the interpretation was a stretch, but was intended as a stopgap distracted-driving response until the texting rulemaking could be completed.

Not surprisingly, the distinction between an “interpretation” of an existing regulation and a new binding rule that unquestionably covered texting eluded everyone but agency lawyers and

¹⁰¹ Aaron Endré, *Step Aside Information Age, The Attention Age Is Here*, AARONENDRÉ (Oct. 26, 2009), <http://aaronendre.com/2009/10/26/step-aside-information-age-the-attention-age-is-here/>.

¹⁰² *The Inattention Age*, CREATION ROBOT (July 21, 2010), <http://www.creationrobot.com/2010/07/the-inattention-age/>.

¹⁰³ Howard, *Infobesity: The Result of Poor Information Nutrition*, ETAOIN SHRDLU (Oct. 12, 2009, 4:36 PM), <http://editor.blogspot.com/2009/10/infobesity-result-of-poor-information.html>.

¹⁰⁴ See Young, *supra* note 99, at 32.

¹⁰⁵ See *U.S. Transportation Secretary Ray LaHood Proposes Rule To Ban Texting for Truck and Bus Drivers*, U.S. DEPT. OF TRANSP (Mar. 31, 2010), <http://www.dot.gov/affairs/2010/dot1410.htm>.

subscribers to the administrative law list serv. Banning texting had become a cause célèbre for Oprah, and was the topic of hundreds of news stories and blog posts. Public debate was intense and moved rapidly to the broader question of banning a range of distracting behaviors, from talking on a cell phone to eating while driving. By the time the real texting rule opened for comment two months later, a ban on commercial driver texting seemed a “no brainer” and produced barely a ripple in blogs, online news sites, and print media.¹⁰⁶ Even safe driving advocacy groups had moved on to the bigger game of state or federal legislation to outlaw texting by all drivers.

On the Web, Andy Warhol’s satirical “15 minutes of fame”¹⁰⁷ has become “15 seconds of fame,” or less. Plans to alert and engage new stakeholder groups can be disrupted by countless events totally beyond the planners’ ability to control or even predict: The President announces a major policy initiative; a natural disaster occurs across the world; a famous actor dies in suspicious circumstances; a funny video is posted on YouTube.¹⁰⁸ As a tool for lowering the barrier of unawareness, the Web is as capricious as it is powerful.

D. Outcomes for Overcoming the Barrier of Unawareness

In contrast to the texting rule, where our outreach occurred well after the novelty of the texting issue had worn off, the issues in the APR rulemaking (which included tarmac delay, oversales/bumping, and separate fees for baggage and other services) remained publicly salient throughout most of the comment period. Traffic Regulation Room was considerably greater for that rule:

¹⁰⁶ The Secretary’s January announcement was picked up by more than 1,500 online news stories and blogs; the March announcement got only about one-third as much attention. These and other comparative statistics can be found in Farina et al., *supra* note 6, at Section III.3A

¹⁰⁷ JOANNE MATTERN, ANDY WARHOL (2005) (“In the future, everyone will be world-famous for 15 minutes.”).

¹⁰⁸ See HDCYT, *Charlie Bit My Finger—Again!*, YOUTUBE (May 22, 2007), http://www.youtube.com/watch?v=_OBlgSz8sSM, one of YouTube’s top videos of all time, which was viewed more than 215 million times.

	Texting Rule	APR Rule
Days Open for Comment	34	110
“Visits”	3729	24,441
“Visitors”	1999 (53.6% of visits)	24,441 (79% of visits)
Registered Users	54 (2.7% of visitors)	1189 (6.2% of visitors)
Rulemaking Experience	98% none/unsure	94% none/unsure

“Visits” and “visitors” are terms of art in web analytics and cannot be perfectly translated to people.¹⁰⁹ Still, it is fair to say that many more people came to Regulation Room during the APR rule. However, a larger proportion came to the site once and did not return in the APR rule than in the texting rule. We discuss possible reasons for this below.

At registration, users are asked about their rulemaking experience. In both rules, fewer than 10% reported prior participation in a federal rulemaking.¹¹⁰ Given our goal of involving

¹⁰⁹ Google Analytics, which measured the data reported in the text, explains:

Visits represent the number of individual sessions initiated by all the visitors to your site. If a user is inactive on your site for 30 minutes or more, any future activity will be attributed to a new session. Users that leave your site and return within 30 minutes will be counted as part of the original session.

The initial session by a user during any given date range is considered to be an additional *visit* and an additional *visitor*. Any future sessions from the same user during the selected time period are counted as additional *visits*, but not as additional *visitors*.

Google Analytics, What’s The Difference Between Clicks, Visits, Visitors, Pageviews, and Unique Pageviews?, GOOGLE ANALYTICS (2010), <http://www.google.com/support/analytics/bin/answer.py?hl=en&answer=57164>. A further complication not mentioned here is that “visits” and “visitors” are recognized by IP address. An IP (Internet Protocol) address is a number assigned to each computer’s network interface in order to distinguish one network interface from another. *IP address*, WIKTIONARY, http://en.wiktionary.org/wiki/IP_address (last modified Sept. 12, 2010, 4:58 PM). So, recording “visitors” is actually recording a computer or other networked device’s “address.” This means that repeat visitors could be the same individual returning to the site or a different family member on a home computer, or a different patron using a public computer at, e.g., a library. Similarly, a new visitor could be the same individual using a different computer.

¹¹⁰ This survey question appears only once per registered user, so this 6% does not reflect return users who completed the survey during the beta or texting rule.

more individuals and groups who were unlikely to participate in the conventional rulemaking process, these figures are very encouraging.

When registered users submit their first comment, they are asked about the nature of their interest in the rule. This voluntary question has a lower response rate than the rulemaking experience question (20 people answered in the texting rule; 621 in the APR rule). Here are the answers of those who did respond:

Texting Rule:

Member of the driving public:	30% ¹¹¹
Trucking industry owner or operator:	30%
Working for state or local government other than law enforcement:	10%
Member of advocacy group:	10%
Researcher or expert:	5%
Other:	15%
Working for public transit authority	none
Law enforcement	none
Equipment manufacturer or dealer	none

APR Rule:

Air Traveler:	91%
Work for US Carrier:	1.1%
Work for travel agent or global distribution system:	6%
Researcher/expert:	1.1%
Other:	5.8%
Work for non-US air carrier:	none
Work at airport:	none
Advocacy group:	1%

An obvious difference is the greater spread of interests participating in the texting rule than in the APR rule. During the last forty-five days of the APR rule comment period, we increased targeted outreach to gatekeeper organizations for pilots, flight attendants and other

¹¹¹ This version of the survey allowed users to choose more than one interest; when users chose “member of the driving public” and one or more of the other categories, we reported the user as a member of the latter, more specific category.

airline and airport employees. These groups either did not respond to our multiple contacts, or told us that the organization had decided not to file comments and would not encourage its members to do so individually. An important area of future inquiry is determining whether it is possible to form alliances with such organizations, to neutralize the threat of disintermediation posed by empowering individual members to speak directly in rulemaking.¹¹²

Another dimension of success in alerting and engaging stakeholders is the extent to which visitors become commenters. We consider this as part of the next topic.

2. Ignorance

*I can't figure out how to vote.
~Email from Regulation Room visitor during APR rule*

Lowering the barrier of ignorance about rulemaking starts with telling people about the rulemaking process and explaining what it takes to participate effectively. Regulation Room provides this information in the “Learn About Rulemaking” area of the site.¹¹³ This area currently contains tips on making effective comments, plus an explanation of the process as a series of simple steps, each with a graphic illustration and a few sentences of explanation. Other information, and other media (e.g., videos), will appear in future versions.

Offering educational materials is one thing; getting people to *look* at them is another. Usability experts have long recognized that people don’t read instructions.¹¹⁴ Perhaps unsurprisingly, this behavior extends to “instructions” about the rulemaking process: the

¹¹² Further discussion can be found in Farina et al., *supra* note 6, at section III.3A.

¹¹³ *Learn About Rulemaking*, REG. ROOM, <http://regulationroom.org/learn-about-rulemaking/> (last visited Oct. 7, 2010); *Stages of the Rulemaking Process*, REG. ROOM, <http://regulationroom.org/learn-about-rulemaking/stages-of-the-rulemaking-process/> (last visited Oct. 7, 2010).

¹¹⁴ See, e.g., STEVEN KRUG, *DON’T MAKE ME THINK: A COMMON SENSE APPROACH TO WEB USABILITY* 26–27 (2d ed. 2006). This has proven a continuing challenge on Regulation Room because the site does not look or operate like a conventional blog or discussion forum. In Version 3, our efforts to instruct people in how the site works extended to short videos—which people did not watch. Redesign continues to focus on making a novel site more intuitive for users.

educational materials were only a small fraction of pages viewed, and users spent considerably less time on these pages than the site-wide average:

	Texting	APR
Learn About Rulemaking views as proportion of all pageviews	1.86%	0.37%
Average time spent on Learn About Rulemaking page	2.18 minutes	1.25 minutes
Average time spent on <i>all</i> pages during rule	4.27 minutes	3.17 minutes

More troubling to us, use of the educational materials in the APR rule was considerably lower than in the texting rule.¹¹⁵ What might account for this trend in the wrong direction? An immediate explanation is that design revision between the texting rule and the APR reduced the visual prominence of the “Learn About Rulemaking” navigation. This was an unintended consequence of efforts to address some usability issues described in subsection c below; a far more prominent presentation of the site’s education component is a priority in Version 4. But inadvertent design de-emphasis cannot be all of the story: Not only did APR users access the educational materials less but *they spent, on average, 40% less time* with these materials than users in the texting rule. So the explanation must lie further.

A. The Single-Issue User

The APR rule includes a prominent participation pattern that had no analog in the texting rule. A short section late in the NPRM explained that DOT is considering whether to regulate airline service of peanuts to accommodate passengers with severe peanut allergies. Unlike other

¹¹⁵ Average time on site, average number of pages visited, and average time per page metrics were gathered by Google Analytics. These are considered first-level web metrics and are not suitable for statistical analysis for a number of reasons, including how the data are collected and presented. For example, average time on page is calculated by subtracting the initial view time for a particular page from the initial view time for a subsequent page. Therefore, time on page can’t be calculated if someone enters and exits on the same page. *See Google Analytics*, GOOGLE, <https://www.google.com/support/googleanalytics/bin/answer.py?hl=en&answer=99118> (last visited Nov. 1, 2010). Also, first level metrics lack the data on variance that are required. Analysis of advanced Web metrics will be a focus of future project efforts. On the use of advanced web metrics and Google Analytics, see BRIAN CLIFTON, *ADVANCED WEB METRICS WITH GOOGLE ANALYTICS* (2010).

issues in the rulemaking, DOT did not propose language for a new rule; it just asked for comment on the appropriateness and nature of possible regulation in this area.¹¹⁶ The ensuing participation patterns were surprising: 454 of 931 comments were on peanut regulation—nearly 5 times as many as the next most commented upon issue.

Political scientists have debated ways in which single-issue voters differ from other voters.¹¹⁷ Deeper analysis of site use data is needed before we can conclusively determine that the peanut allergy commenters were indeed a single-issue group and, if so, whether they behaved differently than other users in important ways. Preliminary analysis suggests the answer to both questions is yes. The peanut allergy Issue Post was the second most frequently visited page overall, after the site home page, accounting for nearly 20% of all page views. It was also the page users most frequently went to from the Rule Home Page. And, it was the page most frequently exited from, accounting for nearly 30% of site exits. The data in the following table show that users who commented on the peanut Issue Post were about as likely to make more than one comment as users who did not comment on the peanut post, but these multiple comments were much less dispersed. Multiple commenters, who commented on the peanut post, were far more likely to confine their comments to that post than were other multiple commenters.¹¹⁸

	APR Rule	
	Peanut commenters	Other commenters
Incidence of commenting Percent of subgroup making >1 one comment	47.6%	48%

¹¹⁶ Although not labeled as such, the peanut issue was effectively an Advanced Notice of Proposed Rulemaking. DOT explained that it was considering regulation in this area, gave a brief overview of its reasons, and asked for reaction on both whether and how to regulate. It specifically asked commenters for personal experience stories. Enhancing Airline Passenger Protections. 75 Fed. Reg. 32332 (June 8, 2010) (to be codified at 14 C.F.R. § 259.5).

¹¹⁷ E.g., Edward Carmines & James A. Stimson, *The Two Faces of Issue Voting*, 74 AM. POL. SCI. REV. 78, 78 (1980) (finding that voters who vote based on “easy” issues—issues that are symbolic rather than technical and deal with policy ends rather than means—resemble the relatively unknowledgeable and unengaged non-issue voter).

¹¹⁸ A z-test for the difference between two independent proportions was performed comparing the proportion of multiple commenters who confined their comments to the peanut issue post (39/88=44.3%) and that of multiple commenters on all other posts (50/74=67.6%). The difference is statistically significant (z=2.96, p=0.003).

Dispersion of commenting Percent of multiple commenters commenting on > 1 issue post	44.3%	67.6%
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None of this is dispositive, but a plausible hypothesis for further study is that users focused on a single issue are less motivated to invest time elsewhere on the site, including on education pages.

B. The Voting Instinct

*My suggestion is to state the section of the proposed regulation.
Then, ask for votes, using for example 5 choices
from strongly agree to strongly disagree,
with the option of adding comments to any question.
~Email from Regulation Room visitor*

The assumption that rulemaking is a plebiscite has plagued first generation e-rulemaking. It fuels people's willingness to participate in mass email comment campaigns, in which hundreds of thousands of near-identical comments merely expressing support or opposition flood the agency.¹¹⁹ We have, therefore, been very cautious about introducing any form of voting or ranking into Regulation Room design—even though information science research shows that these forms of user engagement help build online community and foster additional participation.¹²⁰

Nonetheless, in the APR we introduced a poll. Visitors arriving at the rule home page had the opportunity to select one of seven passenger rights issues in response to the question: "What Matters to You?" This design change was inspired by two widely recognized characteristics of web users: (1) they have little tolerance for figuring out how a site works, and (2) they expect to

¹¹⁹ As Professor Shulman has persuasively shown, the motive of the organizations who generate these campaigns is different. See Stuart W. Shulman, *Perverse Incentives: The Case Against Mass Email Campaigns* 8 (2007), available at <http://shulman.ucsur.pitt.edu/Doc/Papers/APSA07-Perverse.pdf>.

¹²⁰ E.g., Jennifer Preece & Ben Shneiderman, *The Reader-to-Leader Framework: Motivating Technology-Mediated Social Participation*, 1 TRANSACTIONS ON HUMAN-COMPUTER INTERACTION 13, 21 (2009), <http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1004&context=thci>.

come to a site and do *something* almost immediately.¹²¹ Regulation Room is challenging for users because it fits into no familiar category of a Web 2.0 site.¹²² We hoped the poll would be both an engagement device and a channeling tool.¹²³ It was designed as a prominent, visually compelling part of the rule home page, with simple color graphics associated with each choice. Registration was not required to take the poll, so it offered an immediately available interaction.¹²⁴ Casting a vote not only revealed all results thus far, but also triggered a second interactive element: a “Go To” button that took the user directly to the Issue Post on that topic. We hoped this would provide easier entry to the part of the site where the user would experience the greatest motivation to comment, and invest the effort in registering to be able to do so. The specific wording—“What matters to you?”—was inspired by a group facilitation strategy for drawing people into discussion.¹²⁵

Some data suggest that the poll strategy worked to induce more visitors to engage with the site. The poll was extremely popular. The Rule Home page, where the poll was located, was viewed

¹²¹ See KRUG, *supra* note 114, at 11–29.

¹²² Other innovative open-government projects—notably, the Open Government Initiative—have experienced considerable frustration and resistance when users are presented with new software to accomplish a novel participation task. See Roger Strother, *White House Comments on its Open Government Initiative*, OMB WATCH (May 28, 2009), <http://www.ombwatch.org/node/10050>; Paul Johnston, *Open Government: Assessing the Obama Administration’s Efforts to Make Government Transparency a Reality*, CISCO 10 (Dec. 2009), http://www.cisco.com/web/about/ac79/docs/pov/Open_and_Transparent_Government_Formatted_120209FINAL.pdf; Ellen Miller, *Improvements Needed For High Value Datasets On Data.gov*, SUNLIGHT FOUNDATION BLOG (Feb. 3, 2010), <http://blog.sunlightfoundation.com/2010/02/03/improvements-needed-for-high-value-datasets-on-data-gov/>.

¹²³ See e.g., Jakob Nielsen, *Participation Inequality: Encouraging More Users to Contribute*, USEIT (Oct. 9, 2006), http://www.useit.com/alertbox/participation_inequality.html.

¹²⁴ Registration requirements are known to reduce participation. See, e.g., Jenny Preece, *Sociability and Usability in Online Communities: Determining and Measuring Success*, 20 BEHAV. & INFO. TECH. 347, 349–50 (2001), available at <http://www.informaworld.com/smpp/content~content=a713803359~db=all>.

¹²⁵ In conflict resolution parlance, it encouraged people reveal their *interests*, which can be the basis for productive discussion and consensus-building, rather than taking *positions* about preferred outcomes, which can interfere with listening to and engaging others. Commonly referred to as “interest-based” problem solving or negotiation, the formal definitions of positions and interests are covered in many sources. One of the most recognized is ROGER FISHER & WILLIAM URY, *GETTING TO YES: NEGOTIATING AGREEMENT WITHOUT GIVING IN* (Bruce Patton ed., 2d ed. 1991).

13,582 times. 13,972 responses to the poll were registered. Overall, a larger percentage of site visitors registered, and actually submitted comments, in the APR rule than in the texting rule.¹²⁶

	Texting	APR
Visitors who registered	2.7%	6.2%
Visitors who commented ¹²⁷	0.9%	1.8%

But despite efforts to design to avoid it, the poll may have reinforced the plebiscite assumption. Rulemaking 2.0 takes place at the intersection of two powerful cultural patterns. The first is the popular equation in the United States of democratic voice with casting a vote, or, it’s privatized equivalent, responding to a poll. Because voting is how “public participation” is culturally constructed, site visitors already “know” how the public provides input in government decisionmaking. Everyone “understands” that the side with the most votes wins.¹²⁸ The second pattern is from online culture: Voting is how the Web works. Ranking or rating—by assigning stars, sliding a bar, or simply clicking “Like” or “Recommend”—is a staple of Web 2.0 interactivity. Like the gladiators of ancient Rome, web content lives or dies by whether the crowd gives thumbs up, or down.¹²⁹ The confluence of these two patterns may create such a powerful “voting instinct” that the presence of even fairly modest preference-aggregation

¹²⁶ Unfortunately, the analytic tools used in the APR rule did not allow us to track specifically how many of those who voted went further, following the “channeling” to the relevant issue post and ultimately registering and commenting. In the future we will be able to do the former; the latter is far more difficult as long as we do not condition voting on registration.

¹²⁷ “Under-contribution” is a persistent problem for online communities; single-digit percentages for user participation are not uncommon. See Kimberly Ling et al., *Using Social Psychology to Motivate Contributions to Online Communities*, 10 J. COMPUTER-MEDIATED COMM. (2005), <http://jcmc.indiana.edu/vol10/issue4/ling.html>. Moreover, the novelty of Regulation Room on so many levels can be expected to lower participation rates. For a discussion of participation rates and strategies in the context of diffusion of new technology, see Y. Connie Yuan et al., *The Diffusion of a Task Recommendation System To Facilitate Contributions to an Online Community*, 15 J. COMPUTER-MEDIATED COMM. 32 (2009), <http://www.cs.cornell.edu/~danco/research/papers/yuan-jcmc2009-diffusion.pdf>.

¹²⁸ Cf. Shulman, *supra* note 119, at 8 (discovering that many of those who participate in mass email commenting campaigns try to stuff the ballot box by submitting the same comment multiple times).

¹²⁹ Filtering allows users to choose to see highly rated content only (or first), or content is automatically reordered based on voting so that content with few votes disappears into the unread end of the line.

devices causes users to ignore other signals that they really ought to learn more about how rulemaking works.¹³⁰

C. Moderators and Covert Education

*Thank you for your comment and your perspective.
Do you know if this is a rule for all airlines?
Do you have a link to any data to back it up?*

*This is an interesting point on the rights of volunteers to be bumped.
The proposed rule has requirements for written explanations by airlines, in Section 250.9.
Should this be explicitly extended to those who volunteer to be bumped?
~Moderator responses to commenters in APR rule*

Because the direct strategy for remediating ignorance about rulemaking is so hard to implement across the user population, Regulation Room incorporates an indirect strategy as well: human facilitative moderation. We use the term “facilitative moderation” to signal a moderation approach, rooted in facilitation theory from the field of conflict resolution, that significantly extends conventional online moderation.¹³¹

Regulation Room moderators perform the traditional function of policing irrelevant or inappropriate content,¹³² but their primary work is mentoring more effective ways of commenting, and nudging users toward broader engagement. Moderators may encourage a user to give reasons for a stated position, ask her to provide support for fact assertions and sources for

¹³⁰ For further exploration of the need for Rulemaking 2.0 systems to resist these cultural patterns in favor of creating a new set of user expectations and behaviors, see Farina et al., *supra* note 6, at Section III.B.

¹³¹ On conflict resolution theory, see SAM KANER ET AL., FACILITATOR'S GUIDE TO PARTICIPATORY DECISION-MAKING (2d ed. 2007); Anne L. Lytle, Jeanne M. Brett & Deborah L. Shapiro, *The Strategic Use of Interests, Rights, and Power To Resolve Disputes*, 15 NEGOTIATION J. 31 (1999). As noted earlier, there are prominent examples of more intensive online moderation. For example, Distributed Proofreaders (DP) is a web-based project that uses volunteers to assist the conversion of public domain materials to e-books and pairs new people with mentors who comment on their work. In addition, Wikipedia often has very direct mentoring (though, often in the form of scolding or warning) and moderation of contributions to articles. But these are exceptional levels of online moderating.

¹³² So far, the issues in this area have been around the tone of the discussion rather than off-topic content or unacceptable language.

data claims, or challenge her to suggest an alternative for a proposal being criticized. They may suggest relationships between what two commenters have said, or encourage a commenter to address a different part of the rule that seems relevant to the point she has just made. They also help lower the barrier of information complexity by pointing commenters to other materials on the site.¹³³ On occasion, these recommended materials will be the pages on effective commenting or the rulemaking process, but more typically education about the process is tacit: Users are guided, rather than instructed, in better commenting. Training in facilitation goals and techniques, faculty supervision, and direct assistance when necessary, and regular group discussion and critique during the comment period helps student moderators take on the role of advocates of the process. They assist users in improving the quality of whatever comments they are trying to make, while remaining neutral about outcomes.

An innovative “Moderator Interface” supports moderators in these tasks. It allows them to quarantine or redact comments that violate site use guidelines,¹³⁴ and to mark, “Attention,” any comment that they either want to return to on their own shift, or the next shift to monitor. An electronic “sticky note” will describe who marked the comment, why, and what action might subsequently be required.¹³⁵ This “Attention” function is prompted by information science research showing that allowing users to help, and discipline, other users is an important form of online community building.¹³⁶ Thus a moderator may decide to mark a comment and wait some

¹³³ See *infra* Section F.3.

¹³⁴ See *Terms and Conditions, Privacy Notice, Site Use/Community Guidelines*, REG. ROOM, <http://regulationroom.org/terms-conditions/> (last visited Oct. 6, 2010).

¹³⁵ Although the Moderator Protocols call for the “Attention” tag to be removed when action is taken or determined to be unnecessary, the “sticky note” remains “with” the comment to allow for tracking and eventual evaluation of various moderator strategies.

¹³⁶ See Jennifer Preece & Ben Shneiderman, *The Reader-to-Leader Framework: Motivating Technology-Mediated Social Participation*, 1 *TRANSACTIONS ON HUMAN-COMPUTER INTERACTION* 13, 15 (2009), available at <http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1004&context=thci> (discussing literature); Dan Cosley et al., *How Oversight Improves Member-Maintained Communities*, in *PROCEEDINGS OF THE SIGCHI 2005 CONFERENCE ON HUMAN FACTORS IN COMPUTING SYSTEMS* 11, 17–18 (2005), available at

time to allow another user to answer a question, probe an assertion, demand backup, or chide an overly aggressive responder. The Moderator Interface can also support coding of comments to assist the process of summarization, although this function is still rudimentary.

Full evaluation of facilitative moderation techniques must await additional coding and quantitative analysis, but very preliminary results are encouraging. In the two rules done so far, moderator comments designed to elicit further information or discussion generated responsive comments, from either the targeted user or another user, between 60% and 70% of the time.¹³⁷

3. Information Overload

Deliberative democracy research suggests that participants' acquisition of better information about a policy area is one of the most influential factors in improving the quality of public participation.¹³⁸ Rulemaking, however, is among the most challenging policy settings for accomplishing this. Unlike exercises in priority setting¹³⁹ or brainstorming¹⁴⁰—where participation is sought relatively early in the policy formulation process—rulemaking typically calls for public comments at a stage when the proposal is already developed in significant detail. The NPRM for the texting rule, for example, ran to thirteen single-spaced, three-column Federal

<http://delivery.acm.org/10.1145/1060000/1054975/p11-cosley.pdf?key1=1054975&key2=7527946821&coll=GUIDE&dl=GUIDE&CFID=104857733&CFTOKEN=28274806>.

¹³⁷ Texting: 13 moderator comments; 9 responses. APR Rule: 160 moderator comments; 97 responses. In both rules, moderators made some additional comments, answering site use questions, etc., that were not intended to advance the discussion.

¹³⁸ E.g., Peter Muhlberger & Lori M. Weber, *Lessons from the Virtual Agora Project: The Effects of Agency, Identity, Information, and Deliberation on Political Knowledge*, 2 J. OF PUB. DELIBERATION 1, 18 (2006), available at <http://services.bepress.com/cgi/viewcontent.cgi?article=1040&context=jpd>.

¹³⁹ E.g., *Citizen's Briefing Book*, THE WHITE HOUSE, http://www.whitehouse.gov/sites/default/files/microsites/Citizens_Briefing_Book_Final2.pdf (last visited Oct. 6, 2010) (the Citizen's Briefing Book project of the Obama Administration transition website Change.gov where citizens could submit and vote on their top issues and concerns, which would then be compiled into a document given to the President).

¹⁴⁰ E.g., Nat'l Acad. Of Pub. Admin., *A Recovery Dialogue on IT Solutions: After-Action Report*, RECOVERY.GOV (May 2009), http://www.recovery.gov/About/Documents/NAPA_Recovery_Dialogue_Final_Report_5-20-09_0.pdf (the crowdsourcing phase of creating Recovery.org, the web portal for tracking the spending of stimulus money, a week-long online dialogue conducted by the National Academy of Public Administration during which the online IT community could discuss how the site should be designed and operated).

Register pages. It had twenty-five footnotes and referenced more than a dozen separate research studies and analyses. The APR rule NPRM took up twenty-two Federal Register pages. Very few other policy contexts present would-be public participants with this volume of information.¹⁴¹

Lowering the barrier of information overload involves the same basic strategies used to overcome ignorance of the rulemaking process: *design* for the most effective direct provision of information and *support* through human facilitative moderation. However, creating an online information architecture to support the presentation of rulemaking content required for informed comment is considerably more challenging than the problems of rulemaking process education. In this area, the best balance between using, and fighting, Web 2.0 is difficult to discern—and even more difficult to realize.

Here we focus on how system design responds to three dimensions of the information overload barrier: length, cognitive and linguistic complexity, and variable user knowledge base.

A. Length: Documents Only a Lawyer Could Love

*Get rid of half the words on each page,
Then get rid of half of what's left.
~Steve Krug's Third Law of Web Usability¹⁴²*

E-rulemaking advocates have long argued that public participation would benefit from a presentation format which allowed people to comment specifically on individual sections or lines of the proposed rule.¹⁴³ “Targeted commenting,” proponents have argued, would encourage commenters to focus on specific aspects of the proposal rather than making global, generalized

¹⁴¹ See, e.g., *Williamsburg, VA Launches Online Public Forum for 2011 Budget*, ICMA (Apr. 6, 2010), http://icma.org/en/Article/100241/Williamsburg_VA_Launches_Online_Public_Forum_for_2011_Budget (Public participation in budget building); Bengt Feil, *Online Tool for Formal Participation in Urban Planning Tested in Hamburg*, PEP-NET (July 16, 2008, 9:00 AM), <http://pep-net.eu/blog/2008/07/16/online-tool-for-formal-participation-in-urban-planning-tested-in-hamburg/> (public participation in comprehensive land use planning). Both of which may be comparable.

¹⁴² KRUG, *supra* note 114, at 45.

¹⁴³ E.g., Beth Simone Noveck, *The Electronic Revolution in Rulemaking*, 53 EMORY L.J. 433, 484 (2004).

comments; it might even inspire some critics to make specific suggestions for alternative language. We see an additional possible benefit from targeted commenting: crowdsourcing comment management. Clustering comments by topic facilitates analysis at the end of the comment period—whether that analysis is done by a Regulation Room team building the Summary of Discussion, by agency rulewriters preparing the statement accompanying the final rule or, at some future time, by algorithms that aggregate, categorize or summarize comment text.

For these reasons a core Regulation Room application is “Digress-It,” a novel open-source application, compatible with the WordPress platform, that allows targeted commenting at virtually any level specified for the text. Consistent with the e-rulemaking literature, we initially assumed that the proposed rule would be the targeted commenting text. We quickly learned better. The proposed changes in the texting rule spread over eight different sections of the Code of Federal Regulations (CFR). Proposed changes in the APR rule affected fifteen CFR sections. Some changes involved new paragraphs or whole sections, but many added or deleted a few words or phrases. The typical user could not possibly have made sense of the resulting patchwork of text. Of course, some proposed rules will be more consolidated. But even here, a fundamental problem of comprehensibility remains. Without the explanation in the NPRM preamble, only users intimately familiar with the current regulations would recognize the significance of the new language and intuit the agency rationale behind the changes.

The logical alternative was to use the NPRM. But while the rule text was too minimalist, the agency explanation was too extensive. The texting NPRM comprises 227 paragraphs, and the APR NPRM has 274 paragraphs. This much length is, we believe, unworkable in the Web environment where, in the words of web-design expert Steve Krug, “[w]hat [users] actually do

most of the time (if we're lucky) is *glance* at each new page, scan *some* of the text, and click on the first link that catches their interest”¹⁴⁴ Our belief has been confirmed by the experience of FedThread,¹⁴⁵ an ingenious application developed through the Center for Technology Policy at Princeton. It takes the XML feed¹⁴⁶ from the Federal Register and breaks it into paragraphs, each of which can be commented upon. The cleanly designed user interface was an elegant experiment in machine-generated paragraph-level targeted commenting.¹⁴⁷ But FedThread received no comments on either the texting NPRM or the NPRM of the APR rule.

Hence, we arrived at the Issue Post approach. The team breaks the NPRM into issues that seem conceptually integrated and a manageable size for discussion. The texting rule had seven Issue Posts; the APR rule had ten.¹⁴⁸ In the texting rule, the posts were structured as a series of four to six topic-specific paragraphs; each had a brief, in-line title descriptive of its subject. Because we defined the targeted commenting segment as a paragraph, some of them were lengthy. The result confirmed Krug’s warning that web page writers tend to be “thinking ‘great literature’ . . . while the user’s reality is much closer to ‘billboard going by at 60 miles an hour.’”¹⁴⁹ Forty-five percent of comments were made on the first paragraph—regardless of the paragraph to which they were substantially related. We modified our strategy in the APR rule. First, we adjusted the targeting segment to be a flexible multi-paragraph unit. This allowed for

¹⁴⁴ KRUG, *supra* note 114, at 21.

¹⁴⁵ FEDTHREAD, <http://fedthread.org/> (last visited Sept. 17, 2010).

¹⁴⁶ XML (Extensible Markup Language) is a set of rules for encoding documents electronically. A universal format for storing and exchanging structured data, it is a very flexible and adaptable way to identify and exchange information that is “extensible” to fit the user’s desired application.

¹⁴⁷ FedThread does not support reply commenting. As currently integrated into Regulation Room, Digress-It allows three levels of threaded comment. We see this functionality as an important part of encouraging users to discuss each other’s ideas, rather than simply posting isolated comments.

¹⁴⁸ The issues tend to track the organization of the NPRM, but we do not consider that essential. In the APR rule, for example, we incorporated a very legally significant point—whether airlines would have to make their customer service plans part of their contract of carriage—into the Post on customer service plans, giving it a relatively brief mention that focused on enforceability. We assumed that lawyer-users would understand the significance immediately, while other users would be concerned with the end result of more enforceable rights, but not the mechanism.

¹⁴⁹ KRUG, *supra* note 114, at 21.

shorter, less intimidating blocks of text. In addition, we used the same four units in all posts:

“Overview,” “The Problems,” “The Proposed Solutions,” and “What DOT Wants to Know From You.” The last part of the Overview alerted readers of the units to follow.¹⁵⁰ This structure was far more successful at inducing people to attach comments throughout the entire post: 31% of comments were made on the initial Overview section and 37% on the final What DOT Wants to Know from You section. Unfortunately, this structure sacrificed topic segmenting and so did not accomplish the goal of clustering comments about a particular topic. Experimentation with Post structure will continue in the next rule.

Facilitative moderation does play a role in managing information volume, even though information design is primary because site visitors must be engaged enough to become commenters before moderator assistance can come into play. Moderators direct users to other information locations on the site, such as other Issue Posts or primary documents like the Regulatory Impact Statement. Alternatively, they might call to a commenter’s attention a particular piece of information, such as a limitation on the agency’s jurisdiction or a statutory mandate. Building in assistance by a human moderator reflects the reality that, no matter how adept the design is, the volume of rulemaking content will mean that many commenters still need help pulling together all the relevant pieces of information. Eventually, we anticipate that some moderator functions can be automated (for example, through recommender systems that point commenters to related posts or materials) or at least technologically supported (for example, through algorithms that identify, and flag for moderation, comments that are mere expressions of sentiment or position).

¹⁵⁰ “This post will tell you more about what the **problems** have been, and what **solutions** DOT is considering—and alert you to **questions** DOT particularly wants people to comment on.” *Airline Passenger Rights “Pricing and Advertising”*: Agency Proposal, REG. ROOM, <http://regulationroom.org/airline-passenger-rights/fare-advertising-and-practices/#1> (last visited Oct. 1, 2010).

B. Cognitive and Linguistic Complexity

*Research tells us that to communicate effectively
with a general audience in the U.S., we need to write
at a 6th-8th grade reading level.
~ The Informatics Review¹⁵¹*

Information Overload in rulemaking comes not just from volume but also from complexity. According to national statistics, about half of Americans read at no more than the eighth grade level. For this reason, the recommended readability level for government publications and other text written for broad public consumption is no higher than 8.0 on the Flesch-Kincaid scale (in which units correspond to grade levels).¹⁵² A 1998 Carter Administration Memorandum, which is still in effect, directs agencies to use “plain language in all proposed and final rulemaking documents,”¹⁵³ and the Federal Register offers several sets of guidelines on writing readable regulations.¹⁵⁴

Nevertheless, the legal environment in which rules are made and reviewed, the intrinsic complexity of many regulatory problems, and the role of scientific, technical or craft knowledge in finding regulatory solutions makes it difficult for agencies to write broadly accessible NPRMs. The NPRMs for both the texting rule and APR rule were (in our judgment) clearly organized, well-written and carefully explained. Still, the Flesch-Kincaid score of the texting NPRM is 15.0

¹⁵¹ *Comprehension and Reading Level*, THE INFORMATICS REV. (Sept. 1, 2010), <http://www.informatics-review.com/FAQ/reading.html>.

¹⁵² Flesch-Kincaid is a widely used measure of readability. The scale is calculated by dividing the average sentence length by the average number of syllables per word. See, e.g., Darrell M. West, *Government Studies at Brookings: State and Federal Electronic Government in the United States, 2008*, BROOKINGS INST. PRESS 4 (2008), http://www.brookings.edu/~media/Files/rc/reports/2008/0826_egovernment_west/0826_egovernment_west.pdf.

¹⁵³ Plain Language in Government Writing: Memorandum for the Heads of Executive Departments and Agencies, 63 Fed. Reg. 31885 (June 10, 1998), available at http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?IPAddress=&dbname=1998_register&docid=98-15700-filed.

¹⁵⁴ See *Plain Language Tools*, THE NAT'L ARCHIVES, <http://www.archives.gov/federal-register/write/plain-language/> (last visited Sept. 18, 2010).

(i.e., third year of college); the score of the APR NPRM is 17.8 (i.e., first year post-grad).¹⁵⁵ It seems inevitable that even the best NPRM will require some “translation” for purposes of public participation.

Our drafting guidelines for Issue Post emphasize using simpler sentence structure and vocabulary, although the legally-trained among us find this a constant challenge. In terms of web-based supports, a glossary plug-in allows us to define terms, acronyms and abbreviations in all the Posts. More work can certainly be done to use visual, as well as text, presentation. In the texting rule, several graphics helped explain the complicated relationship between the two statutes and sort out the tangle of statutory and regulatory exclusions.¹⁵⁶

C. Variable User Knowledge

*From each according to his ability,
to each according to his need!*
~Karl Marx¹⁵⁷

Experienced web designers warn against trying to design a site to be all things to all people. Yet the mission of a Rulemaking 2.0 system seems to impose responsibilities in this regard that do not apply to a commercial or personal site. The more successful an Outreach Plan has been at engaging a broader range of stakeholders, the more likely users are to bring very different levels and kinds of knowledge to the commenting process. Some (e.g., the truck drivers in the texting rule, or flight attendants in the APR rule) will have considerable experience with practical or technical aspects of the issue, a general sense of the regulatory program as a whole,

¹⁵⁵ These scores were calculated using the readability function of Microsoft Word 2007.

¹⁵⁶ The Research Team continues to debate the extent to which this principle should apply as well to functionality: Should Regulation Room be designed to accommodate variable user *participation*—ranging from those who want to engage deeply in learning and discussion to those who just want to vote? The hope would be that, at least for some users, participation “lite” could lead to more substantive engagement. The fear is that supporting drive-through participation undermines efforts to create a new culture of informed civic participation. These questions are explored, though not resolved, in Farina et al., *supra* note 6, at Section III.

¹⁵⁷ KARL MARX, CRITIQUE OF THE GATHA PROGRAM, PART I (1875), *available at* <http://www.marxists.org/archive/marx/works/1875/gotha/ch01.htm>.

and no idea of how rulemaking works. Others (e.g., representatives of major trucking companies or air carriers) will have a high level of knowledge in all three areas. Most members of widespread beneficiary communities (e.g., members of the driving public and airline passengers) will not have technical, regulatory program, or rulemaking process knowledge but strong views about outcomes.

For this reason, a guiding principle of the information architecture in Regulation Room is that information should, to the extent possible, be stratified: More basic information should be available for users who need it, without getting in the way of more sophisticated users. Similarly, more information depth should be available for users who want it, without overwhelming novices to the area or process.

Like much else in Rulemaking 2.0, this is easier said than done. Still, the Web is very supportive of such information layering. For users who want to dig in to the details, original rulemaking materials are placed on separate web pages, reachable through navigation tabs and via hyperlinks at appropriate places in the Issue Posts. Consistent with some information science research, we are discovering that even small design changes can have large effects.¹⁵⁸ In the texting rule, the primary way users could reach the NPRM was through an Agency Documents tab in the site navigation bar; they entered the document at the first page. Just over 1% of pageviews during the rule were to the NPRM, with users spending an average of 2.3 minutes on the page. In the APR rule, we placed a link to the NPRM at the bottom of each Issue Post (“*See what DOT said on this issue*”). And, we took advantage of technology that supports linking to a

¹⁵⁸ E.g., Bing Pan et al., *In Google We Trust: Users’ Decisions on Rank, Position, and Relevance*, 12 J. OF COMPUTER-MEDIATED COMM. 801 (2007) (finding that users were biased towards links earlier on the list of Google search results, even when the abstract of a lower link was more relevant); Dan Cosley et al., *Is Seeing Believing?: How Recommender System Interfaces Affect Users’ Opinions*, in PROCEEDINGS OF THE 2003 SIGCHI CONFERENCE ON HUMAN FACTORS IN COMPUTING SYSTEMS (2003), available at <http://portal.acm.org/citation.cfm?id=642611.642713> (showing users predictions of movie ratings at the time they supply a rating biases their rating).

specific location in the document, so that we could send users directly to the relevant section.¹⁵⁹

Access to the NPRM increased to 1.3% of pageviews, with users spending an average of 4.55 minutes on the page.¹⁶⁰ These same techniques can be used to give more expert or motivated users access to statutes, regulations and secondary materials¹⁶¹—all without burdening less knowledgeable or motivated users, who can simply ignore links to information they can't manage or don't want.

To help less-knowledgeable users without distracting those who don't need it, the glossary plug-in we use provides definitions and explanations of terms, but does not make them visible unless the user mouses over them. In general, the availability of moderator assistance tends to be more important for less-knowledgeable users, since they may not even know what sort of information would benefit them.

D. Outcomes

If acquisition of better information leads to better public participation, then comment quality is one measure of success in dealing with rulemaking information overload. Getting more than an impressionistic sense of quality requires constructing a coding scheme for such characteristics as relevance, reason-giving, factual support, etc.; coding what is now a data set of more than 1,000 comments; and developing a quantitative picture of comment characteristics. This work is now going on. Because “comment quality” scores mean little in isolation, we will

¹⁵⁹ We also offered a link to the relevant section of the rule itself: “See the proposed rule text on this issue.”

¹⁶⁰ The pageview percentages given here are calculated using unique pageview data. For context, the average visit to an online news site is 3.06 minutes. Project for Excellence In Journalism and Pew Internet & Am. Life Project, *Nielsen Analysis, THE STATE OF THE NEWS MEDIA* (March 15, 2010), http://www.stateofthemediamedia.org/2010/online_nielsen.php [hereinafter *Pew Project for Excellence in Journalism*].

¹⁶¹ In the APR rule, for example, most posts ended with not only links to the relevant portions of the NPRM and proposed rule text, but also the question “Want data?” which linked to relevant statistics on DOT's website.

then apply the same coding technique to comparable comments submitted on Regulations.gov,¹⁶² and to comments made on the DOT blog (and perhaps other blogs) about the rulemaking. These comparisons will help us determine what value is added by our strategies for lowering the barrier of information overload.

In the meantime, some basic site use statistics look promising. In the table below:

- “*Incidence* of commenting” is the percentage of commenters who made more than one comment. Incidence is one generally recognized measure of how engaged members of an online community are.¹⁶³ In the rulemaking context, a higher level of engagement should improve comment quality, especially in an environment where the moderator is mentoring more effective commenting. Also, a higher incidence of commenting may indicate more dialogue among users. One criticism of the conventional notice-and-comment process has been the lack of interchange among commenters, during which facts are debated, issues sharpened, and, perhaps, areas for consensus-building identified. E-rulemaking proponents have hoped that online commenting would be more dialogic.
- “*Dispersion* of commenting” is the percentage of multiple commenters who made comments on more than one Issue Post. It seems reasonable to assume that users who take the time to read about and comment on more

¹⁶² For these purposes we are inclined to omit the long detailed comments of sophisticated commenters. There will be some line drawing problems, but these comments are almost invariably submitted on behalf of corporations, trade associations, or professional associations, and filed in the last days of the comment period.

¹⁶³ See, e.g., Preece, *supra* note 124, at 350–51.

than one issue are not only more engaged but also more likely to recognize how different parts of the rule affect each other. This should lead to better commenting.

- In the APR rule, we show the incidence and dispersion statistics of all commenters, and then also separately for those who did and did not comment on the peanut allergy issue. (As noted earlier, the latter results are consistent with the story of peanut commenters as a single-issue group).

	Texting Rule	APR Rule		
		All commenters	Peanut commenters	Other commenters
Incidence of commenting	25%	46.8%	47.6%	48%
Dispersion of commenting	12.5%	54.3%	44.3%	67.6%

Both the incidence and dispersion percentages seem encouraging. An additional indicator of engagement comes from software that tracks how users move through the site,¹⁶⁴ which suggests that users are actually reading through comments on posts, even when they are numerous, rather than immediately adding their own comments.

More generally, the average time users spent on the site is reasonably good for the Web: 4.27 minutes for texting and 3.17 minutes for APR. For context, the average visit to an online news site lasts 3.07 minutes.¹⁶⁵ Finally, as noted earlier,¹⁶⁶ the response rate to moderator posts is

¹⁶⁴ The software is CLICKTALE, http://www.clicktale.com/default_e.aspx (last visited Sept. 18, 2010), which provides heat maps of user movement (clicks, hovers, etc.) on pages.

¹⁶⁵ *Pew Project for Excellence In Journalism*, *supra* note 160.

¹⁶⁶ *See supra* Section G.2.c.

reasonably good. A more detailed picture of intervention-response patterns must be developed, but more responsiveness should mean better comments.¹⁶⁷

The other dimension of “better” participation that we specified in the Regulation Room goals¹⁶⁸ is participation satisfying to the user. After both comment periods closed, we asked users to respond to an online survey about their experience. In the texting rule, we emailed the survey link to registered users. In order to also reach site visitors who did not register, in the APR rule we both emailed the link to registered users and posted it in the draft and final summaries. Counting both rules, we received a total of 69 responses.¹⁶⁹ Here are the responses to questions that attempt to measure the value of participation as perceived by the user:

<i>Did you gain a greater understanding of</i>	Yes	No	Other
<i>the rulemaking process?</i> (R=69)	50.7%	30.4%	<i>Already knew about it:</i> 18.9%
<i>the positions/arguments of others?</i> (R=68)	83.8%	8.8%	<i>Not sure:</i> 7.4%
<i>what the agency is trying to do in the rulemaking (asked in APR rule only)</i> (R=56)	78.6%	12.5%	<i>Not sure:</i> 8.9%

Of course, increased substantive understanding is only one dimension of how participation might be satisfying to those who use Rulemaking 2.0 systems. Future research will focus on other dimensions, including whether participating personally in government

¹⁶⁷ Another source of information about comment quality is, of course, the reaction of DOT rulewriters. At the time of this writing, neither the texting rule nor APR rule had been finalized and so, under the MOU, we do not have access to these people in the agency. *See supra* text accompanying note 63–64. It is not yet clear what legal and practical obstacles exist to our getting a systematic and candid fine-grained assessment of comment quality directly from the rulewriters.

¹⁶⁸ *See supra* Section C.

¹⁶⁹ Obvious strategies for increasing response rate, such as telephone follow-up, require collecting additional identifying information from users at the time of registration. The cost-benefit calculus here is difficult; it is well-established that information requests deter some visitors from completing registration *See, e.g.,* Jonathan Lazar & Jennifer Preece, *Social Considerations in Online Communities: Usability, Sociability, and Success Factors*, in *COGNITION IN A DIGITAL WORLD* 127, 136 (Herre van Oostendorp ed., 2002).

decisionmaking is important to users, whether they feel they have done so by using the site, and whether either increased understanding or feeling of personal participation increases belief in the legitimacy of the rulemaking process and outcomes. Another focus will be on those who visit the site but do not add comments. The online community literature debates the role and value of “lurkers,”¹⁷⁰ but we have some limited data suggesting that visitors can experience increased substantive understanding even without posting a comment. For this reason, our goal specification defines “participation” more broadly than commenting.¹⁷¹

E. But Is It Scalable?

In setting priorities for the Regulation Room system, we were careful to separate the goal of “more better” participation from the goal of cost-saving because of our preliminary assessment that lowering the barriers to rulemaking participation will not be easy or inexpensive. This does not mean we are insensitive to resource concerns. Rather, this stage of the project is focused on learning what strategies do, and don’t, work to deal with unawareness, ignorance, and information overload. Only then can sensible conversations take place about where agencies can expect most value for investment in Rulemaking 2.0.¹⁷² We note that adoption of new technologies often result in organizational, policy and procedural change that makes linear measures of cost and benefit difficult.

¹⁷⁰ See, e.g., Jenny Preece, Blair Nonnecke & Dorine Andrews, *The Top 5 Reasons for Lurking: Improving Community Experiences for Everyone*, CITESEER^X BETA 5–6 (2004), <http://citeseerx.ist.psu.edu/viewdoc/summary?doi=10.1.1.113.3323> (follow “View or Download” hyperlink at the bottom left of the page); Cliff Lampe, Rick Wash, Alcides Velasquez & Elif Ozkaya, *Motivations to Participate in Online Communities*, in CHI 2010 WE ARE HCI: CONFERENCE PROCEEDINGS, PROCEEDINGS OF THE 28TH INTERNATIONAL CONFERENCE ON HUMAN FACTORS IN COMPUTING SYSTEMS 1927, 1929, 1932 (2010), available at https://www.msu.edu/~lampecli/papers/pap1604_lampe.pdf (reviewing literature).

¹⁷¹ See *supra* Section C. For more discussion of lurkers in Regulation Room, see Farina et al., *supra* note 6, at Section III.D. Studying lurkers is difficult because most do not even register. One obvious mechanism is a pop-up survey on the site itself. Again, a difficult cost-benefit calculus must be made, since even incremental barriers to site use are likely to deter some visitors from proceeding.

¹⁷² Agencies will not be the only beneficiaries of what we learn through Regulation Room. Some privatization of Rulemaking 2.0 is almost inevitable. Many of the issues will be the same for private providers as for agencies, although some (e.g., proactive moderation) will present unique problems for the government. Exploring the relative merits of governmental versus third-party Rulemaking 2.0 systems is beyond our scope here.

Even at this early stage, we can offer a few thoughts about ways in which successful Rulemaking 2.0 will mean more fundamental changes in outlook and approach than were required of agencies to put the conventional process online in first generation e-rulemaking:

- Using social media to draw in previously uninvolved kinds of stakeholders means a much greater role in rulemaking for agency communications professionals. Simply starting an agency blog or a Twitter feed won't solve the unawareness problem. Well-strategized outreach that includes the usual media targets but goes substantially beyond them is needed. This will require conscious coordination efforts between personnel responsible for conventional and social media, especially in agencies where these people work in different units.
- “Translation” of rulemaking materials, and presentation of information in “discussable” chunks, will be essential. More readable formats—like the new online Federal Register—are a welcome development, but even well-educated users engaged with the issues will likely still find the NPRM impenetrable. Automated translation is still experimental enough that it is unlikely to help in the near future. Crowdsourcing—having knowledgeable users develop translations for others—is a great idea in theory, but seems unlikely in most rulemakings. We know, from ventures such as Wikipedia, that online production of public goods is possible, but, especially for production of large amounts of fairly complex content, it requires time and a

relatively advanced set of community norms and protocols.¹⁷³ The limited duration of the notice and comment process will likely preclude this, unless some basis can be found for cross-rulemaking cohesion of a core of community members.

Translation may be the least resource-intensive activity for the agency, given its familiarity with the proposal and the larger regulatory program. Still, there are issues that would require thoughtful attention. We have heard concern expressed by some rulemakers about the legal implications of an agency-endorsed “alternate” version of the NPRM. And, as a practical matter, those embedded in rulemaking may find it difficult to step back and write the kind of translation required by a novice to the area

- Facilitative moderation will likely be the most resource intensive and the most valuable element. Here, the idea of assistive technology is more realistic. The current state of natural language processing research allows us to think about algorithms that recognize certain text patterns—e.g., a comment that raises cost but does not contain specific estimates, or an expression of pure sentiment—and trigger an appropriate automated prompt to the commenter for more information. An area of particular interest to CeRI researchers is development of algorithms that can recognize more subtle

¹⁷³ E.g., Cliff Lampe & Paul Resnick, *Slash(dot) and Burn: Distributed Moderation in a Large Online Conversation Space*, in CHI 2004: CONFERENCE PROCEEDINGS, PROCEEDINGS OF THE SIGCHI CONFERENCE ON HUMAN FACTORS IN COMPUTING SYSTEMS 543, 543–44 (Apr. 24–29 2004), available at <http://presnick.people.si.umich.edu/papers/chi04/LampeResnick.pdf>; Travis Kriplean et al., *Community, Consensus, Coercion, Control: CS*W or How Policy Mediates Mass Participation*, in GROUP '07: PROCEEDINGS OF THE 2007 INTERNATIONAL ACM CONFERENCE ON SUPPORTING GROUP WORK 167, 167–68 (Nov. 4–7, 2007), available at <http://portal.acm.org/citation.cfm?id=1316624.1316648>.

language patterns—e.g., reason-giving or, on the negative side, baiting—and flag these for moderator attention.

Still, at least for the foreseeable future there will be an irreducibly human aspect to mentoring that points users to relevant information and facilitates interchange among commenters. Some online communities have effectively crowdsourced these functions, either through formal promotion of users to a higher status or through informal custom.¹⁷⁴ Whether such communities would emerge in rulemaking, even over the course of a series of substantively-related proposals, is very much an open question.

In an agency-run Rulemaking 2.0 system, implementing facilitative moderation will require thoughtful consideration. An actively helpful but substantively neutral stance is certainly possible for agency moderators, but, as official online participation events like the Open Government Dialogues showed, maintaining a public *perception* of objectivity and even-handedness can be a challenge for government moderators. (An alternative would be engaging an outside neutral, as is now done in negotiated rulemaking.) There are other issues besides neutrality. For example, some rulemakers have expressed concern about whether responding to questions or providing information in an online discussion during the comment period would compromise the rulemaking record.

- Managing comment volume will continue to be a significant challenge. In Rulemaking 2.0 done by the agency itself, all online discussion is almost certainly part of the rulemaking record under current law.

¹⁷⁴ See sources cited *supra* notes 74, 173.

Some help can be expected from natural language processing techniques, including sentiment detection, automated categorization and other summary building tools; this is an area of active research for Regulation Room. Moreover, some information management can be crowdsourced. Targeted commenting, once we figure out the best post structure, can significantly help cluster comments by topic. Aggregation through ranking or rating mechanisms is problematic because of the strong voting instinct, but we believe there is more to be learned in this area, and will continue to experiment with how to balance using, and fighting, the Web. For example, the next version of the site will offer users the option to “Endorse” a comment with which they agree—as an alternative to posting a separate, substantively duplicative comment.¹⁷⁵

CONCLUSION

I am interested in this regulation but do not want to spend a lot of time reading or submitting comments. How can I just 'voice my opinion' in an easy way? . . . What you already have is useful but too time consuming for me.
~Email from Regulation Room visitor

The use of new, technology-enabled forms of transparency, participation, and collaboration in federal government decision-making has been a high priority in the first two years of the Obama Administration. Agencies are being urged to plan and deploy such systems within a time-frame that may seem glacial measured in Web-time, but is near-instantaneous for government work.

¹⁷⁵ Another crowdsourcing technique for organizing content is “tagging”—that is, assigning keywords to each comment. The existing literature on motivating, and quality control of, tagging does not provide easy answers to making tagging work. See e.g., Shilad Sen et al., *The Quest for Quality Tags*, in GROUP '07: PROCEEDINGS OF THE 2007 INTERNATIONAL ACM CONFERENCE ON SUPPORTING GROUP WORK 361, 361–62 (Nov. 4–7, 2007), available at <http://portal.acm.org/citation.cfm?id=1316624.1316678> (follow “Full Text: Pdf” hyperlink); Shaoke Zhang, Umer Farooq & John M. Carroll, *Enhancing Information Scent: Identifying and Recommending Quality Tags*, in GROUP '09: PROCEEDINGS OF THE 2009 ACM SIGCHI INTERNATIONAL CONFERENCE ON SUPPORTING GROUP WORK 1, 1 (May 10–13, 2009), available at <http://portal.acm.org/citation.cfm?id=1531674.1531676>.

This accelerated evolution of Government 2.0 has sparked many exciting projects and new collaborative work applications. But it is not an environment conducive to advocating patient experimentation, or to raising the possibility that some kinds of government policymaking may be fundamentally incompatible with Web 2.0 participation.

In describing early experience with the Regulation Room project, we have argued that rulemaking is in fact an extremely challenging process for e-government innovation. The electronic docket concept of Regulations.gov can increase transparency by making the formal documents of rulemaking more broadly and readily accessible. Taking the next step—achieving more better public participation—will be considerably more difficult. No existing, commonly used and understood Web services or applications are good analogies for what a Rulemaking 2.0 site has to do to lower the barriers to effective public engagement in rulemaking. New methods and applications will have to be developed. More deeply, a culture of effective public participation in rulemaking will emerge only if users acquire new expectations about how they engage information on the Web—and, perhaps, about what is required for civic participation.

The true potential of Rulemaking 2.0 is unknowable at this point because e-rulemaking has not tried systematically to address the barriers of stakeholder unawareness, process ignorance, and rulemaking information overload. The Regulation Room project is premised on the belief that progress can be made in these areas, through experimentation with purposeful design and theory-grounded operating protocols. Contemporary Americans have not been accustomed to broad-scale, truly informed engagement with the policymaking processes of their government. The DOT-CeRI collaboration is an investment in hope that the transformative capacity of the Web, which we have experienced in so many other domains of human activity, can change enough to bring the reality of rulemaking closer to its open government promise.