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Democracy and E-Rulemaking: Comparing Traditional vs. Electronic Comment from a Discursive Democratic Framework

Objectives

The objective of this research is to examine and evaluate, from the standpoint of democratic theory, the growing practice of web-based public comment on rules proposed by governmental agencies. This research will provide policy-makers, agency personnel, and the interested general public with one basis for evaluating and understanding “e-rulemaking” as it transforms public participation in the U.S. There is a pressing need for a more thorough examination of the increasing implementation of e-government by policy-makers and agency personnel. The central significance of this work is that it will examine a major public policy move in a new, uncharted and unexamined direction where very little social science has actually been carried out. This research proposes to bring recent theoretical writings on democratic values and processes to bear on what will be a central transformation of the administrative state in the 21st century: the crafting of policy and rules with the input of the public via the Internet.

Regulatory rulemaking is a time- and information-intensive process, often requiring three or more years to complete. Recent history has propelled rulemaking into the focus of public attention by inviting greater levels of citizen participation. As Cornelius Kerwin notes, rulemaking offers “opportunities for dimensions of public participation that are rarely present in the deliberations of Congress or other legislatures” (1999, 32). It is a process designed to sort through facts and opinions derived from numerous sources. Over the last decade, numerous agencies have been moving toward electronic, web-based participation to meet the “notice and comment” requirements of the Administrative Procedures Act of 1946. The transition to e-rulemaking is attributable in part to the impetus from legislative (e.g., the Government Paperwork Elimination Act) and administrative (OMB, 2002a) directives that seek to make the regulatory process open, transparent, deliberative, efficient, and effective (GAO 2001, 2000; OMB, 2002b). These efforts culminated in recent approval by Congress of the E-Government Act, which specifically directs agencies “to enhance public participation in Government by electronic means” (Sec. 206(a)(2)). Indeed, agencies have already begun to do so, and the government, on January 23, 2003, unveiled a new single portal for public comment on all proposed rules.

The core elements of rulemaking, according to Kerwin, are information, participation, and accountability. Each of these elements takes on new meaning as IT-based applications are introduced. Information overload strains agency personnel responsible for responding to input as well as the public’s ability to sort through the enormous amounts of information that are increasingly available online. Yet many agencies seem to agree with the GAO, which optimistically finds that the “use of IT in regulatory management can reduce regulatory burden; improve the transparency of regulatory processes; and, ultimately, facilitate the accomplishment of regulatory objectives” (GAO 2001, 1), as evidenced by their commitment to electronic rulemaking. Anecdotal evidence from agencies involved in e-rulemaking supports such claims; it also points to the efficiency of the process in terms of both time and resources. But there is, to date, very little social science data evaluating this major transition in the procedures for mandated public participation; this research is designed to fill some of that gap.

Amidst the growing e-government transformation, a number of scholars and commentators have begun to argue both for and against the potential of the Internet to transform

democracy. Optimism surrounding the Internet's potential originates from a number of political theorists, so-called "digital democrats." As early as 1993, reports appeared in the technology press about using the Internet to conduct global-scale town meetings. By 1995, the Internet was declared the "*de facto* standard" for citizen access to government information (Noack 1995, 29), and students of democratic theory were turning their attention to digital government because of its potential to increase democratic participation (Grossman 1995; Hill and Hughes 1998). Scholars in the UK (Coleman and Gotze 2001) argue that web-based participation could be the answer to the decline in social capital and, so, interest in citizenship (as in Putnam 2001).

But the concerns of the skeptics are persistent. Some, for example, argue the importance of challenging "the myth of cyberspace as the current pinnacle of real democracy, freedom and information exchange" (Hern and Chauk 1997, 36). Davis has suggested it is absurd to assume that technological innovation itself can lead to greater public control of the agenda-setting process in government (Davis 1999, 170). Others point out the risk that digital government might serve to widen gaps already separating the information and resource rich from the poor (Malina 1999). Instead of an empowered citizenry capitalizing on more easily available information, some thinkers warn that the Internet could lead to a fragmented and non-deliberative populace (Alexander and Pal 1998; Schlosberg and Dryzek, 2002).

Still other critics claim the Internet is just as prone to elite domination as were earlier media. The majority of government uses of the Internet provide information to citizens without offering the opportunity for interaction and the accountability that follows from such interaction. This is confirmed by recent studies of government web sites and citizen use of these portals (West 2001, Larsen and Rainie 2002). This deprives the public of the interactive potential of the internet, and the possibility of introducing more two-way, discursive deliberation into decision-making (Schlosberg and Dryzek, 2002).

Such is the theoretical argument. There is some empirical evidence, however, that given the opportunity citizens will use the Internet to participate in decision-making processes. A Pew Internet and American Life study found that 34% of those who have used the Internet to access government sites have sent comments or suggestions to their elected officials (Larsen and Rainie 2002). Whereas the tendency in the past has been for the Internet to increase the flow of information from the government to the citizens, its real promise is the creation of opportunities for citizen-to-government information flows and two-way deliberative communication between the two. Through such substantive citizen deliberation, public values stand to play a role in decision-making, and democratic participation may hold government agencies more accountable. Still, very little empirical research has been done on the claims of either supporters or critics of digital democracy, or the specific practices with which democracy is being brought into the virtual sphere.

The move to electronic participation in rulemaking has been justified mostly on economic grounds. The dominant value driving implementation of the technology is efficiency rather than democracy. Many agencies like the idea of electronic participation because it is a low-cost way to meet regulatory requirements for public comment. Dockets no longer have to be organized by staff and housed in expensive office space open to the public; they are kept in electronic storage for off-site perusal. When sued, agencies no longer have to spend hundreds of labor hours producing a docket of the decision-making process; courts are provided with electronic dockets simply by clicking "send."

Efficiency such as this is not inherently undemocratic. But the focus on efficiency can have a detrimental impact on the democratic process. The cheapest computer programs designed to run a digital democracy are those that only *take* comments, rather than construct places for deliberation. In these cases, electronic submissions pass through data-mining filters that send the public comments to the appropriate experts in the agency. Here, the requirements of the APA are met with as little cost and time as possible. But these most efficient programs offer only one-way communication (rather than offer space for discourse), and categorize and organize comments by key words (rather than being sensitive to the variety of positions that citizens might take, and the intentions and nuances that might accompany the key words). With too much of an emphasis on efficiency, the potential of the technology is lost, the discursive landscape gets flattened, and the rich variety of kinds of communication that humans can engage gets edited out of all recognition. Efficiency was only one of the values that led to the passage of the APA, but it was imbued with other values as well, including the transparency of information, public participation, and the accountability of agencies (Kerwin 1999). This project will examine all of these more democratic values in the implementation of e-rulemaking.

Why Discursive Democracy?

While public participation and the practice of civic engagement continue to be a hallmark of democratic theory (e.g., Boyte 1990; Sirianni and Friedland 2001), numerous political theorists in the past decade have refocused on deliberation as a crucial aspect of participation in democratic practice. There is a renewed interest in the place of discussion, reasoning, and engagement across lines of difference in this citizen engagement in democratic politics. In the deliberative model democracy is the practice of public reasoning. Participants make proposals, attempt to persuade others, listen to the responses of those others, and determine the best outcomes and policies based on the arguments and reasons fleshed out in public discourse.

A focus on deliberation is not a new thing for democracy. Certainly, those that use the Greek polis as the ideal of democracy, as well as those that use the New England town meeting, base democratic process on discourse. Classic authors in the modern western political canon, such as Edmund Burke, John Stuart Mill, and Jean-Jacques Rousseau, championed in one way or another an emphasis on public deliberation; the focus continues in two of the most important political theorists of the twentieth century, writing from two very different traditions: John Rawls (1996) and Jurgen Habermas (1996).

Some deliberative democrats (for example Bessette 1980, 1994; Rawls 1997) make the argument that deliberation and public reasoning already occur in current liberal democratic governments, legislatures, and/or courts; often these theorists are content to stop there. However, most deliberative democrats (including Barber 1984; Bohman 1996; Dryzek 1990, 2000; Young 2000) insist on expanding the practice of discourse to the public engagement in, and deliberation of, policy issues. There is a renewed interest in the place of discussion, reasoning, and engagement across lines of difference in democratic politics. Importantly, this renewed interest – along with specific deliberative prescriptions -- is addressed to the governmental sphere, the public sphere, and the intersection of the two. As Dryzek says in his recent reflection on the past ten years of deliberative democratic theory,

the essence of democracy itself is now widely taken to be deliberation, as opposed to voting, interest aggregation, constitutional rights, or even self-government. The deliberative turn represents a renewed concern with the authenticity of democracy: the

degree to which democratic control is substantive rather than symbolic, and engaged by competent citizens (Dryzek 2000, 1).

The key aim in designing this project with the issues, suggestions, and cautions of deliberative democracy is the examination of the authenticity and legitimacy of the rulemaking process. While the technological wave to be ridden is the digital one, the democratic wave, in both theory and political practice, is discourse. The underlying question is whether new electronic forms of participation offer more democratic legitimacy than traditional forms of comment. More specifically, deliberative democratic theory brings numerous parameters to bear on the development of our project hypotheses.

1. Deliberation, not preference aggregation. In light of the deliberative turn in democratic thinking, it is important that reflective as opposed to unreflective preferences get expressed and addressed. One-way electronic participation, in which a citizen simply sends a message presenting a preference, leaves us in an “aggregative” mode of democracy (and leaves the mechanics of that aggregation to the experts in agencies). No engagement with the position of others is required, and no reflection on one’s own position is induced. The EPA, for example, has a ‘de facto guideline’ for two-way communication (Covello and Allen 1988), but it has rarely implemented the suggestions contained therein (see Schlosberg 1999, and EPA’s recent rethinking in EPA 2001). In light of contemporary democratic thinking’s stress on deliberation and authenticity, an exclusively aggregative approach constitutes a giant step back. This is not to imply that existing procedures are any paragon of deliberative authenticity, merely that if the new technology is not diverted away from mechanical aggregation it will deplete any potentially beneficial deliberative aspects that do exist (Schlosberg and Dryzek 2002).

2. Inclusion of difference. A more authentic discourse – and a more authentic democracy – includes the diversity of voices present in a society (and in particular those that are affected by the outcome of the deliberation). Deliberative democratic theory has paid particular attention to the issue of plurality of participation (Bohman 1995; Dryzek 1990; Hanson, 1985; Young 1996). This inclusion takes a variety of forms. First, obviously, it means the equal participation of more individuals and groups in the development of policy. This is the essence of environmental justice demands for participation for traditionally excluded groups (Schlosberg 2003). But it also means opening the discussion to modes of expression beyond those traditionally accepted. Young (1996, 2000) wants to move beyond simply rational argumentation – which she sees as exclusive – to include storytelling, greeting, and rhetoric. In practical terms for this project, this would mean giving value to participation that is outside the realm of either scientific or legal argumentation. Personal narrative or moral urging, for example, would weigh into deliberations on rulemaking.

3. Respect for a variety of positions. Linked to the above is the issue of *respectful* engagement in a discourse across differences. Deliberation is aimed not just at a singular outcome in terms of policy at the end, but also at the understanding and mutual respect of participants in the process itself. As Benhabib (1992, 38) argues, the emphasis is ‘on sustaining those normative practices and moral relationships within which reasoned agreement *as a way of life* can flourish and continue.’ Young (2000, 24-5) notes that participants in democratic discussion listen to others, treat them with respect, make an effort to understand them by asking questions and not judge them too quickly. This calls on people to be able to understand the positions of the others with which they engage. Within this context, participants should develop

arguments which are agreeable to those with different interests and ends (Gutman and Thompson 1996; Bohman 1995).

4. The transformation of preferences. Discursive democracy differs from standard liberal democracy in one key way: preferences and interests are not brought into the conversation as in a battle – with one winning and others losing. The ideal of deliberation is that of communication that actually changes the preferences of participants in the face of the arguments and positions of others. In this way, a process of democratic rulemaking cannot just be one-way, with either an agency positing a position for citizens to accept or that agency simply taking note of objections to proposed rules. There must be room in the design of the online procedure for individuals to not only deliberate with others, but note changes in their own position. Authenticity within deliberative democracy depends on participants affecting the outcome of the process; this, of course, includes the possibility of changes to proposed agency policy.

5. Expanding discourse in the public sphere. Digital democracy is a way of extending participation into civil society, beyond elected representatives. However, civil society contains not just individuals, but groups as well. It is widely recognized that flourishing associational life in civil society is crucial to the well being of democracy. Conservative theorists of "social capital" such as Robert Putnam (2000) stress the supportive role of nonpolitical groups in inculcating trust that in turn makes people good citizens. More radical theorists emphasize social movements that often oppose the state (Dryzek, et al., 2003). The central question here is: What role is there for groups of any sort in a digital democracy? The virtue of electronic access to, for example, agency web sites is that it can be achieved by individuals without reference to groups. This possibility, however, might constitute one less reason to join and support a group. We already see this problem in the "Action" sections of many major environmental organization websites; action entails pushing a button to add one's name to an electronic petition, or send an email to a member of Congress. This sort of electronic action is isolated, one-way, and largely unthinking. While Putnam's thesis regarding bowling alone focuses on the depletion of *social* capital, a move to commenting alone depletes the *political* capital of a populace becoming ever more isolated. No interchange or opportunity for questioning means little reflection and little attachment to groups. The hazard, then, is a further loss of democratic authenticity. Digital democracy need not be inherently isolating, but it is a danger worth exploring.

6. Impact and Authenticity. Of course, democratic processes are authentic only if those processes have an actual impact on the development and implementation of policy that affects people's lives. There are many examples of inauthentic and co-opting mechanisms that only offer the veneer of democratic participation without the reality. Numerous theorists make clear the importance of authenticity as a measure of democratic process (Dryzek 2000, Young 2000). In addition, numerous social theorists have discussed the importance of a "reflexive modernization," where democratic processes are used to reflect on the impact of modernity (especially on environmental issues) and actively redirect policy in less risky and more sustainable directions (Beck 1995, 1997, 1998; Beck, Giddens, and Lash 1994; Giddens 1990). As a matter of practicality, there are numerous examples of these sorts of authentic democratic processes leading to both public acceptance of environmental risks and greater opinion of agencies (Fischer 2000; Williams and Matheny 1995).

Our central objective is to examine the move to electronic participation using current theories and values of discursive democracy. We want to explore exactly what sort of democratic participation has been created by the move to electronic participation. We do not

plan to simply examine e-rulemaking from some ideal form of discursive democracy, but to compare traditional forms of comment to different types of electronic participation using the parameters of discursive democracy. Specific questions include:

- Is electronic participation one-way, or discursive?
- Given the digital divide, is participation more diverse or less diverse than past forms of public comment? Does digital democracy expand the franchise?
- Does electronic commenting result in a greater frequency of some types of comment (for example, legalistic or scientific) than others (emotional, ideological, storytelling)?
- Do those who engage in e-rulemaking commentary show more respect for the positions of others than those who use traditional modes of comment?
- Do the preferences of citizens change as they are exposed to those of others in online commenting?
- Is electronic participation group-based, or isolating?
- Is participation authentic: does it have an actual effect on rulemaking?

These questions are provided as hypotheses, with a theoretical justification, in Table 1. We will turn now to explaining our approach to the research design.

Table 1. Hypotheses, Theoretical Bases, and Data Sources

Hypothesis	Theoretical Basis	Data Source
H ₁ Participation in electronic rulemaking is more discursive than traditional forms.	The trend in democratic theory is toward more discourse and deliberation (Dryzek 2000)	· Citizen comments · Survey
H ₂ Electronic participation is more diverse than traditional forms of comment.	Electronic comment may offer more access to participation than exists in non-electronic public comment.	· Citizen comments · Survey
H ₃ Electronic participation results in an increase in the number of non-science-based comments.	Only certain forms of comment are acceptable and incorporated in much democratic deliberation (Young 1996).	· Citizen comments · Interviews with agency personnel
H ₄ Electronic participants show more respect toward other opinions than participants in traditional forms of comment	Democratic discourse engenders respect (Benhabib 1992, Young 2000).	· Citizen comments · Survey
H ₅ Citizen preferences change more after participating in electronic comment than in traditional comment.	Democratic discourse engenders reflection on one's positions and preferences (Habermas 1996, Bohman 1996)	· Survey
H ₆ Electronic participation occurs in isolation rather, than via groups at a greater rate.	Democracy is as much about groups as about individual participation (Putnam 2001; Coleman and Gotze 2001).	· Citizen comments · Survey
H ₇ Electronic commentary is more fully incorporated into revised rules than traditional commentary	Democratic processes must be authentic in order to be valid (Dryzek 2000).	· Citizen comments · Final rules · Interviews with agency personnel · Survey

Approach

We focus on public participation in *environmental* decision-making for a variety of reasons. First, it is an area of public policy where public interest and participation are quite high. Andrews, in his history of US environmental policy, argues that “one of the most distinctive features of modern U.S. environmental protection policy ... is the unprecedentedly broad right of access to the regulatory process, which extends not only to affected businesses but to citizens advocating environmental protection” (1999: 240). Rosenbaum notes that more than 75% of all public participation programs in the U.S. originated in federal statutes since 1970, and the vast majority of those are in environmental legislation (Rosenbaum 1989: 215). Paehlke (1989) argues that in the last three decades the environmental area has led all others in the scope and extent of democratic innovation, not just in legislative politics, but also in environmental administration and law. Such innovations include public inquiries, right-to-know legislation, alternative dispute resolution, advisory committees, and policy dialogues. The history of environmental policy, then, illustrates that the leading edge of public participation is in the environmental field; there has developed a culture of participation in environmental issues. It is fitting, then, that we look at environmental initiatives in our examination of this new online avenue for public participation.

Second, and not surprisingly, environmental issues have been central in the development of web-based public comment. The first major experiment in web-based public comment was on the USDA’s proposed rules for organic foods beginning in 1997. Personnel at the USDA’s National Organic Program understand that the public response to the proposed rules – which originally included allowing sewage sludge as fertilizer, genetic engineering, hormone-treatments, and irradiation – was a watershed event for the agency. Again, the APA requires the publication of proposed rules and time for public comment. Usually when the USDA publishes rules the comments, rarely approaching 1000, are overwhelmingly from industry. With the proposed Organic Rules, however, the USDA received over 280,000 comments, over 50,000 of them via the web. Within a week after the close of the comment period, Secretary Glickman agreed to the outburst of protest, and took sewage sludge, genetically modified foods, and radiation out of the proposed organic rules.

More recently, the Forest Service took comments for a new Roadless Area Conservation Ruling. The FS posted the proposed rule, the considered alternatives, background information, and a schedule of public meetings on its Roadless Area Conservation website (roadless.fs.fed.us). In addition to 430 public meetings, the USFS also received more than 1 million postcards or other form letters, and approximately 60,000 original letters, 90,000 emails, and several thousand faxes. Unfortunately, from a democratic perspective, the FS only used the web to *give* people information, and it limited the use of the technology to one-way email submissions, as opposed to allowing citizens to see one another’s comments and respond. Discursively, this was a step backwards, but it mirrors the method used by numerous agency e-rulemaking systems. Finally, the EPA Dockets or “EDOCKETS” system allows citizens to read others’ comments in an open docket; as such, it may allow for more public discourse than the FS system. The EPA system will serve as the prototype for the government-wide regulations.gov web site that now provides a single portal to all regulatory rulemaking. All of this demonstrates that environmental issues are central in this current transition to electronic rulemaking.

Methods and Data Collection

Three different rulemaking cases will generate the core data of the project. Cases will be selected using several criteria, after consultation with agency personnel involved in e-rulemaking processes. First, the cases must have employed the Internet as both an information dissemination and collection tool. Since the innovative use of web-based comment submission by the NOP there have been numerous systems developed by various agencies, and we will choose cases with contrasting features. While the EPA system was chosen as the model for the new single portal, agencies such as the Department of Transportation, Department of Energy, Nuclear Regulatory Commission and many others developed their own systems. We will choose rulemaking cases from different agencies, and compare their features and performance on democratic criteria.

Since all rulings continue to permit traditionally submitted comments, we will be able to compare traditionally submitted comments to electronically submitted comments. Such a comparison is central to testing $H_{1-4,6}$. Second, the three cases must represent significant issue and geographical diversity. This will allow us to control for the possibility that rulings may affect one type of group or region more than another. In particular, we intend to select at least one ruling that has a prominent environmental justice component. Third, the cases will come from at least three different agencies. This criterion will be employed since some rulemaking contexts may be more suitable to e-rulemaking than others. Fourth, the cases will vary in number of comments. Since rulings garnering greater numbers of comments are typically more controversial, this will allow us to determine whether the effects of e-rulemaking vary depending on how contentious the ruling is.

The choice to compare traditional and electronic comments within a ruling is a result of careful consideration. Another possible approach would be to perform analyses on rulings in the pre- and post-e-rulemaking eras in order to determine whether e-rulemaking results in differences in the number and types of comments. This approach would entail controlling for too many variables to achieve reliable results. The historical context of a ruling, let alone political and economic climates, would make a comparison of rulings in two different time periods untenable. Finally, except for cases where a newer version of a previously existing rule has been proposed and commented on, finding two cases with enough similarities to justify making comparisons across time would be an insurmountable obstacle. While we understand that the differences between traditional and e-comments may be accentuated when looking at those two types of comments on a single rule, we find this a more viable and reliable process than comparing the two types of comment across completely different rules.

After choosing three rulemaking cases, the research will examine citizen comments and attitudes on our democratic hypotheses through a combination of qualitative and quantitative approaches. We will qualitatively analyze citizen comments, and conduct a survey of citizens who commented on the proposed rulings. This approach of combining qualitative and quantitative methodologies offers a more robust approach to the research (Fielding & Schreier 2001). Combining these methods offers the benefit of a research design in which the nuances of behaviors (e.g., commenting) and attitudes can be observed. The public nature of citizen comments provides the perfect opportunity both to perform content analysis of comments, and to randomly survey those same commenters. Below we describe the types of data we intend to collect, and how they will be used with respect to the hypotheses listed above.

(1) *Citizen comments*: In submitting formal comments on proposed rulings, citizens have traditionally had two options: sending letters and providing testimony at public hearings. With the advent of the Internet, agencies have not only allowed comments to be submitted via email or through agency web pages, they have also made full dockets available on-line. Agencies also continue to collect public comments through a variety of more traditional mechanisms: public hearings, faxes, and letters. We will compare electronically submitted comments to comments submitted through the mail or by fax. Most agency systems, including the new standard – EPA’s Regulatory Public Access System – request that users include name, mailing address, and email in their electronically submitted comments, thus guaranteeing the contact information we will need to create sampling frames of commenters. Public hearings offer an interesting comparison, but whereas we will have contact information for letter writers and electronic commenters, contact information is seldom provided when testifying at public hearings (unless that testimony is also submitted in written form).

H₁, our basic hypotheses regarding overall level of discourse, will be tested by coding for the instances in which commenters refer to the docket or another citizen comment within the docket. Addresses included in the comments themselves can be used to examine the geographic diversity of commenters (H₂), but traditional demographic data collected through the survey will be used to examine racial, gender and socioeconomic diversity of commenters. By coding comments for the use of scientific information in justifying a position or recommendation, we will be able to test H₃. For H₄, on the question of respect, comments can again be coded for the use of courteous language and openness to alternative views. H₆, regarding comments made in isolation or via civil society, will be examined by coding the origins of comments—either individuals or groups. Similarities in text, found for example in electronic postcards written by groups but submitted by individuals, will also be coded. For H₇, on the authenticity of the process, we will analyze comments for their dominant themes and where there are differences between traditional and electronically submitted comments, we will examine the language of final rules to determine whose preferences are most reflected.

(2) *Interviews with agency personnel involved in the selected rulings*: We will conduct interviews with agency personnel who were involved in each of the rulings to generate rich qualitative accounts of agency perspectives on how the public participation process worked, and whether personnel feel it improved their relationship with citizens. Questions will be developed around each of the hypotheses outlined above. The interview process, and distinct analysis of personnel comments, will also allow us to determine if citizens and agency personnel share views on the public participation process. We provide a draft, semi-structured interview schedule in the “Protocol” section, below. These interviews also may lead us to ask additional survey questions to test our hypotheses. At least ten interviews will be conducted for each case. Interviewees will include agency rule writers, community relations staff, legal counsel, and relevant scientific experts. Both public comments and transcripts of personnel interviews will be entered into ATLAS.ti (described below), to facilitate systematic analysis of the qualitative data.

(3) *Agency records of the final rulings*: We will collect and analyze official agency reports on the results of rulemaking processes in order to supplement the individual accounts derived from the interviews. This will include the final rules with their legally mandated Preambles (at times longer than the rules themselves) that explain the decision process.

(4) *Survey of citizen commenters*: To better understand similarities and differences between individuals who elect to make public comments using Internet technology and those

who comment using traditional communication mechanisms, we will subcontract with Northern Arizona University's Social Research Laboratory to perform a telephone survey. The survey will contact representative samples of each community participating in 3 case study processes. Relying on the contact information provided in most letters, faxes, and emails, we will construct sampling frames for each of the three cases we examine. To achieve statistical validity, we will aim for 500 completed surveys for each case studied (250 traditional commenters and 250 electronic commenters), for a total N of 1,500. The margin of error (MOE) for a sample of 250 randomly selected members of a community is affected by the size of the universal population. Population size in the public comment process varies by issue; most are in the 1000-2000 range, while a few major issues (such as the National Organics Program) have brought in over 50,000. If we assume a universal population of 2000 members, the margin of error for each sample is +/- 5.8 percent at a 95 percent confidence level, taking into account only sampling error. Variables will be compared across traditional and electronic comments.

Findings from the content analysis of citizen comments will be complemented by the collection of survey data on citizen attitudes. For example, survey questions will ask about how much commenters interacted with the electronic docket and how many other citizen comments they read before commenting (H₁); other questions will collect standard demographic data (H₂). Survey subjects will be asked about the use of scientific justifications in their comments (H₃), about their respect for and understanding of opposing viewpoints (H₄), and about whether their own preferences or views changed after participating (H₅). Subjects will also be asked about how they learned about the proposed rule and their involvement in any interest or non-profit groups (H₆); finally, commenters will be asked whether they feel their input was listened to and incorporated into the revised rules.

Qualitative Data Analysis

The data generated by this research design will require different analytical approaches. Interviews with agency personnel involved in the selected rulings, agency accounts of the final rulings, and citizen comments represent text-based data that will be analyzed using qualitative data analysis methods. These data sources will facilitate an exploratory approach that can help us identify new questions as they emerge in this understudied arena.

To manage these data in a structured and rigorous manner, professional consultants will train the PIs and student coders to use ATLAS.ti, a qualitative analysis management and model building software package. The PIs and student coders will read and code rulemaking comments looking for particular discursive attributes identified through the literature review, preliminary analysis, and a composite of other coding schemes developed to assess the nature of the public input in a decision-making process. Coders also will review data with the purpose of creating new structures and analytical insights. One project deliverable will be a coding scheme comprised of qualitative criteria for judging whether IT-facilitated dialogue results in any changes in these variables.

Our qualitative methods draw on the work of Fielding and Lee (1998), which suggests the following advantages to coding qualitative data for analytical purposes: Codes enable a revisable comparative process in which the interrelationships between the codes and the concepts they represent become important to the analysis. As coding proceeds, concepts are clarified, refined, solidified, modified, or discarded, while notes about how this happens appear in accompanying memos. The collection, coding, and analysis of data is not necessarily sequential;

in fact, it may be preferable to do all three simultaneously. Successive reformulation of the research questions and codes is a gradual reductive process that seeks generalizations about the data that may be difficult to determine with the limited available data. So little is known about the nature of the commentary generated through e-rulemaking that the qualitative approach we propose is an appropriate method for creating a typology of public commentary.

Quantitative Data Analysis

Surveys will be fielded in NAU's Social Research Laboratory's (SRL) 20-station calling laboratory. The use of the SRL will allow the PI to maintain close contact with, and oversight of, the survey component of the research. Use of a university-based survey lab will also engender training of both undergraduates and a Graduate Assistant in survey methodology and analysis. We will rely on the identifying information included in public comments to construct sampling frames for each of the three rulings we will be investigating. We will draw stratified random samples from these sampling frames. Stratification will be employed to guarantee equal numbers of people who supported and opposed the respective proposed rulings, and equal numbers of traditional and electronic commenters.

The calling lab contains a Windows NT network and runs Ci3 Computer Assisted Telephone Interviewing (CATI) software. Trained interviewers conduct the survey from a preprogrammed computer terminal. Survey questions appear on the computer screen and the interviewer enters the data via mouse. Data is automatically uploaded to a central computer server at the completion of each interview. This eliminates the potential of errors that come from keypunching data gathered using paper surveys. This process also helps to ensure confidentiality of survey participant identities by automatically uncoupling survey data from participant names.

Once calling begins, trained interviewers will introduce the survey to potential respondents by telling them the name of the calling firm and purpose of the survey and guaranteeing confidentiality of responses. Respondents will then be asked for their consent to complete the survey. The survey will take approximately eight minutes for each respondent to complete. Potential respondents will be called a minimum of eight times. An established pattern of call-backs minimizes nonsampling errors that occur from certain types of people not being available at particular times of the day. In addition, people who refuse to participate in the survey will be called back and encouraged once again to complete the survey. The first time a respondent declines to participate in the survey, they are coded as a "soft-refusal." Their telephone number is returned to the sample database and called again by a skilled "refusal converter;" an interviewer who has been specially trained to convert declines to completed interviews. Respondent who refuse a second time are coded as a "medium refusal" and again recontacted by a skilled interviewer to try and complete the interview. Respondents refusing a third time are coded as a "hard refusal" and their number is removed from the sample database. This refusal conversion process helps to maintain the integrity of the original sampling framework.

Telephone numbers that are busy, ring without answer, or are answered by an answering machine will be called a minimum eight times at different hours before they are removed from the sample database. Once dead, these numbers are replaced by a phone number from another phone number in the sample. This call-back procedure minimizes the possibility of nonrandom bias from entering into the data. The survey will be fielded seven days a week. Depending upon

final decisions regarding sample size, we anticipate that the entire survey will be fielded within a one- to two-week period.

The SRL has developed numerous methods of responding to call screening, an increasing problem for phone survey methodology. With Caller ID, people can choose not to answer calls from IDs that are “blocked” or “not identified.” When the SRL places a call from its laboratory, the identification is listed as “Northern Arizona University,” and thus it is perceived to be of interest to many people. Another form of call screening is use of a “Telezapper,” which detects automated calls and tricks the caller to believe that no one is answering the number called. The SRL averts the problem with “telezapper” by not using an automatic dialing system; individual interviewers are responsible for all calls made within the SRL Lab.

Research Design Execution and Project Management

David Schlosberg, the PI, will be responsible for the overall management of the project, including the management of the budget, collaboration with federal agencies, and the organization of meetings of the research team alone and with agency personnel. The two co-PIs, Stuart Shulman and Stephen Zavestoski will supervise the training and work of two teams of student coders at Drake University and the University of San Francisco, and also continue their collaboration with agencies. PI David Schlosberg will be responsible for the oversight, including preparation and implementation, of the survey research work in conjunction with the Social Research Laboratory at NAU. A project timetable is presented below.

There are three key reasons for the involvement of three PIs on this project. First, interdisciplinarity, in both approach and methods, is a notion often praised, but little implemented in academia. The PIs are dedicated to bringing a range of approaches on democracy and citizen participation from sociology, political science, and political theory to bear on this project. Second, and related, the individual PIs have specific expertise related to the current project. Schlosberg brings a focus on democratic theory, in particular discursive democracy, along with much experience with environmental movements and their relationship with the state. Shulman has long-standing experience with digital democracy and digital citizenship issues, as well as numerous contacts with agencies implementing e-rulemaking. Zavestoski brings expertise in citizen participation, content analysis, and interview methodology. Shulman and Zavestoski, together, have organized two previous workshops for agency personnel responsible for e-rulemaking. All of the PIs have extensive general experience in environmental issues and citizen responses to them, and, in particular, with environmental justice issues.

Finally, given the extent of the data that will be analyzed in this study, the team approach is essential to ensuring the data collection and analysis is carried out systematically and with rigor, which will in turn add reliability and validity to the data (Crawford, Leybourne & Arnott 2000). For example, we will independently develop coding structures for our text-based data, and then compare them in order to identify the dominant themes. Our work will be coordinated utilizing information technology, but will also rely on two to three meetings a year to address project issues and concerns.

Table 2. Timeline of Project Tasks

Date	Task	PIs Responsible
2003 Fall	<ul style="list-style-type: none"> ● Research team meets ● Finalize selection of rulings and interviews schedules and questions ● Identify key agency personnel. ● Secure public comments for analysis ● Professional coder training at Drake and USF ● Begin preparing data ● Collect agency and media accounts ● Begin constructing coding structures for public comments 	<p>Schlosberg, Shulman, Zavestoski</p> <p>Shulman, Zavestoski</p>
2004 Spring	<ul style="list-style-type: none"> ● Finalize coding structures ● Create survey sampling frame ● Begin coding public comments ● Set up and conduct interviews 	<p>Shulman, Zavestoski</p> <p>Schlosberg</p> <p>Schlosberg, Shulman, Zavestoski</p> <p>Schlosberg, Shulman, Zavestoski</p>
2004 Summer	<ul style="list-style-type: none"> ● Complete coding of comments, interviews, and agency and media accounts ● Begin write-up of content analysis results ● Finalize survey instrument ● Fourth E-Rulemaking Workshop, in DC 	<p>Schlosberg, Shulman, Zavestoski</p> <p>Shulman, Zavestoski</p> <p>Schlosberg, Shulman, Zavestoski, SRL</p> <p>Shulman, Zavestoski, Schlosberg</p>
2004 Fall	<ul style="list-style-type: none"> ● Pre-test survey and make modifications. ● Administer survey. ● Analyze survey data. 	<p>Schlosberg, SRL</p> <p>SRL</p> <p>SRL, Schlosberg</p>
2005 Spring	<ul style="list-style-type: none"> ● Integrate qualitative and quantitative findings ● Meet to discuss results. 	<p>Schlosberg, Shulman, Zavestoski</p> <p>Schlosberg, Shulman, Zavestoski</p>
2005 Summer	<ul style="list-style-type: none"> ● Write final report for NSF. ● Write articles. ● Fifth E-Rulemaking Workshop, in D.C. 	<p>Schlosberg, Shulman, Zavestoski</p> <p>Schlosberg, Shulman, Zavestoski</p> <p>Schlosberg, Shulman, Zavestoski</p>

Other Proposed Research

This is a thoroughly revised version of a previous proposal to SDEST (proposal number 0240593). While we had numerous supportive comments on the proposal, the focus, the framework, and the investigators, the panel summary suggested more specific information regarding the operationalization of the research questions, the clarity of the methodology, and the budget justification. We have thoroughly reworked our methodology in many ways. The qualitative analysis has been clarified, and we have discussed specific links between our research questions and the types of language we will be looking for in both interviews and public comments. We also propose to bring in professional trainers to run training sessions specifically on coding methodology for the PIs and student coders. The survey methodology has also been clarified, again with more specific discussion of direct links between our hypotheses and the survey questions. This proposal also offers a more thorough justification of the use of NAU’s SRL and its budget. Finally, we have added a thorough dissemination plan, which includes the relevance and use of the research in the political, disciplinary, and educational realms.

The PIs have another proposal pending with the Information Technology Research (ITR) program of NSF (“Electronic Rulemaking: A Baseline for Social Science Research”). That proposal is significantly different from this SDEST proposal. The ITR project’s central task is to establish and collect performance-based measures of the use of e-rulemaking systems. Again, there is very little social science data on e-rulemaking; the ITR proposal makes the argument for collecting data at the start of the use of the new regulations.gov web portal. While that project proposes to look at some democratic variables such as diversity of participation and public perceptions of agency legitimacy, it does not address any of the deliberative democratic themes we lay out here, nor does the ITR proposal attempt to compare traditional vs. electronic comment. We envision the possibility of conducting both projects at once, but the substantive overlap is minimal.

Results from Prior NSF Support

The co-PI, Dr. Stuart Shulman, has been a PI on four recent NSF grants. Publications derived from this funding are listed in the Biographical Sketches.

1. EIA-0089892 “Digital Government: SGER: Citizen Agenda-Setting in the Regulatory Process: Electronic Collection and Synthesis of Public Commentary”

Summary: A SGER to explore the possibility that qualitative data analysis tools might be employed in the collection and synthesis of public commentary in the rulemaking process. Outcomes included publications, e-rulemaking workshops attended by academics and agency personnel, as well as the submission of a longer-term, 4 university Digital Government proposal to study e-rulemaking.

2. EIA-0089892 Amendment No. 001 “Digital Government: SGER: Citizen Agenda-Setting in the Regulatory Process: Electronic Collection and Synthesis of Public Commentary”

Summary: Supplemental funds to organize an e-rulemaking workshop at the Council for Excellence in Government, which was attended by academics and approximately 40 representatives drawn from seven federal agencies.

3. EIA-0113718 “ITR/PE: Digital Citizenship: Expanding Information Technology Literacy with a Service-Learning Approach”

Summary: This ITR-funded grant enables two central Iowa universities--Drake and Iowa State--to assess the efficacy of service-learning interventions in the dissemination of Information Technology Literacy (ITL) beyond the campus gates. It uses the service-learning pedagogy to promote mutually beneficial partnerships between academic institutions and communities. This project is currently underway with preliminary results reported at national meetings over the last year.

4. EIA 0113718 Amendment No. 001 "ITR/PE: Digital Citizenship: Expanding Information Technology Literacy with a Service-Learning Approach"

Summary: This REU was used to employ 6 Drake undergraduates in the preparation of 3 papers for an interdisciplinary colloquium titled *Global Citizenship and Environmental Justice*, held in Copenhagen, Denmark. The students worked in pairs and traveled to the meeting to share their research centered on the theme of “Digital Citizenship: A Pathway to Environmental Justice.” The undergraduates will be presenting a single paper with the PI at the March 2003 meeting of the Western Political Science Association.

Dissemination Plan

Government Policy and Internet-Based Public Participation

Internet-based public participation has been mandated by the E-Government Act of 2002, yet there is, to date, very little social science data on the implementation and use of such systems. Many government agencies have already committed substantial resources to the electronic collection and synthesis of public commentary during rulemaking. This research will provide significant evidence as to whether current uses of the Internet as a public participation mechanism is expanding democratic practice and agency legitimacy. Given lack of data with respect to Internet-based public participation in regulatory rulemaking, our findings will serve as guideposts for the ongoing and future development of e-rulemaking practices and related research endeavors. By understanding the factors that influence participation and satisfaction with outcomes, as well as the potential of the Internet to shape these factors, we will provide a valuable service to policymakers, agencies, and ultimately citizens as well.

More specifically, the research team will continue to organize an annual E-Rulemaking Workshop for agency officials in Washington, D.C. These workshops have been attended by dozens of agency officials in the last three years, and we have been praised for providing a forum where personnel from different agencies can gather to discuss their various approaches to, and experiences with, the technology and the process of public participation in e-rulemaking. We look forward to continuing to stimulate collaboration and discussion among agency personnel and between personnel, researchers, and citizens on this topic. On many occasions at these E-Rulemaking workshops, we have been told that social science data is absolutely necessary in evaluating and upgrading existing systems. We look forward to offering such data to the teams directly responsible for e-rulemaking at numerous government agencies.

Finally, the research team has been working closely with Oscar Morales, Director of the Collection Strategies Division, Office of Environmental Information. Mr. Morales is responsible for the design and management of the single web portal mandated by the E-Government Act, and they are very interested in evaluating citizen input to, and understanding citizen opinions on, online public participation. With the continuation of both the annual E-Rulemaking Workshops and consultations with this EPA team, we feel the research team is well-positioned to bring social science data and interpretation to the government officials most integrally connected to e-rulemaking. This team has told the PIs that it looks forward to incorporating our findings into revisions of the e-rulemaking system. These will be our central avenues of dissemination.

Advancing Knowledge and Disciplinary Contributions

A significant body of research is emerging in the area of public participation in environmental decision-making (c.f., Fischer 2000). To date, absent from this literature is any research investigating Internet-based public participation mechanisms. This research will expand our existing knowledge of public participation in federal rulemaking processes. It will also offer insights into democratic deliberation more broadly, and lead to a better understanding of whether web-based public participation has the ability to overcome the inability of current participation mechanisms to engage the public. We will open a door to a new area of concern for discursive democrats (now focused on small-scale and face-to-face processes such as collaborative decision-making and citizen juries). And we will offer evidence in the debates regarding whether discursive processes are more inclusive, more respectful, more engaging, and less

isolating that traditional forms of public comment. We will also have considerable evidence as to the authenticity, and so legitimacy, of this major move by agencies to online public comment.

In addition to a project report that will be circulated among all agencies that were part of the research, we intend to publish articles in a range of journals, focusing on the theoretical and public policy issues stemming from the research. Publishing in journals such as *Forum for Applied Research and Public Policy*, will bring theoretical issues to policy researchers and officials in the public and private sectors. We will also target journals that publish work on the topic of public participation in environmental decision-making, such as *Society & Natural Resources*, *Environmental Politics*, and *Organization & Environment*. Finally, in order to make contributions to the larger disciplines of political science and sociology, we aim to publish our work in journals like *American Political Science Review* and *American Sociological Review*.

Educational Component

This project will have several education and training components. All three PIs will employ undergraduate or graduate student research assistants for the duration of the project; students will learn specific skills related to both qualitative and quantitative methodology, as well as gain experience in digital government, citizen participation, and discursive democracy. Each PI will also develop courses focusing on digital democracy, which will include issues of public participation, democratic deliberation, communication technology, and environmental decision-making. From these courses, we will also form student research groups at our respective institutions in order to involve more students. The research groups will meet to coordinate and exchange ideas for carrying out the ongoing the research. Students will benefit from participation in the research groups in numerous ways, including development of the ability to communicate and collaborate with the other geographically distant research.

Other Tangible Outcomes

Solutions to environmental problems are dependent not only on the science underlying the problem, but also on the participation and satisfaction of the various populations affected by such decisions. More discursively democratic decision-making may lead to more substantive public engagement, more satisfaction with the solutions and policies that come out of discourse, and more legitimacy for the agencies involved. To the extent that the Internet can provide a flexible and adaptable mechanism of public participation, it may hold the potential to serve as the infrastructure that can facilitate the unique and culturally specific processes that will help us arrive at solutions to environmental problems. The results of our research will be vital in determining whether such potential is being, or can be, realized.

One additional concrete outcome will be the first coding scheme of its kind designed to detect the presence of deliberative democratic properties in citizen comments. Shulman and Zavestoski attended the recent NSF-sponsored “E-Rulemaking: New Directions for Technology and Regulation” workshop at Harvard’s Kennedy School of Government, at which computer scientists, agency representatives, and social scientists identified the need to measure e-rulemaking’s impact on public discourse. According to computer scientists working in the area of natural language processing, the future development of intelligent computer systems that can identify themes in discourse and then filter and sort them into useful categories depends on human-defined indexes and text attributes. Our coding scheme will provide computer scientists with the linguistic framework they require to begin building computer programs that can carry out coding and sorting over huge data sets in short periods of time.

Protocol Description

In this section we describe the protocol that will be followed for collecting the qualitative and quantitative data that are described in the Research Plan. Our data collection will move from qualitative to quantitative so that we can rely on the qualitative findings to shape our survey instrument. Therefore, we first describe the protocol for our qualitative data collection and analysis, and then for quantitative.

Qualitative Data Collection and Analysis

As described in the “Approach” section of the Research Plan, we will be collecting three types of qualitative data: citizen comments on the chosen rulings, interviews with agency officials, and archival documents related to the ruling.

Citizen comments

We will use a random sampling strategy to ensure that the comments we analyze from each case are representative of all the comments submitted for that ruling. We will use a simple random sample, rather than a stratified random sample, so that we can also assess the percentage of comments that supported/opposed the agency’s proposed ruling. Our sample size will be 500 from each ruling, for a total N of 1,500. Once the coding structure is finalized, we will have coders overlap on 20% of the comments so that inter-rater reliability can be determined. Coders will be trained and retrained until 85% consistency can be achieved.

Qualitative data, such as the content of citizen comments, is best suited to exploratory research rather than hypothesis testing. As such we do not intend citizen comments to allow rigorous hypothesis testing the way survey data can. Rather, the citizen comments will be analyzed by coding for the themes relevant to our hypotheses. By reviewing the prevalence and content of these themes, we will be better able to make sense of our quantitative findings, identify important survey questions to ask, and develop questions for future research.

An example of how we will conduct the content analysis can be derived from the excerpt from a citizen comment on the organic standard ruling:

...Although Agriculture Secretary Dan Glickman stated that the purpose of the regulations was not to create a safer category of food, that is my reason for paying extra money for organic food at the supermarket. I am a student and have made the decision to pay extra money, out of an already tight budget, for organic food, primarily in the belief that it is safer and therefore healthier than conventional, chemically grown food.

In determining whether electronic rulemaking is more discursive (H₁), coders will note where commenters introduce knowledge of the proposed rule that reflects they have read the actual rule. In the above passage, it is apparent the commenter read Secretary Glickman’s introduction to the rule. In exploring the frequency of non-science-based justifications in comments (H₃), coders will draw from a pre-determined set of keywords—such as “belief,” “value,” “feel”—to capture the non-science-based comments (e.g., “I ... have made the decision to pay extra money ... in the belief that [organic food] is safer and therefore healthier.”) They will also code for references to scientific studies used to support a commenter’s argument. In examining whether commenters demonstrate respect for alternative opinions (H₄), coders will focus on mention of opposing viewpoints in a comment, and then code for context—e.g., whether the commenter raises the alternative viewpoint in order to dismiss or trivialize it or to demonstrate an appreciation of it.

Interviews

We aim to conduct at least ten interviews in each of the agencies/agency offices where a ruling we are studying originated. Interviewees will include agency rule writers, community relations staff, legal counsel, and relevant scientific experts who were involved in the particular ruling of interest. What follows is a tentative interview schedule for the semi-structured interviews we will conduct:

- What was your involvement in the ruling?
- How would you describe the nature of the public participation in this ruling compared to others you have worked on?
- Have you been involved in other rulings using electronic comments?
- What are the greatest advantages of allowing electronic comments?
- What are the greatest disadvantages of allowing electronic comments?
- Do you think that electronic commenting increases the diversity of participants?
- Do you think the system of electronic comments should be one-way, from citizens to agency, or should it allow two-way discussion?
- Do people seem to comment more as part of an identifiable interest group, or as individual citizens?
- How does your agency integrate public values, including those unrelated to law or science, revealed through a comment process into ruling?
- Do electronic comments impact public satisfaction with the final rule?
- Do electronic comments impact the level of public trust in your agency?

Archival analysis

We will collect all agency documents that provide historical accounts of the rulemaking process. The intent is to understand the steps the agency took, as well as the attitudes and expectations that may be apparent in intra- or interagency memos and documents. For this part of the qualitative data collection and analysis, random sampling will be impossible as no sampling frame can be identified. We will rely on the clearly defined objective of this part of the analysis to determine the relevant documents.

Quantitative Data Collection and Analysis

Survey

The procedure for administering the survey is described at length in the “Data Analysis” and “Facilities” sections of the Research Plan. Surveys will be fielded in NAU’s Social Research Laboratory’s 20-station calling laboratory. Here we provide an illustration of the types of questions that will be asked of respondents. Note, however, that because we will rely on the findings of the qualitative data analysis to inform the specific questions we will ask in the survey, the questions below are only likely possibilities. Because we are seeking specific information about citizens’ attitudes towards Internet-based public participation, there is no existing survey instrument we can employ. Instead, in addition to standard demographic questions (e.g., age, gender, education, place of residence, etc.), we anticipate asking the following questions:

- How did you first hear about the ruling on which you commented?
- Did you use the Internet to learn about the ruling on which you commented?
 - **If yes**, did you use the agency’s official web site?

- What information were you seeking at that web site? How helpful was it?
- **If no**, what sources, if any, did you rely on to get your information? How helpful were they?
- Were you motivated to comment through concerns expressed by some group or organization, or by your own individual interests?
- Was there the opportunity to read others' comments on the agency website?
 - **If yes**, did you read those comments? Were they helpful?
 - Did you learn anything about the positions of other commenters?
 - Did you gain any respect for those other positions?
 - Did any of the comments lead you to revise or change your own position?
 - **If no**, would you have liked the opportunity to read others' comments?
- What role do you think your comments played in the final ruling?
- Did you feel all of your comments were heard and responded to?
- Were there any issues or interests you feel the agency did not respond to?
- How fair do you think the public comment process was?
- To what extent would you say your interests were met in the final ruling?
- Has the final ruling affected the level of trust you have in the rulemaking agency?

These questions will be asked in closed-ended formats. We also intend to develop several questions for each of the variables measured in the questions above. This will allow us to determine the validity of our measures.