E-mail Communication and the Policy Process in the State Legislature

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E-mail has changed the policy process in state legislatures because political actors now have a new way to present their message to state legislators. What little research has been conducted on this topic examines e-mail communication generally and does not compare results by policy actor. Using an original survey of state legislators in eight states, we test for systematic effects of variables on general e-mail views and for effects specific to particular policy actors. We find that legislators have a nuanced approach to e-mail usage in the policy process with their assessment of its impact differing significantly for constituents, intermediary groups, and policy insiders. Only gender consistently shapes legislators' beliefs about e-mail with all groups, but institutional features, legislator characteristics, and legislator beliefs shape views on e-mail with different target groups. Clearly, legislators are attuned to the audience communicating via e-mail, and they value e-mail with each group differently.

KEY WORDS: state legislators, electronic communication, policy process

State legislators face a variety of demands for their time, energy, and staff resources, including committee hearings, floor debate, bill management, caucus meetings, policy leadership, campaign fundraising, and constituency service. The demands may be especially difficult to balance in citizen legislatures with lower pay, little staff, restricted legislative experience, and tight time limits on session length to accomplish the basic tasks of governance. Legislators must choose to allocate scarce resources as they balance policy-based insider strategies with constituency-based electoral strategies.

E-mail could help ease the burden by making raw information more readily available, reducing the time and energy needed to communicate with other policy actors, and allowing the legislator to stay in touch with constituents and staff from almost anywhere (Bimber 2003; Price and Foos 1999). On the other hand, e-mail may place additional demands on legislators by forcing them to learn to use computers and e-mail systems. Legislators may feel overwhelmed by the sheer volume of e-mail messages they receive from constituents, interest groups, and the media. Further, the 24/7 mentality of web users and the "1 degree of separation" offered by commercial web sites in the digital age may create unrealistic expectations for legislators to respond to constituent and colleague communication quickly (Boulard 1998). In sum, the question remains whether state legislators see e-mail as a posi-

tive or negative tool for communication, and little is known about how legislators use e-mail to pursue policy goals in the legislature.

In this article, we use a survey of state legislators in eight disparate states to answer three primary questions about the use of e-mail in the state policy process. (1) Do state legislators view e-mail as a positive tool for communication within the policy process? (2) How do these views vary by target audience? (3) What factors predict legislator attitudes about their use of e-mail with different political actors inside and outside of the legislature?

E-mail in State Legislatures

E-mail is an increasingly common tool for communication in the state legislature (Alperin and Schultz 2003; Pole 2005). State legislators use e-mail to reach a variety of audiences, including constituents (Richardson, Daugherty, and Freeman 2001; Sheffer 2003), other legislators, lobbyists, and members of the press (Cooper 2002). Despite evidence that legislators use e-mail to communicate with a variety of audiences, the literature on e-mail and legislatures has focused almost exclusively on its use for legislator-constituent relations. Partly because e-mail is so easy to use, however, many legislators may give e-mail communication less weight than constituent communication that goes through more traditional means (OMB Watch 1998).

Other studies have asked whether e-mail provides biased representation, with some legislators more likely to respond to their constituents via e-mail than others. The policy implications of this question are clear. If there are systematic patterns in e-mail usage, constituents who are represented by certain types of legislators may be more easily able to communicate with their representatives. As e-mail continues to become more important in state legislatures, these differences could alter the representational process in important ways. The findings on this question are mixed. Whereas Richardson, Daugherty, and Freeman (2001) find that legislator demographics are poor predictors, Sheffer (2003) shows male legislators use e-mail to communicate with their constituents more often than their female counterparts.

Previous studies were able to establish a foundation of information on this topic, but were hampered by several issues. First, most of these studies examined only one or two states. Second, the surveys informing the analysis have suffered from small sample sizes (typically less than 100 legislators). Third, most previous studies considered the impact of e-mail as a tool to communicate with all groups and did not test for how it might vary by target group. Finally, a general lack of theory plagues this area of inquiry.

Because little is known about e-mail in state legislatures, we might turn to the more developed congressional literature for e-mail and Internet effects on legislative behavior (Adler, Gent, and Overmeyer 1998; Bimber 2003; Frantzich 1982; Meeks 1996; OMB Watch 1998; Raney 2001; Weisman 1997). Congressional offices have used e-mail more extensively than their state legislative counterparts, and although there has been a dearth of literature on e-mail in Congress, research suggests younger legislators, Republicans, and legislators with richer constituents, are

more likely to be early adopters of Internet technology in Congress (Adler, Gent, and Overmeyer 1998).

The differences between Congress and the state legislatures, however, make this literature of limited utility. Members of Congress spend more time in office, have larger budgets and are provided far more staff. State legislatures are relatively unprofessional in comparison and have few staff resources (King 2000). Further, although state legislative campaigns are becoming more "congressionalized," there is considerably less campaign money spent per vote and less name recognition in state races (Salmore and Salmore 1993) as compared to Congress. Given the lack of media coverage of state politics (Graber 1989) and the low levels of voter information in state legislative elections (Patterson, Ripley, and Quinlan 1992), communication with the constituency throughout the legislative term may play a more important role in linking state representatives with their constituents than it does for members of Congress.

Research Design

To address our research questions on how state legislators use e-mail in the policy process, we sent a mail survey to the population of legislators in eight states (Arizona, Colorado, Missouri, New Jersey, North Dakota, Pennsylvania, South Carolina, and South Dakota). The sample of states was chosen to provide variation on several features including term limits, legislative professionalism, and Internet access in the state. Table 1 lists the relevant characteristics of the eight sample states.

A number of studies suggest term limits have significant influence on legislative behavior (Carey, Niemi, and Powell 2000a; Carey et al. 2006); therefore we chose four states that employ term limits and four that do not. In 2003, Arizona, Colorado, Missouri, and South Dakota had term limits in effect, but New Jersey, North Dakota, Pennsylvania, and South Carolina did not.

The states also vary in professionalism, which reflects legislator salaries, staff, and length of session. Using King's (2000) measure of legislative professionalism,

Table 1. Descriptive information

State	Professionalism[1]	Term Limits	% Households w/Computers[2]	Response Rate[3]
AZ	0.279	Yes	64%	47%
CO	0.273	Yes	63%	45%
MO	0.295	Yes	53%	43%
NJ	0.369	No	49%	20%
ND	0.102	No	48%	45%
PA	0.403	No	48%	28%
SC	0.208	No	43%	32%
SD	0.108	Yes	50%	50%

Sources:
[1]From King (2000). Higher numbers indicate a more professional legislature.
[2]From *Governing* (2002: 108).
[3]Authors' survey of state legislators. Computed as the number of complete responses/number of legislators.

two of the states are considered professional legislatures (New Jersey and Pennsylvania), three states are in the middle range (Arizona, Colorado, and Missouri), and three are citizen legislatures (North Dakota, South Carolina, and South Dakota). We expect legislators with fewer resources and less time in the Capitol to have different incentives, opportunities, and views on using technology to interact with constituents, intermediary groups and policy insiders.

Our states also vary by the proportion of the population with computers, which provides further evidence that our sample is not biased in favor of computer-savvy populations or those with few computer users. In addition, we can test whether legislators in states with a more computer literate population are more likely to view e-mail as a positive in working with groups in the state. Our data on this variable are from *Governing* (2002).

The survey procedure followed the Tailored Design Method advocated by Dillman (2000) with one exception. Rather than a reminder postcard on the second wave, we included a copy of the survey in all three waves. We mailed the initial wave in early June 2003, the second wave to nonrespondents in late June, and the final wave in late July. The sixteen chambers include 1,176 legislators, and we received 494 surveys back for a 42-percent response rate. This surpasses the response rates of previously published work on the state legislature (Abbe and Herrnson 2003; Maestas 2003; Richardson, Daugherty, and Freeman 2001). In the nonresponse set, twenty legislators refused to take the survey, six surveys were returned as undeliverable, and one legislative seat was vacant. The response rate for legislators in the lower and upper chambers were the same with 42 percent in each, and the individual state response rates varied from a low of 32 percent in New Jersey to a high of 53 percent in Arizona (with Pennsylvania at 34 percent, South Carolina at 35 percent, North Dakota at 47 percent, Missouri at 48 percent, Colorado at 48 percent, and South Dakota at 52 percent).

The respondents compare fairly well with the population of legislators in these states on most observable characteristics. About 20 percent of the respondents were females compared to 22 percent in the population of state legislators. The response set has 54 percent Republicans, and the eight states had 58 percent Republican legislators in 2003. Almost ten percent of the respondents belonged to a minority, whereas the eight state legislatures have 11 percent minorities. We noticed a difference between the proportion of respondents who were in the sample in the first term (37 percent) and the population (28 percent). Because of this difference, and the differing response rates by state, we used the weighting procedure described by Carey, Niemi, and Powell and "weighted the sample by a factor proportional to the inverse of the overall probability of selection and of response" (2000b: 688). These weights are applied to the models, but not to the descriptive data.

E-mail Communication with Different Target Groups

There is considerable debate over whether e-mail makes the job of a legislator easier, by making contact between legislators and others less costly, or whether e-mail has negative impacts by creating demands the legislator cannot meet. Rather

than merely asking legislators how e-mail has affected communication, we asked respondents to rate on a scale of 1 to 5 how e-mail affects the ability of their office to keep in touch with five groups: constituents, journalists, interest groups, other legislators, and officials in the governor's office (For details on this, or any other variable used in this paper, see the Appendix). By differentiating e-mail effects in this way, we are able to see whether legislators feel differently about the use of e-mail to communicate with different groups within the policy environment.

The five target groups have very different roles in the policy process for a typical legislator. Roughly speaking, the groups range from outsiders (constituents) to intermediary groups (journalists and interest groups) to policy insiders (other legislators and staff in the governor's office). Legislators with more of an external orientation or perception of a service role are likely to see e-mail use with constituents to be positive. Alternatively, legislators who are more oriented toward policy formation are more likely to interact with insiders so e-mail with other legislators and executive personnel will be viewed more positively. The two intermediary groups are more difficult to predict because legislators could view them as part of the policy process much like insiders or they could see them as a link to the external constituency. In addition, because of the potential for journalists or interest groups to make an e-mail message public, legislators may be even more wary of using e-mail with intermediary groups. Overall, we do not expect legislators to view e-mail with the three groups the same.

To find out why some legislators feel more positively about the use of e-mail to maintain contact with various groups, we developed a series of ordinal logistic regression models where the dependent variable represents a legislator's view of e-mail with outsiders, intermediaries, and insiders. Examining the legislator's attitude about e-mail communication with each group separately allows us to see if the same patterns hold across groups. In other words, do legislators feel positively about e-mail as a tool for communicating with all groups, or do we see different patterns depending on the target group and their role in the policy process?

Hypotheses: What Affects a Legislator's View on the Use of E-mail?

A legislator's incentive for using e-mail with different groups varies considerably. In this study, we consider a legislator's evaluation of e-mail with three different sets of groups: constituents, intermediaries (journalists and interest groups) and insiders (other legislators and the governor's office). Generally speaking, we expect e-mail usage in the state legislature to be a function of institutional features, individual legislator characteristics, legislator attitudes, and contextual factors, but we do not expect these variables to have equal impacts for all target groups.

Institutional Effects

We hypothesize two institutional variables that affect e-mail communication with all target groups: legislative professionalism and term limits. Legislators in more professional states perform more constituency service, spend more time

staying in touch with constituents, and are more focused on reelection efforts (Carey, Niemi, and Powell 2000a, 51–60). Consequently, e-mail with constituents may be overwhelming and less positive for such legislators. Therefore, we expect a negative relationship between professionalism and views on e-mail with constituents. Likewise, because journalists in more professional states are more adversarial towards government (Cooper and Johnson 2005), and lobbyists are more active in professional legislatures (Rosenthal 2001), legislators may be wary of communication with intermediary groups. Consequently, we expect that professionalism will be negatively related to e-mail use with intermediary groups.

We also expect professionalism to be negatively related to e-mail communication with insiders. Legislators in professional legislatures have longer sessions, are more likely to be full-time legislators, and have more frequent personal contact with insiders in the policy process. Therefore, it is likely insiders communicate more in person than by e-mail.

Term limits may also shape communication in the policy process. Legislators motivated by reelection are more likely to engage in constituency service to garner the personal vote (Cain, Ferejohn, and Fiorina 1987; Freeman and Richardson 1996), and term-limit proponents believe that by reducing the payoff associated with holding office they would reduce the reelection motive that led to the perceived ills of careerism (Fowler 1992). Therefore, term-limited legislators spend less time on activities devoted to reelection (Carey, Niemi, and Powell 2000a, 51–56; Glazer and Wattenburg 1996), and thus we hypothesize that they feel less positively about the use of e-mail to communicate with constituents.

It is more difficult to predict the impact of term limits on e-mail communication with intermediary groups and insiders. On the one hand, term-limited legislators know they have little time to make a difference through leadership or policy enactment so this could suggest a greater need for immediacy and a higher activity level, which are two goals served well by e-mail. On the other hand, term-limited legislators have little time to develop the trust in others necessary for meaningful e-mail communication so they may see less value in e-mail.

Legislator Characteristics

Because of the limited literature on e-mail communication by legislators, we rely on studies of the digital divide in the general population and hypothesize that these findings apply to legislators with similar characteristics. For example, studies of the digital divide have found that males (Bimber 1999), young people and nonminorities are most likely to use information technology (Bimber 2000), and similar results have been found in studies of e-mail and state legislators (Cooper 2002; Pole 2000; Richardson, Daugherty, and Freeman 2001; Sheffer 2003). We expect older legislators to engage in less e-mail communication for much the same reason as other older citizens—they are not comfortable with the technology and may not trust it either. Therefore, we expect age to be negatively related to legislator e-mail use with all target groups. Other demographic characteristics, however, may not be as simple.

Based on the general population findings, one could expect female legislators to engage in less e-mail communication with all target groups. For example, Mossberger, Tolbert, and Stansbury (2003) find women are less likely to have access to the Internet, to have the skills to use the Internet and to use the Internet for economic development and political participation. On the other hand, female legislators have the same access to computers and training as their male colleagues so these factors may not matter. Further, women engage in a more consensus-building leadership style and are seen as more attentive to constituents (Cammisa and Reingold 2004), so they may communicate more than males in any communication medium. For example, studies suggest that female legislators are more likely to engage in broader, more inclusive discussions of issues (Kathlene 1995), facilitate more open discussion as committee chairs (Kathlene 1994), provide more constituency service (Richardson and Freeman 1995), and devote more time to keeping in touch with constituents (Carey, Niemi, and Powell 1998). E-mail communication facilitates each of these activities so female legislators are expected to see positive effects of e-mail with all groups.

We expect to find a more complex relationship for minority legislators. If a digital divide still exists for minorities in the general populace, then it is unlikely that minority legislators would see great benefits from using e-mail with constituents so we would expect a negative coefficient for e-mail with constituents. On the other hand, because a minority legislator has the same access to computer equipment as other members of the same legislative chamber, there is no digital divide preventing the legislator from communicating with other political insiders who have e-mail access. In fact, because minorities are often shut out of traditional aspects of the policy process, we expect minorities will be more likely to use e-mail to communicate with intermediary and insider groups.

Expectations for tenured legislators are also not simple. Conventional wisdom has long held that the toughest reelection campaign is often the first attempt to hold the office. As a result, newcomers are expected to spend more time on constituent matters, and e-mail should provide positive effects for this communication. Alternatively, freshman legislators may not be as engaged in lawmaking activities so they may have less need for e-mail communication with other legislators or the governor's office and therefore less positive feelings about the value of such e-mail.

Because members of the governor's party are more likely to believe they can have an impact on the policy process, we expect such legislators to have more of an insider focus. In particular, members of the governor's party are more likely to see the benefits of e-mail with the governor's office, other legislators, and intermediary groups, but there is no reason to expect differences with the external audience so we did not include it in the constituency model.

Legislator Attitudes

We expect two sets of legislator attitudes to affect legislator e-mail communication strategies: fear about e-mail and belief in constituency service. Many legislators have concerns about e-mail in the legislative process, particularly on issues

related to biased representation, confidentiality, the identity of senders, the burden it places on staff, the expectation of an immediate reply, and the potential for interest groups to orchestrate e-mail campaigns on an issue. These concerns are likely to affect their general views on e-mail, but e-mail with external actors such as constituents, journalists, and interest groups may be especially problematic for legislators with such views. To measure this concept, we developed six questions that we put into a scale, called Fear Factor, which ranges from 1 to 25 (see the appendix for the wording of the questions). Factor analysis of the variables used in the scale produces an eigenvalue of 2.6 on the first factor (versus 0.9 or less on other dimensions), and the factor loadings are all within a range from 0.6 to 0.8. In addition, the Cronbach's alpha indicates a reliability coefficient of 0.74 for the six variables. Overall, it appears the six variables fit together well as a scale, and we expect the Fear Factor to be negatively related with views on e-mail with constituents, intermediaries and insiders.

We also expect legislators who generally have a more positive feeling about constituency service will be more likely to use e-mail to communicate with constituents. The survey included four questions asking the legislator about the importance of constituency service, whether it improves trust, has an impact on reelection, and if the legislator does more service than others in the legislative chamber. Each question uses a 5-point scale so the variable ranges from 1 to 20. Legislators who value service more will view e-mail with constituents more positively. Service attitudes should not relate to e-mail communication with intermediaries or insiders so we do not include the service variable in these models.

Contextual Factors

We posit three effects related to the state and district the legislator represents. First, e-mail may be a useful tool for legislators who do not live close to the capital so that they can keep up-to-date on the happenings in their district and in the capital when they are not there. As a result, we expect those who live far from the capital to be more likely to see e-mail as a positive tool for communicating with all groups.

Second, the percentage of the state population with access to a computer should have a positive relationship for e-mail with all target groups. If a legislator comes from a more computer-literate population, they are more likely to feel comfortable using e-mail. Further, if they perceive that more constituents, journalists, interest groups, and other legislators have computer access, they should value e-mail with these groups more positively.

Third, constituent characteristics may influence the value of e-mail for legislators. Findings in the general population have found that minorities enjoy less access to computers than whites. As a result, we expect legislators who represent districts with a large percentage of minority constituents will be less likely to place a high value on e-mail communication with their constituents. To code this variable, we collected data directly from each state's Secretary of State (when available), and when not available, we used geographic information systems software to determine

the percentage of each Census block group (2000 summary tape 3 iteration or STF3) that fell within each legislative district and divided the demographic data accordingly. We then summed the demographic data for each legislative district based on the block group fragments contained within the district. The result is an estimate of the percent of non-Hispanic whites in a legislative district. If a legislator representing a district with a high percentage of minorities places little value on e-mail communication with constituents, we would expect this variable to be positive.

Results

To determine which factors predict legislators' belief about e-mail communication with constituents, intermediaries and insiders, we estimated three separate ordinal logistic regression models. The dependent variable for the first model examines e-mail communication with constituents and ranges from 1 to 5. The second model predicts how e-mail has changed communication with intermediary groups. This dependent variable is calculated as the sum of responses to questions about e-mail with interest groups and e-mail with journalists and ranges from 2 to 10. The scale achieves a Cronbach's alpha of 0.59 and appears appropriate for scaling. The third model predicts attitudes towards e-mail communication with insiders and combines answers to questions about communication with the governor's office and with other legislators. The dependent variable ranges from 2 to 10 and has a Cronbach's alpha of 0.74. In all three models, a higher number indicates that the respondent feels more positively about the use of e-mail to communicate with that particular target group. In each model, we employ four broad categories of independent variables as predictors of e-mail use: institutional effects, legislator characteristics, legislator attitudes, and contextual factors. The results are presented in Table 2.

E-mail Communication with Constituents

The model for e-mail communication with constituents shows significant effects for all four categories of variables. The institutional variables produce mixed results with legislative professionalism significant but not with term limits. All of the legislator characteristics are significant, and as are the legislator attitude scales. Finally, two of the three contextual variables, computer percent and distance from the capital, are significantly related to assessments of e-mail with constituents.

As hypothesized, members of more professionalized legislatures have significantly more negative views of e-mail with constituents. The heavy burden of constituency service experienced by such legislators results in a negative valuation. However, the term limit variable is not significant so the reduction in the electoral imperative has no discernable impact on the legislator's view of e-mail communication with constituents.

All of the legislator characteristics are significant and in the hypothesized direction. Similar to what was predicted with the general population, older legislators view e-mail with constituents more negatively than younger legislators. It is likely that older legislators are less comfortable with technology, and prefer more tradi-

Table 2. Ordered logistic regression results for how e-mail is viewed with different groups

	Constituents	Intermediaries	Insiders
Professionalism	−2.13***	−2.08***	−2.05
	(0.350)	(0.492)	(1.80)
Term limit	0.043	−0.440	−0.851***
	(0.436)	(0.384)	(0.161)
Age	−0.030***	−0.013***	−0.011
	(0.006)	(0.005)	(0.006)
Female	0.679***	0.418**	0.583***
	(0.204)	(0.218)	(0.112)
Minority	−0.991*	0.079	0.435*
	(0.541)	(0.401)	(0.235)
Tenure	−0.029***	−0.003	0.014
	(0.004)	(0.002)	(0.012)
Governor's party		−0.127	0.266***
		(0.082)	(0.024)
Fear Factor	−0.035***	−0.030**	−0.021
	(0.009)	(0.014)	(0.019)
Constituency service	0.078***		
Scale	(0.017)		
Distance (in 100s of miles)	0.251**	0.077	0.385***
	(0.115)	(0.127)	(0.145)
Computer %	0.064**	0.020	0.054***
	(0.027)	(0.023)	(0.017)
Non-Hispanic white	0.005		
	(0.005)		
Chi square	79.48	13.67	34.12
Prob. Chi square	0.000	0.188	0.000
Pseudo R^2	0.09	0.01	0.02
N	381	381	384

Source: Authors' survey of state legislators.
Notes: Entries are ordered logit coefficients. Numbers in parentheses are robust standard errors with clustering on low, medium, and high professional states. The data are weighted by a factor inverse to the proportion of the probability of selection. We do not report the different levels of the intercept.
*$p < 0.1$, two-tailed test.
**$p < 0.05$, two-tailed test.
***$p < 0.01$, two-tailed test.

tional methods of communicating with citizens. In addition, longer tenure in the legislature contributes to less positive views of e-mail with constituents, and this effect is separate from age. It appears legislators who have developed a particular method of communicating with the constituency over a long period of time are not as willing to embrace a new technology. It may also be the case that newer legislators must devote more time to developing name recognition in the district, and e-mail is one cost-effective tool for doing so. Once a legislator builds a relationship with her constituency, she may opt for "richer" forms of communication (Daft and Lengel 1986).

Minority legislators also express a dim view of e-mail with constituents. Studies of media use in the population have almost uniformly found that minorities are less likely to use or even have access to information technology (Mossberger, Tolbert, and Stansbury 2003) so minority legislators may feel e-mail is less useful because of this digital divide.

Female legislators, however, see significantly more positive effects from e-mail with constituents. Female legislators may be more positive in evaluating e-mail with constituents because they are more enthusiastic about communication in general, and they may be more accessible to constituents. This finding is consistent with studies that find female legislators engage in broader discussions of issues (Kathlene 1995), facilitate more open discussion (Kathlene 1994), and provide more constituency service (Richardson and Freeman 1995).

The two attitude scales provide contrasting effects. Legislators with a high Fear Factor (which measures concerns about biased representation, confidentiality, the identity of senders, the orchestration of e-mail campaigns, and the burdens of e-mail) are significantly less positive in their views of e-mail with constituents. A legislator who does not trust e-mail communication generally is less likely to use it. On the other hand, legislators with a stronger devotion to constituency service are more positive about e-mail communication with constituents. Clearly, e-mail communication offers a cost-effective and efficient method for providing constituency service, and legislators adopting an external strategy value this benefit of e-mail.

Finally, the context of the environment from which a legislator emerges influences the value one places on e-mail with constituents. Legislators representing a district more distant from the capital find greater value in e-mail with citizens. Because travel time reduces the opportunity for more traditional communication methods, e-mail allows them to stay in touch with the district. Likewise, legislators from more computer-savvy states view e-mail with constituents more positively. Such an effect could emerge for several reasons. First, constituents in such districts may be more likely to initiate or even expect e-mail communication, and legislators simply respond. Second, legislators may have engaged in more e-mail communication with other citizens prior to or completely outside of legislative service so they feel more comfortable with it. Third, legislators in districts with more computer access may have fewer concerns about access. Finally, it does not appear as if racial characteristics of the district influence legislator views of e-mail with constituents.

E-mail Communication with Intermediary Groups

The second model considers e-mail communication with journalists and interest groups—the intermediary groups in the policy process. Several variables vary considerably from the results found for e-mail with constituents so clearly legislators make distinctions in the value of e-mail with different target groups in the policy process. For example, the minority, tenure, distance, and computer percent variables were significant for e-mail with constituents but not for intermediary groups. The minority and computer percent nonresults are likely due to less concern about electronic access for intermediary groups.

Consistent with expectations, we see that legislative professionalism is negatively correlated with the assessment of e-mail with intermediary groups. Legislators from more professional legislatures are significantly more negative in their view on e-mail with journalists and interest groups. Professional legislatures spawn full-time state legislative reporters, thus the press/government relationship in profes-

sional legislatures is likely to occur in the statehouse halls, while in citizen legislatures the lack of geographic proximity between reporters and legislators for much of the year necessitates contact via nontraditional means—such as e-mail. A similar relationship likely exists for legislators and interest groups.

We also find that two demographic variables (age and gender) are significantly correlated with feelings about e-mail use with intermediaries. Although inconsistent with some earlier studies with more limited samples (Richardson, Daugherty, and Freeman 2001), we find that female legislators are more positive in their evaluation of e-mail with intermediary groups. This finding is consistent with broader trends in the population and with our expectations. Perhaps because women are often shut out of the informal political networks (Nownes and Freeman 1998), they bypass the "ol' boys network" and communicate with interest groups and journalists through e-mail. Age is significant and negative, indicating that older legislators generally have more reservations about using e-mail to communicate with intermediary groups. Both of these findings are consistent with the results for e-mail with constituents.

Legislators with a greater Fear Factor on e-mail are significantly less positive about e-mail with intermediary groups. The specific questions in the scale focus on the orchestration of pressure campaigns, confidentiality, and biased representation, and these issues clearly relate to interest groups and one's view on the interest group environment in the state. One would expect a legislator with a low level of trust in the use of e-mail technology to cautiously approach e-mail with interest groups and journalists. Overall, it appears that most legislators view e-mail with intermediary groups cautiously, and older, male legislators from more professional states with fears about the use of technology are far less likely to value e-mail with journalists and interest groups.

E-mail Communication with Insiders

Legislators value e-mail with policy insiders very differently than they do with intermediary groups or constituents. A number of variables are significant in one model but not the other. A legislative institution matters for e-mail with insiders, but it is term limits rather than professionalism. Of the legislator characteristics, female, minority, and membership in the governor's party matter, but tenure and age do not. The Fear-Factor attitude scale is not significant, but the variables for distance from the capital and computer percent are.

Legislative professionalism is not significant for e-mail with policy insiders in contrast to the other target groups. Whereas the political environment shaped by legislative professionalism creates negative incentives for e-mail with outsiders and intermediaries, it does not affect e-mail with insiders. Conversely, term limits did not affect the evaluation of e-mail with the first two target groups, but they negatively relate to e-mail with policy insiders. Term-limited legislators may feel that they do not have the time to learn the e-mail system or spend time in the office rather than attend policy functions, such as caucuses or committees. Further, they

may not have the repeated interactions over time with insiders to develop the trust necessary to use e-mail effectively for policy matters.

Of the individual legislator variables, females, minorities, and members of the governor's party are significantly more positive about e-mail with other insiders. The results for females, while contrary to some previous studies, are consistent with the majority of the models presented here, and we expect that it is the overall value of all communication that drives this finding. The positive relationship for minorities suggests a nuanced evaluation of e-mail for minority legislators. In an environment where access is roughly the same for most actors, such as the legislature and executive office, minority legislators are more likely to see positive benefits from e-mail, but when access is problematic and unevenly distributed, such as for the public, they do not value e-mail.

Not surprisingly, legislators from the same party as the governor are more likely to see e-mail as a positive means of communicating with insider groups. Two factors could drive this result. First, such legislators are more likely to be influential so they may be more engaged in policy adoption. Second, they may feel greater trust in communicating with other insiders, especially in the governor's office. Therefore, it appears that e-mail may supplement, rather than alter, traditional means of communication within the policy process.

The lack of significance for the relationship between the Fear Factor scale and e-mail with insiders suggests an important distinction for legislators. Issues such as the identity of the e-mail author and biased representation do not extend to the players inside of the state e-mail system, and there may also be less concern about immediacy and the undue burden on staff. Confidentiality and the potential for public display of e-mail remain as issues, so much may depend on the personal trust between the actors exchanging e-mails.

Both contextual variables are significant and in the expected direction. Legislators who live further away from the capital have long been shut out of the policy process, but the advent of e-mail suggests that they may be able to find new ways to keep themselves "in the game." Interestingly, distant legislators find e-mail useful for both constituents and insiders so it may be that they use e-mail with constituents more when they are in the distant capital and e-mail with policy insiders more when they are in the district far away from the capital. Further, legislators from more computer-savvy states are significantly more positive on e-mail with other insiders, just as they are with constituents so this suggests a computer culture may also exist in the states.

Conclusion

Despite claims that e-mail is changing the information environment of state legislatures, scholars have learned very little about e-mail in the state policy process. This article provided an exploratory look into this growing phenomenon, concentrating on three questions: (i) Do state legislators view e-mail as a positive tool for communication within the policy process? (ii) Do these views vary by target audi-

ence? (iii) What factors predict attitudes towards the use of e-mail in the state policy process?

Our results indicate that e-mail is much more useful to communicate with some audiences than others. In particular, legislators in our sample are very likely to see e-mail as a positive development for communicating with constituents and policy insiders with somewhat less positive views on e-mail with intermediary groups. This closely mirrors Cooper's (2002) findings about the frequency in which legislators use e-mail to communicate with these groups. Because of these findings, we caution against the growing trend of considering the overall impact of e-mail (Sheffer 2003) and recommend future studies to consider e-mail communication in separate components.

Because legislators place varying degrees of value on e-mail with the different policy actors, only one variable has a consistent effect across the board. Female legislators are more likely to see e-mail as a positive tool for communication with all political actors. This runs contrary to findings in the general population (Bimber 2000) and in the state legislature (Cooper 2002; Sheffer 2003), but see Richardson, Daugherty, and Freeman 2001. This suggests a reconsideration of the relationship between gender and e-mail communication in the state legislature, but it comports well with other research showing that female legislators have a broader, more inclusive communication style (Kathlene 1994 and 1995). Perhaps because women are often shut out of traditional policy networks in state legislatures, female legislators are increasingly turning to e-mail to get their message out.

Despite this one similarity, we cannot assume that legislators have a general feeling about the use of e-mail in the policy process. Legislators value e-mail differently for different policy actors. Future studies should explore this nuanced relationship. It is simplistic to suggest that e-mail affects a certain type of legislator the same for all kinds of communication with all political actors. Legislators differentiate between e-mail communication with insiders and outsiders in the policy process. If we are to understand the changing nature of legislative behavior in the policy process, we must obtain a more nuanced and theoretically grounded understanding of this new method of communication.

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Appendix

Description of the Variables

	Observations	Mean/Percent	Std. Dev	Min	Max
Dependent Variables					
Constituents	429	4.02	1.03	1	5
Intermediary	421	6.35	2.03	2	10
Insiders	422	6.62	2.33	2	10
Independent Variables					
Professionalism	447	0.265	0.104	0.102	0.403
Distance (100 miles)	445	124.6	78.2	0.25	420
Fear factor	447	15.8	4.8	1	25
Constituency service	430	20.35	3.47	1	20
Age	445	53.8	11.8	25	84
Computer %	447	51.6	6.4	43	64
Tenure	447	6.57	7.07	1	37
Non-Hispanic white	447	81.34	18.86	18.18	99.67
Female = 1	447	20%		0	1
Minority = 1	447	10%		0	1
Term limits = 1	447	50%		0	1
Governor's party = 1	447	51%		0	1

Questions for the Dependent Variables—Constituents, Intermediaries, and Insiders

Please rate how e-mail affects the ability of your office to keep in touch with the following groups on a scale of 1–5 where 1 = no positive effects at all and 5 = extremely positive effects.

a) Constituents
b) Interest Groups
c) Journalists
d) Other Legislators
e) Officials in the Governor's Office

Questions forming the Fear Factor Scale

Some people have expressed the following ideas about using email in the legislature. On a scale of 1–5 where 1 indicates that you strongly disagree and 5 indicates that you strongly agree, do you feel that . . .

a) The volume of e-mail places an undue burden on my staff
b) E-mail creates unrealistic expectations for an immediate response
c) E-mail provides a biased representation of my district
d) I am not certain if an email sender is my constituent
e) I am not certain if e-mail communication is confidential
f) E-mail makes it easier for special interests to orchestrate single issue campaigns

Questions forming the Constituency Service Scale

For each of the following items about legislator attitudes, please circle the response that best reflects your attitudes toward legislative constituency service

1 = strongly disagree; 2 = disagree; 3 = not sure; 4 = agree; 5 = strongly agree

a) Constituency service is the most important thing I do.
b) Constituency service is an important method of maintaining electoral support.
c) Constituency service is an important method of building trust with the public.
d) I would increase constituency service if I had more staff.