

REPRESENTATION AS COMMUNICATION: THE INTERNET AND LOCAL GOVERNANCE

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The internet has been heralded as a technology that facilitates political participation. This paper challenges that account, arguing that at the local level, the internet is more conducive to the process of good governance rather than representative democracy. It analyzes communication flows and use of information by elected American local government officials. Using a communication model of representative democracy outlined in the *Federalist Papers*, this paper compares the role of an official's use of email and internet versus the institutionally structured communication channels of local government institutions. The results indicate that in the policymaking process, an official's internet and email use play a greater role in constructing communications environments than representative institutions. The paper concludes by showing these communication practices are more consistent with the criteria of good governance than liberal democracy.

Keywords: internet, policymaking, electronic democracy, representation, good governance

Today we are said to live in a network society (Castells, 2009; Crozier, 2007). This is not to say networks are totalizing and exclusive of other forms of social and political organization. However, the term network society “emphasizes the form and organization of information processing and exchange” (van Dijk 2006: 20). Manuel Castells characterizes cities in the network society as spaces of information flows that reshape relations between society, the economy, and the political system (1989). That is, while “most experience and social interaction...still is organized around places,” the “spaces of places” are innervated by information flows that both connect and transcend localities (Castells 2000: 20). Communication technologies do not determine political or social formations, however, they do structure interactions by their affordances and limitations for interactions. While politics has always been “fundamentally communicative and informational in nature” (Bimber, Stohl,& Flanagan, 2009: 72) digital communications networks have profoundly both society and the economy (Castells, 2006). This paper is a systematic investigation into the impact of digital media technologies on the communication and information flows relating to public policy decision making in cities.

The changing structure of political communications has important implications for political participation within cities. While actors may have many motives for participating in politics, the communication of interests is an underlying if not primary objective. Robert Dahl and Edward Tufte noted, “Citizens cannot be effective unless their participation enables them to communicate their public policies and attitudes accurately to all those who influence decisions, and unless decision makers respond favorably to these communications” (Dahl & Tufte, 1973: 66). Dahl and Tufte note that population plays a key role in this process. If each act of participation consumes an elected official's time, then holding time constant, the larger the population, the less

time there is for any individual to participate. If we consider each participatory act in terms of an elected official's time, population and time for participation are inversely related. This relationship holds for any form of participation that is not simultaneous such as telephone conversations or individual face-to-face meetings. There is some evidence that this may have an effect on the demand side of participation as generally the evidence suggests an inverse relationship between population and per capita levels of participation (Oliver, 2000; Rose, 2002).¹ However, the use of digital information and communications technologies (ICTs) such as email or other internet transmissions eliminates this constraint as communications can be simultaneous. There is some evidence to suggest that in larger municipalities there are higher levels of online participation—and therefore more communication inputs per capita—than there are in smaller municipalities (Saglie & Vabo, 2009).

Moving from an individual to system level, scholars of governance claim that the structural affordances of digital ICTs are facilitating the formation of new forms of political organizations via the creation of new communication channels and structures of communication (Castells 2006, Bang & Esmark 2009). "Governance" as a form of political organization reflects the structure of new ICTs which create the communication channels connecting actors in policy networks. Generally this term refers to a situation where public policy is produced through recursive interactions between actors inside and outside governments placing actors in interdependent relationships whereby the government can not independently and directly steer policy (Rhodes, 2007: 1246). Governance emerges in a context where government officials and policy stakeholders increasingly are relying on highly professionalized political communication strategies as a way to create and attempt to create political narratives and influence political decisions (Crozier, 2007 & 2008). While digital ICTs facilitate the creation of governance networks, they do not make this emergence inevitable. Rather, the structural affordances of ICTs facilitate the coordination of activity across space and time, adapted to agents motives and environments. However, these trends indicate shift towards a communication "abundant" environment surrounding policymaking (Bimber, 2003).

This paper is an empirical investigation into the role of the internet in the in the communicative interactions between stakeholders and elected government officials in American local governments. In contrast to rich ethnographic accounts of governance and policymaking, our focus here is on the communication flows from a system-level perspective. While ethnographic accounts are useful in providing detailed analysis of the micropolitics between network actors that shape policy preferences, one cannot infer how the system functions on the basis of accounts of its constituent parts. The advantage of studying the overall architecture of communication is that, in contrast to the bottom-up narratives of governance, this approach enables us to see how the use of ICTs impacts and structures new governance relationships (Crozier, 2007).

The paper begins by elaborating the relationship between communication and representation. It considers governance in network society in terms of the impact of the internet on the communication architecture of policy decision making within local governments. The first section outlines contrasting communication models between a liberal interest aggregation model and a good governance network model. The second section details the data and operationalization of communication flows in policy decision making space. The third section empirically examines the impact of the internet on shaping the communication environment for elected government officials. Finally, the paper concludes with some observations regarding the significance of the internet for democratic practice. The key finding is that the liberal interest

¹ Though there is some evidence to the contrary depending on how participation is measured (Kelleher & Lowery, 2008; Newton, 1976).

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aggregation communication architecture is an inadequate account of communication flows regarding policymaking and that these flows are more driven by their email and internet use.

Communication and Representation

Political representation is a concept more conceptually clouded than clear within the study of political theory (Pitkin, 1967, 2004). Pitkin notes that the term is fundamentally paradoxical in that it involves making present something that is not literally present (2004: 336).

Communication creates a solution to this paradox in that it allows us to re-present ourselves before a public official without being physically present. We are present by virtue of the fact that communications technologies permit the interaction of persons across space and time replacing physical space with communication space (Innis, 1951, Adams, 2009). While the dominant mode of communications does not determine the dominant political forms, historically, changes in political organization have come to reflect changes in the mode of communications (Bimber, 2003). This section builds models of the different communication architectures for liberal representation model of communications as well as a networked form of good governance. In the process of model construction, it identifies the different informational demands of each form of politics.

The Liberal Model of Governance

Bruce Bimber (2003) notes the *Federalist Papers* elaborated an extensive theory of information and communications, going so far as to argue, in Bimber's words, "The ways that institutional arrangements affect the flow of information is central to the operation of democracy" (41). Arguments of both the Federalists and Anti-Federalists turn to a large degree on the impact of institutions on communication flows and the management of information in the process of governance. In the *Federalist 10*, James Madison laid out the case for the central tenants of the American system of republican or representative government. His primary aim was the insulation of the political system from local and parochial factions which he regarded as inimical to the public interest. There are two dimensions to his argument. First, he argued that a larger political unit enables the percolation of interests upward, vetting narrow interests and aggregating those consistent with the public good. The larger the size of a republic, the larger the majorities required to dominate politics, and the less likely any majority can be constructed out of narrow interests as the upward communication and aggregation of interests winnows away interests which are contrary to the public good. Second, Madison argued that representative government produces a "public voice" that "is more consonant to the public good than if pronounced by the people themselves, convened for the purpose" as a body of elected representatives is more likely to "discern the true interest of their country" (126). Hence the argument for a government that was both national and representative.

The logic underlying both institutional dimensions therefore are geared towards effective political communications. First, a national government enables the discovery of the common good through the expansion and equal representation of interests communicated to elected officials. In this capacity, officials function as liberal representatives of constituent interests. Second, these interests are further vetted through discussion between elected officials acting in a Burkean representative capacity as they decide what is in the interests of the political system. Both mechanisms filter the information on which political will is formed, political will formation being prior to policy promulgation. This model is not only the underlying logic of the American institutional structure, it has also become a standard model of liberal representative democracy.

We can devise a model of the communication architecture outlined by the Federalists by drawing upon Rein Taagepera's modeling of the relationship between the communication demands of a society and the institutional structures necessary for a political system to meet those demands.

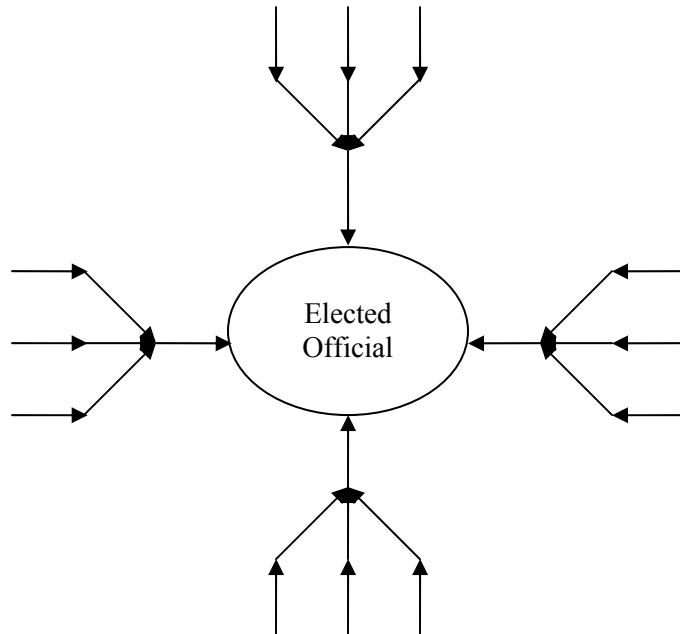
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Taagepera (2008) notes that the political community is brought into being through communication processes which draw us out of our individual selves into society. Like the Federalists, he observed that one of the primary functions of parliamentary bodies is communication rather than the passage of legislation (1972). Because a population P contains roughly P^2 communication channels, direct contact between all the members of a political system is not practical for even relatively small cities. Therefore, Taagepera suggests “a possible solution is to have an assembly of A representatives who function as interest aggregators for their respective constituencies, and among themselves maintain the direct communications system of a town meeting” (1972: 388). This balances the representative’s liberal function to represent citizen interests with the Burkean function of a representative to represent in their interests as Madison had likewise envisioned as a necessary safeguard against the dangers direct democracy. Representation is straightforward, as Madison envisioned: interests percolate from the bottom up to officials who are interest aggregators of the highest order. For this simple model we assume direct or indirect access between each member of the political system to only one interest aggregator. While in practice not everyone is able to directly communicate with a public official, there is at least in principle the ability for everyone to communicate directly or indirectly through other persons and organizations within the political system. The resulting model is a linear, upward transmission of interests from individuals to groups to elected officials and the communications received by an official will therefore be a function of the population. Taagepera’s model is the reverse engineering of a phone tree. The number of communication channels (C_c) per constituency is equal to the population (P) divided by the number of elected officials, minus one since the elected official does not need a channel with him or herself. Therefore,

$$C_c = P/A - 1.$$

A graphical depiction of the model for one official is displayed in Figure 1.

Figure 1: Liberal Representation Model of Political Communications



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Figure 1 based on Taagepera 1972 (389).

This tree is replicated across each elected official and in the full model there are bidirectional arrows between each official (omitted here). Each arrow represents one member of the political system and the arrows show the direction of communication flows indicating that the communication network is hierarchical and unidirectional.

In addition to communication inputs which are the basis for interest aggregation, Madison argued policy decision making occurs through the consideration of communication flows from both members of the political system (C_c) and other political authorities (C_a). In David Easton's terminology, C_c are inputs while C_a are withinputs (Easton 1965: 114-115). If we combine C_c and C_a , we have C_t which is the total communication flows for any elected official in a representative democracy. While C_c is concerned with interest representation, C_t is concerned with decision making. C_t therefore represents the communication flows that an official ideally considers in the process of political will formation.

Taagepera's model of the communication flows for each elected official enables us to move between levels of analysis and to see systematic communication patterns from the level of the individual elected official. If we only consider differences between high and low intensity internet users, our analyses would be limited to the individual level rather than a system level. To identify changes in the overall structure, we need a conceptual point of comparison, in this case an ideal system of liberal representative interest aggregation. Taagepera's model provides such a model as it mathematically operationalizes hypothetical communication inputs from the political community and from other political officials in a Madisonian system of interest aggregation. These figures C_c and C_t represent systematic expressions of the communication flows in an ideal system of representative government as envisioned in the *Federalist Papers*. This enables us to analyze the individual-level information flows of elected officials with respect to the communication architecture at the operating at the level of the political system.

Good Governance in the Network Society

In contrast to the Madisonian model of liberal democracy which ties policy outputs to the will formation process of interest aggregation, the good governance model severs this tie as there is no claim to equal interest representation and will formation is taken to be part of the policymaking process rather than prior (Hajer & Wagenarr, 2003: 12-13). As Bang and Esmark argue, "Good governance is not motivated by worries over democratic polity or politics, but rather the need for 'wise policies'" to address concrete issues (16). Like critical pluralists and corporatist scholars, good governance theorists recognize the central role interest groups and power differentials play in the politics of identity and interest recognition. In contrast to corporatism and critical pluralism, good governance focuses on the role of networks in orchestrating collaboration between actors and institutional boundaries on the output, policy side. Further, communication rather than pressure is the driver of political interactions. Because policy emerges from these networks, they become the locus of government steering rather than "noise or stochastic variables...lurking in the shadow of conventional liberal institutions" (Bang and Esmark, 2009: 16).

Bang and Esmark argue that good governance emerges in the context of network society. It is a response to the increasing complexity of society and corresponding uncertainties as governments have lost their monopoly on authoritative knowledge (Bang & Esmark, 2009; Hajer & Wagenaar, 2003; Beck, 1997). Networks were made viable as a political form by the widespread diffusion and integration of digital ICTs which constitute the material infrastructure for the creation of

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digital networks. This development led to changes in both the structure of coordination between policymakers and the substance of their interaction. In the movement from industrial society to network society, Castells observes that digital ICTs enabled multidirectional communications “and a continuous flow of interactive information processing” (2009: 23). Ubiquitous computing and its integration into networked communication practices was a necessary condition for the emergence of networks because this enables coordination between networked actors over distances while remaining highly flexible and adaptable to changes in external conditions and the network itself. He concludes therefore, “it was because of available electronic information and communication technologies that the network society could deploy itself fully” (2009: 24). In addition to providing an architecture for coordination, the integration of digital ICTs into the political process facilitated the informatization of policy decision making as networks as networks became the conduits for the communication of large quantities of information (Castells, 1989: 30-31).

Networks are constructed through the communication linkages between political actors (van Dijk, 2006). They can be ad hoc, ephemeral and materialize in relation to particular issues. As they are integrated into governance practices, their function and operation differ from the liberal model of interest aggregation. In contrast, good governance networks arise in part out of the informatization of public policy. Just as knowledge work has become paramount in importance for many sectors of the economy and has transformed cities into spaces of information flows (Castells, 1989), digitally networked communications are increasingly important to information intensive policymaking in the public sector (Castells, 2006). In addition, local government officials increasingly use the internet and email to conduct independent research. This reduces information asymmetries for local officials and empowers them as decision makers (Hanssen, 2007).

The good governance model prioritizes the communication of information for policymaking over equal representation and interest aggregation. Policymaking in the modern age is confronted with a great deal of uncertainty and, as a result, public administrations have lost their monopoly on policy expertise (Beck, 1997). Likewise, new forms of citizen participation focused on the policy side of politics have challenged governments from below (Bang, 2003). In place of sovereign governments, “typically actors have to collaborate by transgressing institutional boundaries” (Hajer and Wagenaar, 2003: 12). Good governance regards participation as a system imperative to meet the informational demands of decision making as well as to acquire stakeholder cooperation (Crozier, 2008).

Following from these conceptions of governance are different empirical communication patterns. The liberal representative model anticipates communication flows corresponding to the needs for interest aggregation and communication between government officials. As Madison envisioned the model, the communication flows received by elected officials are population dependent as they are the vehicle for the equal representation of interests. This model is agnostic about the medium through which these communications arrive. The good governance model, however, is not neutral in its expectations regarding the mode of communications. It specifies that digital ICTs such as internet and email communications will play a significant role in conveying policy discourses. Additionally, unlike the Madisonian model, the good governance model cannot predefine a configuration of political communications as the model stipulates that political communications are contingent on the constellation of actors that emerge in response to a particular issue. This makes the pattern of communication flows highly ephemeral.

Therefore each model has a characteristic communication signature. The architecture of the Madisonian liberal interest aggregation model should approximate C_c input communication flows

and C_i flows that are the material basis for political will formation. By contrast, the good governance model predicts that communication flows will be driven more by the use of email and internet communications. While population, as the Anti-Federalists argued, may create greater complexity in policy space, the good governance model predicts the use of digital communications will trump population-based pressures for interest aggregation. Though we expect no actual government to replicate the ideal communication flows of either model, evidence for one model or the other turns on the extent to which the contextual variables, C_c and C_i or the individual level variable of an official's use of email and the internet provides a better accounting of communication flows.

We consider these models at the local level as this provides a crucial test for interest aggregation dimension of the Madisonian model. Anti-Federalists argued that Federalists were unrealistically discounting the complexity of communication flows at the national level. They raised concerns that in contrast to local levels of government, the national level reduces the flow communications from individuals to officials and impoverishes political representation while increasing the ability of elite interests to dominate national politics (Storing, 1981: 77-78). Today, the "informational logic" of policymaking in network society would likely be magnified at the national level as national policy typically implicates a wider range of interests. Already, Congressional representatives report the email they receive causes information overload (Goldshmidt, 2001) while previous work indicates local government officials report little difficulty in managing their information environments (Rainie and Larsen, 2002: 10-11). Madison's argument for interest aggregation at the national level was that vertical scaling would vet parochial interests and therefore favor the general good. We can analyze the interest aggregation process at the local level and therefore set aside the debate over the extent to which national versus local aggregation is an adequate solution to the problem of mischievous factions (Dahl, 1956). We therefore investigate the Madisonian model's ability aggregate interests and steer policy at the local level in the network society. If at the local level there are insufficient communication channels for officials to aggregate interests, this problem will likely be magnified at the national level where the number of interests and inequalities in their representation is considerably larger.

Data and Measures

Data

This study was conducted with the assistance of the National League of Cities (NLC). The data is comprised of 348 respondents from 316 randomly selected American cities of 10,000 or more inhabitants. They were stratified by size: 10,000-25,000; 25,000-100,000; and more than 100,000. From each city, three elected officials were randomly selected. The sample was constructed by the NLC. At least one response was received from 72.2% of the cities and there was an overall 36.6% response rate for the sample at the respondent level. Differences in contextual variables (population, electoral system, and government structure) were insignificant between respondents and non respondents. With respect to the types of officials, 85.4% are council members and a plurality (44.4%) elected from exclusively at-large districts. Of the remaining, 26.4% were elected through single member districts and 29.2 were elected in municipalities using a combination of single member districts and at-large selection methods. The research was conducted using a mail survey with an online option for respondents. It was carried out during the spring and summer of 2007.

The survey queried officials regarding a variety of behavioral and attitudinal factors relating to their use of ICTs, interactions with stakeholders, and contextual factors regarding their office and professional responsibilities. These questions were developed on the basis of informal interviews with officials as part of our field research. The field research indicated that for officials to answer

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questions about stakeholder contact and use of information in policy decision making, it was necessary for officials to respond with respect to a particular policy decision given the level of variance in stakeholder interaction and influences from issue to issue. We therefore asked officials to contextualize their answers regarding specific communication flows and use of information to a major policy issue that “generated input...from the *largest number of citizens, community groups and business interests.*” Therefore our data reflect communication patterns regarding policy matters that are both significant and controversial thereby representing the largest diversity of interaction with stakeholders. The range of issues on which they reported were subsequently coded into eight policy areas: administrative matters (4.3%), budget and taxes (15.5%), city ordinances (18.6%), city services (5.2%), development and zoning (44.4%), education (.3%), environment (.6%), property sales/acquisition (4.9%), with no information on 6.3% of the decisions. The diversity of policy areas should provide us with a sufficient basis to map communication practices of local officials in the policy decision-making process.

Measures

Given the centrality of communication practices for both the Madisonian and good governance models of politics, we examine both an official’s communication flows and the mode of communication. There are two dimensions of communications in Madison’s version of liberal democracy that we are interested in operationalizing. First, the communication inputs from members of the political system and second, the communication flows considered in the policy decision-making process. This captures both the interest representation dimension and the Burkean dimension in Madison’s model where deliberation by representatives discovers the public good.

As Taagepera (1972) notes, communications may either reach an official directly or indirectly through stakeholder groups. Therefore, communication input dependent variable is an additive scale of frequency measures indicating communication with six classifications of groups or individuals: neighborhood associations, service clubs, issue groups, business or merchant interests, political parties, and religious groups. Each individual item was scored from 1-5 where 1 represented no contact and 5 extensive. Further details on question wording can be found in Appendix 1. This gives us an approximate measure of the communications with each source. The additive scale ranges from 6 to 30 with a mean of 14.6502 (s.d. 4.87626). The Cronbach’s α for the scale is .6626 (std. α : .6777) which is somewhat low for establishing the commonality of items for a scale, however, this is not our purpose. Based on our field work, regarding any particular issue, certain groups are going to be more vocal than others, and certain groups will have more relevant information for policymakers than others. Instead we are interested in a measure of the volume of communication an official had received regarding a policy consideration. Most importantly, the subtraction of any item does not significantly reduce the reliability of the scale which indicates that the scale is not driven by a small subset of groups and instead indicates that there are across the different policy areas a great diversity of stakeholders represented.

Our second dependent variable reflects the communication flows from both inputs from individuals and groups in the political system as withinputs from other elected officials and council staff regarding the same policy issue. This variable is a measure of both the diversity of groups with which officials interact as well as the “information sources...consulted when forming an opinion” about a previously identified significant policy decision. This means that at the very least, an official had to consider this communication when making a policy decision. These sources included items produced by council staff, other local government officials, citizens and

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citizen groups, business interests, state or federal government sources, and national organizations. These items were summed into a scale ranging from 6 to 29 with a mean of 15.2931 (s.d. 3.80707). The cronbach's α for the scale is .6362 (std. α : .6430). Again we are not interested in the uniformity of sources consulted across the items as this varies from issue area to issue area. However the reliability analysis indicates in this case as well, the subtraction of any item from the scale does not improve the scale fit which indicates that the full scale across issue areas is not driven by any particular set of information sources. Finally, these measures reflect both inputs from outside the government as well as withinputs from other council members and staff.

Regarding the key independent variables, both C_c and C_t are conceptual variables providing a hypothetical measure of communication inputs and would include communications across all media in an aggregative architecture including online communications. C_c ranges from 758.27 to 128,159.97 with a mean of 6523.5752 (s.d.: 10643.85). C_t ranges from 1590.67 to 256425.39. The mean is 13079.19 (s.d.: 21290.26823). Therefore these variables include both elements of Madison's model of political communications. Internet and email use is an additive scale based on six items. They include getting news either online or through email, using an online news summary service, using the internet in the course of conducting official duties, using the internet to conduct research on council issues, posting information on one's official actions on a website or blog, and using email to communicate with citizens and groups. The responses for each individual were a frequency measure ranging from 1-5 where 1 indicated never, 3 weekly, and 5 daily. The scale these items form has a cronbach's α of .7701 (std. α .7775) which indicates these items are highly associated and adequate for constructing a measure. The scale ranges from 7-30 with a mean of 20.12 (s.d.: 5.165).

Communication Inputs and Influence in Policymaking

The interest aggregation communication model of policymaking considers only the inputs communicated by members of the political system either directly or through groups which represent them and those of other elected officials. However, when officials make decisions, they also often consider professional reports, materials produced by good government groups, and state and federal agencies which, in addition, often place statutory requirements on local governments. Therefore we will consider the impact of the internet on the quantity of communication with actors in the political community as well as the quantity of communications that entered the decision-making process. That way we can see how the internet is impacting both the representation of interests and the decision-making process.

Before we examine how frequently officials use the internet, it is important to put an elected official's job in context. In our sample, 73.6% hold a separate job apart from their official duties. For the majority of council members (61.3%) meetings are held twice a month or less frequently and the average amount of time spent on official duties per week is 19.88 hours (median: 16 hours). Hence, for most officials, public service is a part-time job consuming a few hours a day across the panoply of public functions with which public officials are charged, of which, public policy is only one aspect. Table 1 details elected officials' use of the internet on a weekly or more frequent basis for tasks related to their elected office.

Table 1: Officials' Internet Use

Activity	Percentage of Sample
Get News Online/Email	82.5
Use Online News Summary Service	51.2
Use Internet in Course of Official Duties	69.0
Use Internet to do Research on Issues	57.3

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Post to a Website or Blog Regarding Official Duties	15.4
Use Email to Communicate with Citizens/Groups	65.9

We see that, apart from posting to a blog or a website, officials make fairly regular use of the internet and email for a variety of tasks. While online news consumption, the most common internet use, may not be directly tied to an official's responsibilities as an interest aggregator or policy decision maker, 69.0% report at least weekly use of the internet in conducting their official duties and nearly two-thirds use email to communicate with citizens and interest groups. Additionally, two-thirds (66.9%) of officials report one or more uses of the internet on a daily basis. Given the typically part-time nature of the job and officials' other employment responsibilities, this represents a fairly significant amount of internet-based communications.

While the results in Table 1 refer to an official's overall internet and email use, we asked respondents to couch their responses to a series of questions in terms of a significant and controversial policy decision. Around this policy decision we analyze the Madisonian and good governance models. This enables us to place their responses in context. We first consider the diversity of media and frequency for each medium with which an official received communications about the policy in question. Officials scored each medium on a 5 point scale where 1 corresponded to "never," 5 "daily," and 3 "weekly." The average frequency for the receipt of communications via each medium are listed in Table 2.

Table 2: Communication Frequency by Mode

Communication Mode	Mean (Std. Dev.)
Email	3.47 (1.40)
One-on-One Communication	3.39 (1.14)
Telephone	3.24 (1.23)
Group Meetings	2.62 (.874)
Postal Mail	2.47 (1.16)
Fax	1.56 (0.93)

These results indicate that email is the most common mode of communications followed by face-to-face interactions. Notably, fax transmissions are least frequently used, likely because the content of these transmissions can be more efficiently communicated via email and email attachments. While this data reveals the majority of communications are received only slightly more frequently than weekly, these responses only refer to the receipt of communications regarding a singular policy issue rather than the totality of communications an official receives on a regular basis.

Next, we analyze the role of the internet in two contexts: the volume of communication inputs and the volume of sources an official relied on (inputs and withinputs) when forming a decision about a significant policy matter. These correspond to the two communication functions Madison attributed to representative democracy. In addition to C_c and C_t , the expected communication flows for each function in a representative democracy, we controlled for the level of household income, the percentage of college graduates (BA/BS), the structure of government (council-manager or mayor-council), and the policy area (not shown). Income and education are included in the model because these are common predictors of the level of participation. Because the survey sampling procedure selected respondents from within a random selection of cities, we use a hierarchical linear model, grouping respondents at the city level. The contextual variables including C_c and C_t , are city-level variables and therefore modeled at the city level while internet and email use are individual level variables. The results are displayed in Table 3.

Table 3: Communication Channels, the Internet, and Representation

	Communication Input	Policy Influence
	<i>B (std. Error)</i>	<i>B (std. Error)</i>
Intercept	9.565 (2.078)	12.453 (1.875)
C. Comm. Ch. (C_c)	5.34e-05 (2.65e-05)*	
Tot. Comm. Ch. (C_t)		1.70e-5 (2.18e-5)
HH Income	-.463 (.449)	.253 (.410)
Ed. Level (City)	.231 (.361)	-.456 (.323)
Internet Use	.248 (.062)***	.123 (.056)*
Council (C-Manager) ^a	-.080 (.665)	.666 (.585)
-2 Restricted Log	1242.445	1027.247
Likelihood		

Note: * $p < .05$, ** $p < .01$, *** $p < .001$;

^aMayor-council was the reference category

We found no relationship between the policy areas, and either the volume of stakeholder communications or the volume of sources that had influence in policy decision making. Additionally we find no role for household income and education levels, which have been salient predictors of both internet access and political participation (Warschauer, 2003; Bimber, 2003). The first model indicates two primary factors account for the communication flows that an official receives regarding public policy: C_c and an official’s use of email and the internet to conduct official duties. However, of these two factors, internet and email use is a significantly stronger predictor. This indicates that individual level technology use rather than interest aggregation has a stronger impact on the flow of communications officials receive regarding policy issues.

Regarding the analysis of communication flows and influence in policymaking, we find that the average number of potential communication channels does not predict influence and neither do any of the control variables. Only the internet and email use variable is a significant predictor ($p = .028$). Similarly here we find no relationship between the type of government structure and the communication practices. While other channels may play an important role in influencing policy decisions, we find that the volume of communications that influence policy decisions is not connected to the communication channels between an official and the political community. It is instead dependent on an official’s internet use patterns, which further evidence that the policy process is not tied to an aggregation of interests from the political community. This result is consistent with the good governance model.

The difference between the models is partially consistent with Taagepera’s observation that the structure of an assembly is related to the construction of adequate communication channels for a political system rather than policy development. Therefore we find that the potential number of communication channels is in part related to the total volume of communication an official receives regarding policy matters. However we do not find this relationship holds when we examine the volume of communications that influence policy decision making and this relationship is trumped by the an official’s use of digital ICTs. This result is further strengthened by a separate question on the survey revealing that email communications were the most common mode of communications they received regarding the policy issue in question. This model shows that an official’s use of the internet plays a role in the volume of materials that influence their policy decisions. As internet use goes up we find that not only are officials in contact with more stakeholders from the political community, they also consult more materials when making a decision. This finding is particularly interesting given that 65.7% of the respondents indicated in a separate question that email “rarely” or “never” “demonstrated unity and strength of opinion.”

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This shows that while officials regard their online communications as playing an important role in policymaking, they do not see it as an effective way to aggregate interests.

Finally, to get a better understanding of the role officials see for online communications in conducting their responsibilities as representatives, we analyzed the relationship internet and email use and attitudes towards political use of the internet. Because these measures are ordinal rather than interval, we use a tau b correlation. The results are presented in Table 4.

Table 4: Attitudes Regarding Internet and Political Participation

Attitude	b (n)
Community Listservs/Discussion Boards Can Support Discussion of Complex Issues	.166** (185)
Can Handle Volume of Email	-.116* (220)
Email Campaigns Demonstrate Strength of Opinion	.087 (188)
Email Facilitates Public Discussion	.148** (234)
Email Useful in Understanding Public Opinion	.206** (244)
Email Expands Range of Groups Heard From	.173** (232)
Internet Access Sufficiently Widespread to Get a Sense of Community Opinions	.188** (197)

**p < .01, *p < .05 two-tailed tests

In almost every case officials who use the internet and email most are fairly optimistic about its place in supporting public deliberation. They consider the technology and access to the internet to be sufficient generally. Furthermore, they find email communications to be useful in hearing from a wider range of interests as well as assisting them to better understand political viewpoints. However, they do not see the internet as a vehicle for equal interest representation as internet and email use is not associated with the view that email can demonstrate the strength of public opinion. Finally, these results indicate that the more officials use email and the internet, they are slightly more likely to feel overwhelmed by email. This effect is slight as 66.8% of the sample indicated they and their council staff could “always” or “generally” keep up with the volume of email they receive. These results suggest that officials will view online communications about policy matters in a generally favorable light as they see it.

Discussion and Conclusions: Interest Aggregation or Governance Networks?

The internet has a significant impact on the communication flows between elected officials, citizens, and stakeholders in local political systems. This conclusion was motivated by our analysis of internet and email use by elected officials, the relationship of use to the communication flows they receive and make use of, and finally officials’ attitudes towards the democratic potential of the internet. This research showed communications are driven to a greater extent by an official’s use of digital ICTs rather than the Madisonian logic of interest representation and aggregation. Instead, they are more consistent with the good governance model of network society. We will explore these implications and the evidence on which they are based beginning by examining the conclusions drawn regarding the architecture of communication flows.

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Recalling the first communicative function in a Madisonian system of representative government, the communication of interests upward from members of a political system to elected officials, we find mixed evidence. There is some association between the communication flows predicted by the Madisonian model. The Internet however, plays a far more significant role in shaping the architecture of communications. First, email communications were the most common medium along which officials reported receiving communications about a significant policy matter. Second, we found that the level of an official's email and internet plays a larger role than the population-based prediction of communication inputs in the Madisonian model. In part, the ideal Madisonian model of interest representation and aggregation requires more seats than typically exist in at the municipal level in the United States to process the predicted level of communication inputs (Taagepera, 2007: 190). Our results show there is insufficient representation for even the one-half of the population presumed to be politically active. Rather, online communication channels have a more profound impact on the architecture of communications between members of the political system and elected officials. This reverses the logic of communications in the representative model which is predicated on the equal representation of interests. While Madison takes communication inputs to be a function of the population with a greater population giving rise to more interests communicated to elected officials, the research here shows communication inputs are instead driven by an official's internet use practices.

Second, we find that when policymakers made decisions, those decisions are not based on an equal consideration of sources as predicted by the Madisonian model. While there is still some tie between the population of a political system and the volume of policy communications there is not an equal consideration of aggregated interests from across the political system. This suggests there is a difference for officials between their role as interest aggregators and their role as policymakers. This reflects a normative break with the "electoral chain of command" within representative democracy which ties policy outputs to a prior process of democratic will formation (Denters and Rose, 2005: 256). The lack of a role for interest aggregation and representation may reflect the complexity and high information demands of policymaking today, emphasized by theorists of good governance. Given the reliance of specialized knowledge about policy areas, officials need to not only aggregate interests, but also evaluate technical policy areas where knowledge is often incomplete and uncertain (Hajer and Wagenaar, 2003; Beck, 1997), and vulnerable to multiple interpretations (Crozier, 2008).

Though the strength of the regression results are not overwhelming, these findings are consistent with the good governance model. Under a logic of good governance, an official does not aggregate interests as much as decide what should be the policy priorities and how best to achieve them. This logic has emerged under a system heavily dependent on information flows communicated through digital ICTs. Policy decision making often depends on knowledge from specific sectors and policy networks rather than the equal consideration of interests. At the same time, officials in this capacity may need information from certain stakeholders (organizations, interest groups, lay members of the political system), feedback in Easton's terms, in order to better assess the state of the system and acquire compliance of stakeholders (Easton 1965; Crozier 2008). Though we do not yet have a well-developed model of what predicts influence in policymaking, we know that internet and email communications play an important role as the channels for these communications. This indicates that networks provide a tie between communication inputs and policy outcomes while the system of liberal representation and interest aggregation does not.

Therefore, if representation requires some form of communication between members of the political system and elected officials, representation is becoming more tied to officials' individual

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technology use practices than the structure of government institutions. This is not to say that representation and policy influence is determined by individual preferences regarding internet use. That may be part of the equation, but another part may be system level imperatives that motivate officials to be far more dependent on internet communications just as knowledge workers in the private sector have become dependent on these communications technologies (Castells, 2006). It may be the increasing importance of ICTs and systemic pressures are reciprocal and reinforcing relations. Either way, this should make us rethink the relationship of government institutions to interest representation.

The internet is playing a significant role in shaping the communication flows officials receive as well as the communications that influence their decision making. The structure of email and the internet are easily adapted to the communication of large quantities of information and persuasion by stakeholders, which is consistent with good governance. Meanwhile, officials acknowledge difficulties in aggregating public opinions communicated via email and other online channels. This is important for the demands of policymaking. While the formation of governance networks and the ability for members of the political system to participate in these networks is beyond the scope of this paper, our results are consistent with the structure good governance networks as they impact elected officials. However, good governance networks may be reconcilable with new forms of democratic co-governance as both the politics of expertise and the politics of experience often have a role to play in steering governance networks (Bang, 2003). The internet may play an important role in this process by enabling new pathways of participation within organizations and the emergence of more participatory forms of political organization (Bimber, Stohl, & Flanagin, 2009). Good governance therefore may not represent an eclipse of democratic governance but a shift in its energies.

Appendix 1: Question Wordings

Information sources used in decision making

Who created the information sources you consulted when forming an opinion about the issue identified above?

Frequency 1-5 (1=Never, 3=Weekly, 5=Daily):

- a) Council staff (such as staff reports or memos)
- b) Other local government staff or elected officials
- c) Citizens and citizen groups
- d) Business interests
- e) State or federal government
- f) National organizations, such as the National League of Cities

Stakeholders official was in contact with

What groups did you interact with about the issue identified above? Please consider any form of contact, including face-to-face conversations, telephone, mail, email, etc.

Level of Contact 1-5 (1= None, 5=Extensive)

- a) Neighborhood associations
- b) Service clubs or civic affairs groups, such as Rotary or the PTA
- c) Issue groups, such as environmental groups, or those representing women, ethnic groups, or the elderly
- d) Business interests, such as merchants' association, manufacturers' groups, realtors, or developers
- e) Party organizations
- f) Religious groups

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