

REPRESENTATION AS COMMUNICATION: THE INTERNET AND THE INFORMATION ENVIRONMENT OF ELECTED OFFICIALS

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The Internet has been heralded as a technology that supports participation in liberal democratic governments. 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. One of the difficulties analysts who study the Internet face is finding a point of comparison to evaluate the impact of the Internet on current political practices. This paper addresses that problem by comparing the role of Internet use with the communication structure of a liberal representative democracy. The findings indicate that the Internet plays a larger role in structuring an elected official's communications with stakeholders as well as stakeholder influences in policymaking.

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

Today we are said to live in a network society (Castells, 1996; Crozier, 2007). This is not to say networks are totalizing and exclusive of other forms of social and political organization. However, the growing importance of networks in politics and policymaking is said to give the network society analytical leverage in studying the local governments. Manuel Castells describes cities as a space of information flows (1989). Information and communication technologies (ICTs) enable the rapid transfer of information between actors in the political system. This facilitates changes in political organization along two dimensions. First, it facilitates decision making predicated on high levels of information, made more easily accessible by new ICTs (Castells, 1989: 30-31). Second, it facilitates flexibility as actors are connected via communication channels

which contract space and time (van Dijk 1999).¹ This facilitates the decentralized and distantiated coordination of activity through networks. While technologies do not determine political or social formations, they structure interactions by presenting a unique set of affordances and limitations for interactions. These structures in turn develop meaning within the political and social practices they are integrated. Digital networks have profoundly impacted the conduct of business facilitating the emergence of an economy based on the production and communication of information (Castells, 2006). This paper is an investigation of the impact of digital networks on the information environment of local governments.

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 ability to communicate with officials is a 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). If 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. When communication is face to face or on the phone, the time constraint on officials also constrains the demand side meaning that in larger cities fewer people, as a percentage of the population, participate by directly contacting officials. Generally the evidence suggests an inverse relationship between population and participation (Oliver, 2000; Rose, 2002) though the evidence on this point is mixed and depends on the type of participation measured (Kelleher & Lowery, 2008; Newton, 1976). However, the use of information and communication technologies (ICTs) such as email or other Internet transmissions provides members of the political system 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 than there are in smaller municipalities (Saglie & Vabo, 2009).

Scholars of governance claim that new ICTs, and in particular the Internet, are facilitating the formation of new structures of political organizations via the creation of new communication channels and forms of communication

¹ This is not to elide the debates between Castells and van Dijk over the constitution of the network society. In this case, we side with van Dijk’s configuration of the network society not as a foundation of society but consisting in the concrete yet ephemeral communication channels that structure relations between actors.

(Castells 2006, Bang & Esmark 2009). “Governance” as a form of political organization reflects the structure of new ICTs which create the communication channels which connect 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 alone (Rhodes, 2007: 1246). Governance emerges in a context of professionalized political communication strategies employed by both government officials and stakeholders (Crozier, 2007 & 2008). While 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. These trends indicate shift towards a high-communication environment surrounding policymaking.

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 within a political system that connect actors engaged in these activities. Therefore our goal is to analyze the communication architecture, that is, the underlying structure of communication flows between actors. While ethnographic accounts are useful in providing detailed analysis of the microprocesses between network actors that shape policy preferences, one cannot infer how the system functions on the basis of narratives about its constituent parts. The advantage of studying the communication architecture is that it enables us to see how the use of ICTs impacts and structures new governance relationships.

The paper begins by elucidating the relationship between communication and representation. It considers governance in network society in terms of the impact of the Internet on the information architecture of policy decision making within local governments. The first section outlines contrasting communication models of representation and policymaking. The second section details the data and operationalization of the information flows in the space of policy decision making. The third section empirically examines the impact of the Internet on shaping the information environment of policy decision makers. Finally the paper concludes with some observations regarding the significance of the Internet for democratic practice.

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). In one sense, communication creates a solution to this paradox in that it allows us to represent ourselves before a public official without being physically present. We are present by virtue of the fact that communications equipment, as Harold Innis observed, permits the interaction of persons across space and time (1951). That is, communication enables representation via telepresence. Members of the political system are made present by via their communications. Drawing on David Easton's classic model of the political system, this section develops a theory of representation as political communication. It then builds models of the different communication architectures for minimal communication model as well as a networked form of good governance. In the process of model construction we will identify the different informational demands of each form of politics.

We can think of politics in terms of David Easton's classic model of the political system. The political system is composed of three components: political authorities, the political community, and the political regime. The political authorities are those persons who are generally recognized as being in a position to make decisions that are binding (Easton, 1965: 212). The political community is composed of those members of the political system who are bound together by a political system and "through which the political objectives of the system are pursued, however limited they may be" (Easton, 1965: 177). Communication is the mechanism through which the political community is brought into existence as this functional relation becomes reality as "the facts of sharing political processes, participating in interdependent political roles, and participating in the same communication network will in themselves contribute to perpetuating the need to do so" (Easton, 1965: 327). The relationship between communication and community means that "as long as political communication goes on, so long will there be a political community" (Bang, 2003: 3). The political authorities are those figures that are generally recognized to have the capacity to make binding decisions on society. The exercise of authority is likewise a communicative relationship whereby authorities may command or compel as well as empower members of the political system (Bang, 2003: 7). Finally, the political regime is constituted by the norms that structure the

communicative interactions between the political authorities and the political community. By viewing representation as communication, we can identify the role of digital networks in creating political networks between stakeholders and elected officials.

One of the difficulties encountered in researching the impact of the Internet on governmental processes is that we lack a point of comparison between the ICT-dependent communication structures today and a similar system without the Internet. That is, if we only consider differences between high and low intensity Internet users we will only be able to see the effects of Internet use at the individual level. To identify changes in the overall structure we still need a point of comparison at a structural level with which give rise to different communication practices at the level of individual policy decision makers. One solution to this problem is to compare currently existing communication channels with that predicted by a simple model minimizing the communication channels between elected government officials and stakeholders. From there we can compare the impact of the Internet on an elected official's communication environment. Rein Taagepera's (1972) model of the relationship between population and assembly would provide such a point of comparison.² In contrast to the informational demands of network society that transforms policymaking into knowledge work via the transmission of communications across digital networks, Taagepera's model minimizes the communication channels.

Like Easton, Taagepera (2008) notes that the political community is brought into being through communication processes which draw us out of our individual selves into society. Further, he observed that primary function of parliamentary bodies is communication rather than the passage of legislation (1972). Because a population P produces roughly P^2 communication channels, direct contacts 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 a 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). Representation is straightforward as interests percolate from the bottom up to officials who are interest aggregators of the highest order. While in practice, not everyone is able to directly communicate with a public

² To be clear, Taagepera was not proposing a model of governance networks. Rather, his interests were in understanding the logic behind the construction of population-apportioned national assemblies.

official, there is at least in principle the ability for everyone to communicate directly or indirectly via other persons and organizations. Taagepera developed a logical model of national population-apportioned parliamentary size based on the minimization of communication channels between members of a political system and elected authorities. A graphical representation of the model for one official is displayed in Figure 1.

Figure 1: Minimal Model of Political Communications

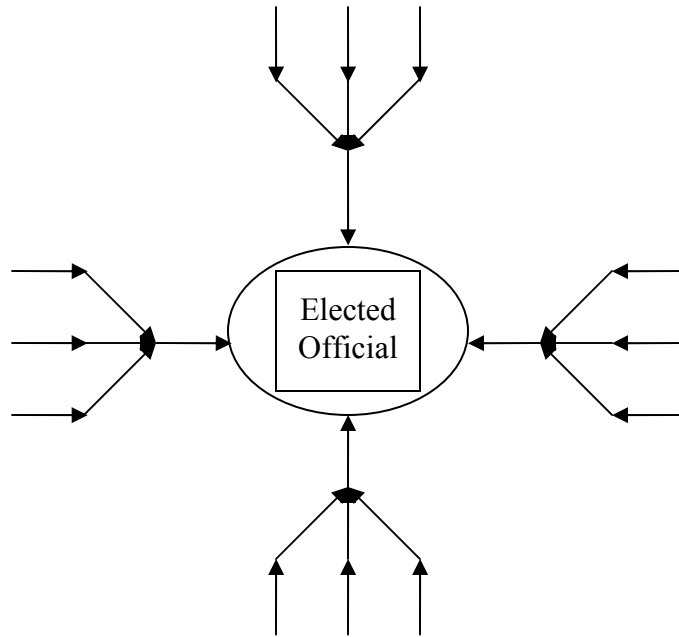


Figure 1 based on Taagepera 1972 (389).

The intuition behind the model is the reverse engineering of a phone tree. 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. Taagepera considers this a simple model in that it requires only that each individual have at least indirect access to one official, thereby minimizing the communication flows each official receives. In this scheme, organizations within the political community are reduced to the individuals that compose them. This enables, in principle, equal access of individuals to communication channels connecting members of a political system with elected officials who acts as an interest aggregator.

The logical model that Taagepera tests demonstrates that the ideal assembly size (A) should be equal to the cube root of the literate adult population (P). Therefore $A = P^{1/3}$. Because we are interested in a communication model for interest aggregation, we need not consider communication channels between members of the political system except indirectly, as conduits reaching an elected official. This results in an average number of communication channels (C_c) per elected official of $C_c = P/A - 1$. Taagepera's model is

empirically validated for population-apportioned national legislatures. In this paper we investigate these relationships at the municipal level. Specifically, we analyze the relationship between assembly size and population and the relationship between the population size and the amount of communications elected local government officials have with stakeholders in the political community. We then consider the impact of the Internet on these communications.

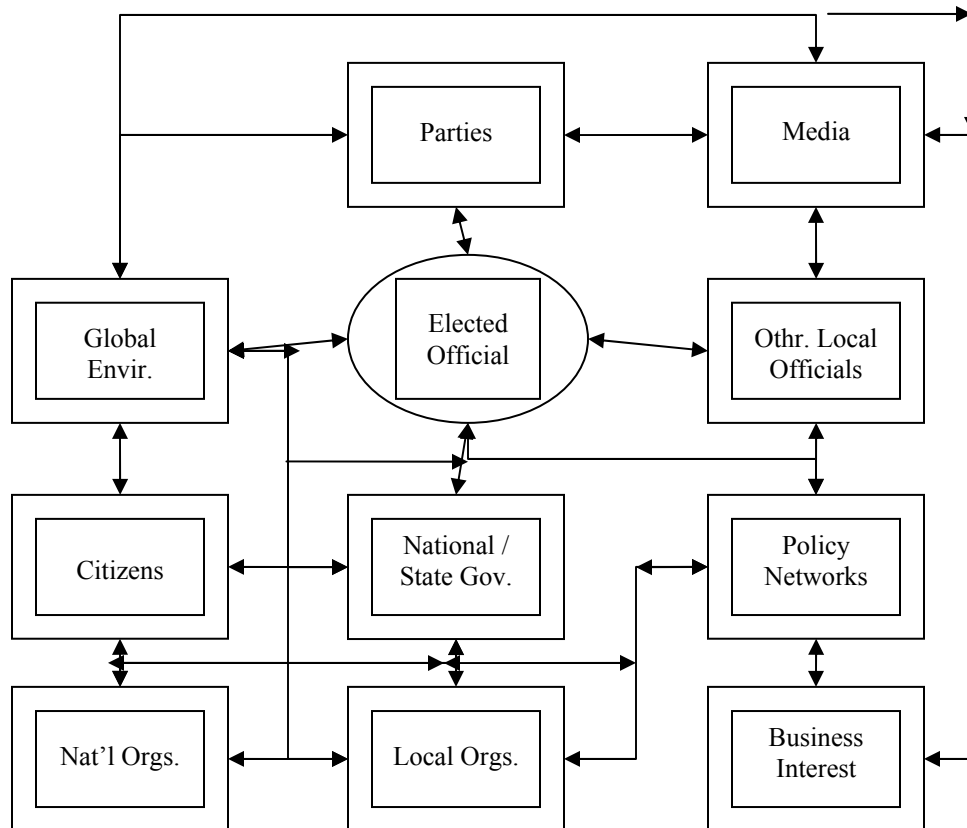
The network society reverses the logic of the minimal model. Its need for information and stakeholder cooperation requires the movement of a large amount of information across communication channels between officials and stakeholders in the political community, the local government bureaucracy, other elected officials, and other layers of government. “Good governance networks” (Bang & Esmark, 2009) are better characterized by heterarchy rather than horizontal relations as governments have electoral legitimacy and legally binding decision authority³ which coexists with more horizontal relationships of governmental, semi-governmental, market, and civil society actors within networks of governance (van Dijk & Winters-van Beek, 2008). The combination of horizontal and vertical elements within networks however does not make them necessarily more open as they may just as well reflect structural inequalities within society (Marsh, 2009) and they are motivated by system-based imperatives for information in order to promulgate effective and coherent policies.

Networks are constructed through the communication linkages between stakeholders. They can be ad hoc, ephemeral and materialize in relation to particular issues. Their function and operation differ from Taagepera’s minimal model. In contrast to Taagepera’s minimal model of communication flows, 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 (Castells, 1989), it is increasingly important to the public sector. In addition to further aiding civil servants who work in local government administrations, local government officials now with the aid of the Internet and email are engaging in their independent research. This reduces information asymmetries for local officials and empowers them as decision makers (Hanssen 2007).

³ This is not to dismiss other forms of legitimacy and authority.

While the public sector tends to lag behind, Manuel Castells notes that processes like “e-governance (a broader concept than e-government because it involves citizen participation and political decision-making)” places pressure on governments to change because it is incompatible with the “rational bureaucratic model of the state of the industrial era” (Castells, 2006: 17). This model therefore differs from Taagepera’s minimal model in a second sense: it relies on a good governance logic rather than an interest aggregation and representation logic of liberal democracy. This model prioritizes the communication of information for policymaking over equal representation and interest aggregation. Previous work shows that elected local government officials regularly face a dilemma in choosing between representative styles (Edwards, 2008). Instead of the representation of individuals’ interests, we have the representation of stakeholders’ interests. Figure 2 details a structure of good governance networks.

Figure 2: Good Governance Networks



Based on Crozier, 2008 and Bang & Esmark, 2009.

In the “good governance” model, participation is treated as a system imperative to meet the informational demands of decision making as well as to acquire stakeholder cooperation (Bang & Esmark, 2009; Corzier, 2008). Within a liberal democratic model, governance networks are at best “noise” and at worst, “a closed, secret decision-making practice, lurking in the shadow of conventional liberal institutions” (Bang & Esmark, 2009: 16; Sørensen & Torfing, 2005).

Our aim here is not to empirically validate in totalizing fashion one model of governance or the other. Instead our purpose is to map the impact of Internet and email communications between the political community and local government officials with respect to these models. Therefore we investigate the role of the Internet in relation to indicators of each model evaluated at the level of individual elected local government officials. To analyze the impact of the Internet on the communication architecture of local government policy decision making, we consider the comparison between the minimal communication model proposed by Taagepera and political communications we would anticipate under a good governance model of policymaking. Our research addresses three principal questions:

1. To what extent does the minimal model account for communication channels in local governments?
2. To what extent does the Internet change the information environments in American local governments?
3. To what extent does the Internet impact the policy decision-making process in local governments?

This research therefore analyzes the role of local institutions in structuring the communication space in which local elected government officials make decisions about public policy matters. It analyzes the impact of the Internet on these processes from the vantage point of elected officials. Therefore if Internet use does not change the communication architecture, we should see that Internet use does not help us explain the quantity of communication contacts any better than the average number of communication channels per official in the local political community. On the other hand, if Internet use can account for these changes better and even more so with communications that influence policy decision making, we have evidence for the Internet as an instrument of good governance. These communication flows are an important step towards indicating how the Internet is changing the process of

political representation and therefore how democracy functions at the local level.

Data and Measures

Data

The 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, a plurality (44.4%) of whom are elected in at large districts. Of the remaining, 26.4% were elected through districts and 29.2 were elected in municipalities using a combination of 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 regarding 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 to answer 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 these issues to a major policy issue that “generated input...from the *largest number of* citizens, community groups and business interests.” 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 information on 6.3% of the decisions data. 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

The key concepts we are interested in operationalizing for our dependent variables concern defining the amount of stakeholder communications and the concept of influence in policy decision making.

Stakeholders can be defined as an individual or group that has an interest in something independent of their geographic location in addition to public agencies at the local, state, and national level (Leach, Pelkey, & Sabatier, 2002: 646). Because we are interested in changes to the communication architecture of local government policymaking, we evaluate these changes with respect to the volume of communications that they report they receive from six different types of stakeholders.

The communication input dependent variable is an additive scale of frequency measures of communicative interaction with six different types of groups: 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. This gives us an approximate measure of the input received from 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. It is very likely that regarding any particular issue, certain groups are going to be more vocal than others. This was indicated by our fieldwork as well. We are instead 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.

Identifying influence is a conceptually difficult task. Following Katz and Lazarsfeld we take influence to be a social process. Analyzing influence involves answering: "Who says what to whom and with what effect?" (Katz and Lazarsfeld 2006: 1). Who says what to whom is easier to answer than identifying the effect of a communication. Connecting the communication

of information to specific decision outcomes is complicated by the two factors. First, no decision maker approaches policy *tabula rosa*. Policy decision makers evaluate information from a position of prior framings, values, and considerations (Fish, 1989: 520-522). Second, policymakers may consider opposing viewpoints and arrive at a compromise which does not directly reflect any of the policy positions communicated to them—yet at the same time takes their opinions into account. Hence influence here is taken to refer to specific communications that motivates a response in officials. These responses may range from acknowledging the position of the opposition to being convinced to act on the basis of a specific argument or statement. In the real world of policymaking, the latter is normally an unrealistic expectation. Minimally, however, our definition of influence requires some form of acknowledgement of the receipt of information otherwise the resulting condition would be a failure to communicate (Bakhtin, 1981).

For this reason we consider both the diversity of groups with which they interacted as well as separately the “information sources...consulted when forming an opinion” about a previously identified significant policy decision. This means that at a minimum, 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 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. This indicates that our influence dependent variable represents a diverse set of influences considered by decision makers.

Communication Inputs and Influence in Policymaking

The simple 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 the quantity of communicative inputs as well as the quantity of inputs that influence the decision process.

We begin by attempting to empirically validate Taagepera's simple model at the municipal level. Given that the simple model establishes the communication architecture of a representative institution with regard to the number of representatives and the population of the political community, we analyze the relationship between the number of council seats and the adult population of each municipality for our sample.⁴ The number of seats ranges from 4-40 with a mean of 7.63 seats. The Pearson r correlation between the cube root of the adult population and the number of seats is .308 ($p < .01$). That this fit is not as strong as the results reported by Taagepera (1972) may in part be due to the fact that council size is often fixed by state statute which reduces the adaptability of municipal governments to changing population pressures. However, this result represents an improvement on the population alone which has a Pearson r of .242 ($p < .01$).

We next analyze the role of the Internet in two contexts: the frequency of communications between officials and stakeholders regarding a significant policy matter and the volume of sources the official relied on when forming a decision about the policy. The impact of the Internet is determined in comparison to the predictive value of the average number of communication channels (C_c) for each official in the minimal communication model. In the minimal model, there must be one communication channel connecting each official with each member of the population minus the official. If we denote the size of the municipal council as A and the population as P , then C_c , on average, is equal to $(P/A)-1$. C_c ranges from 1517.53 to 256320.93 with a mean of 13048 (s.d.: 21287.69221).

⁴ Note, this is a simple model in that Taagepera (1972) modified this as a measure of the adult literate and mobile population. While literacy and mobility are a concern in many countries, we consider the United States to be a highly mobile population with near universal adult literacy. Therefore we opt for the simpler model.

C_c is contrasted with an official's Internet use as a competing explanation for communication with stakeholders and use of information in policy making. The Internet use variable was constructed out of seven frequency measures including: use of the Internet/email to get information or news, use of a news or media monitoring service, use of the Internet in official duties, use of the Internet to research council issues, post information about work-related matters to a website or blog, and use of the Internet/email to communicate with citizens and "interested groups." This measure is an expansive accounting of an official's Internet use in carrying out the responsibilities of the office. Further details on question wording can be found in the appendix. These seven items have a Cronbach's α of .776.

Next we look at the relationship between the population and the summated frequency with which an official was in communication with stakeholder groups. This should give us a better measure of the communication flows actually received by elected municipal officials. We analyze communication flows with respect to the reported frequency of contacts officials have with different groups in the political community. The dependent variable represents the frequency of contact summed across all groups.

In addition to the diversity of groups each official was in contact with, we consider the role of the Internet in the diversity of sources that influence policy decision making. This way we can see not only the relationship between the Internet and the volume of communication flows and also the volume of sources that influence policy decision making. These results were calculated using an ordinal regression. In addition to C_c we controlled for the level of household income, the percentage of college graduates (BA/BS), the type of electoral system used by the local government, and the policy area (not shown). Income and education are controlled for because these are common predictors of the level of participation. The results are displayed in Table 1

Table 1: Communication Channels, the Internet, and Representation

	Communication Input		Policy Influence	
	<i>B (std. Error)</i>	<i>B (std. Error)</i>	<i>B (std. Error)</i>	<i>B (std. Error)</i>
Communication Channels	1.627E-05 (.000)**	1.099E-05 (.000)*	7.302E-06 (.000)	4.676E-06 (.000)
HH Income	-.187 (.164)	-.279 (.171)	.099 (.181)	.084 (.188)
Ed. Level (City)	.156 (.130)	.147 (.137)	.012 (.140)	-.115 (.149)
Internet Use		.093 (.024)***		.067 (.026)*
Elected (At Large) ⁵	.164 (.232)	-.157 (.252)	-.292 (.248)	-.221 (.270)
(District)	-1.090 (1.752)	--	.025 (1.753)	--
(Combination)	--	--	--	--
Cox & Snell	.118	.163	.032	.065
Nagelkerke	.118	.163	.032	.065
Model Improvement: χ^2	204.401***		149.004***	

Note: Logit link function.

*p < .05, **p < .01, ***p < .001

With respect to communications with the political community, we find a strong role for the average number of communication channels that exist for each elected official. The coefficient is very low given the variable has a wide range of values and its values are comparably very large. This shows that even though there are typically lower levels of direct contacting in larger municipalities (Oliver, 2000; Rose, 2002), officials receive more communication inputs even when controlling for the average number of potential communication channels. When we introduce the Internet use variable, we find that communication with stakeholders is driven more by an official's Internet use practices than the average potential number of communication channels. Additionally, the χ^2 indicates that the inclusion of Internet use yields a significant improvement in the model fit. Apart from policies regarding government services in the non-Internet Communication Input model (not shown), 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; Best & Krueger, 2005).

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. In the second policy influence model, the Internet use variable is

⁵ Reference category is "other". In some cases a category was omitted by the statistical routine as it was insufficiently populated.

a significant predictor and the χ^2 shows the increase in the model fit is likewise significant. 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 suggests that policymaking is not tied to an aggregation of interests from the political community. This result would be consistent with the good governance model.

This difference is consistent with Taagepera's observation that the structure of an assembly is related to the need to provide adequate communication channels for the population rather than policy initiation. Therefore we find that the potential number of communication channels is related to the total volume of communication an official receives regarding policy matters. This relationship is also supported when we considered the evidence regarding the cube root of the adult population and the size of the municipal council. However we do not find this relationship holding when we examine the volume of communications that influence policy decision making. Though the model does not account for this process very well, it shows that the 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." 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.

Discussion and Conclusions: Interest Aggregation or Good Governance?

The Internet is changing the communication architecture which structures the relationships between authorities and the political community. This conclusion was motivated by addressing three research questions. First, to what extent does the minimal communication model account for the communication architecture in local elected officials find themselves in? Second, to what extent does the Internet change the information architecture

for local government elected officials. Third, what impact does the Internet make on the communication flows that influence policy decision making? We summarize the response to these questions in turn concluding with some reflections on the impact of the Internet for governing paradigms between classical models of interest aggregation and good governance.

We find evidence that one important function of local governments is the creation of communication channels for members of the political system to interact with authorities. We found support for this in two ways. First, in terms of the structure of local governments we found a significant relationship between the cube root of the adult population and the number of seats on each council. This figure was a notable improvement over the correlation between the population and the council size. This indicates that the council size is better thought of in terms of a maximizing the efficiency of communication between members of the political system and elected authorities. Second we found support for this proposition with respect to the operation of communication channels in concrete cases. The volume of communication was significantly influenced by the potential number of communication channels in the society. This analysis gives us an overall picture of the communication architecture through which inputs flow to local decision makers. This provides support for the model of the local government elected official as an interest aggregator.

The Internet, however, plays an important role in shaping the communication architecture. A subset of communication flows reach officials and are communicated back to the political community via email and the Internet. We found that the level of an official's email and Internet use does a better job of accounting for the amount of contacts officials had with groups and members of the political system. This suggests that the Internet is changing the communication architecture operating for local government officials. They process more contacts on the basis of their individual use practices than the structure of the local government. This suggests that if representation requires some form of communication between members of the political system and elected officials, representation is becoming more tied to officials individual technology use patterns than the structure of government institutions. This should make us rethink the relationship of government institutions to interest representation.

Finally, we find a break in the functioning of the system between the role of an elected official as interest aggregator and the role of an elected official as

policymaker. While there is still a tie between the population channels of a political system and the volume of communications between officials and members of the political system, inputs to the decision-making process are de-linked from the population-based communication channels. This suggests there is a difference for officials between their role as an interest aggregator and their role as a policymaker. Though we do not yet have a good model of what predicts influence in policymaking, we know that the Internet plays a role in constructing the communication architecture structuring inputs to the decision process.

However, this difference may relate to the differing logics between an official's role as an interest aggregator in a scheme of representative democracy and an official's role in the process of good governance. Internet and email usage then reflects different styles of representation and therefore different logics of governance. 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 often depends on knowledge from specific sectors and policy areas. 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).

We see that the Internet is playing a significant role in shaping the communication flows officials receive as well as the communications that influence their decision making. While the Internet and email do not determine the structure of governance, they are more conducive to a good governance architecture because of the difficulties in aggregating public opinion via the communication flows they receive via email and the Internet. They fit within an individualized paradigm of participation or a the communication flows between members of a policy network. The results here indicate that the Internet may be less adaptable to the demands of representative of democracy, at least at the local level. The structure of email and the Internet are easily adapted to the communication of large quantities of information and persuasion by stakeholders. This is important for the demands of policymaking. Officials, however, note that these communications are as easily reconcilable with the demands of representative democracy.

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