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Guest Editorial Preface

Christopher G. Reddick, The University of Texas at San Antonio, USA

Enhancing the role that citizens play in e-government is believed to be the key to creating a more democratic and accountable government. E-government has been thought to be one tool in creating this vision of enhancing governance. For instance, the early theories of e-government development argue that the core to the transformation of government is seen through its citizens and their access to information and services online. More recently, the role that citizens play has been greatly enhanced with the development of social networking technology. Therefore it is critical to understand the role that citizens play in e-government, but it also is important to critical analyze what works and does not work in this important area of e-government inquiry. This special issue of the journal is devoted towards citizens and e-government.

This special issue has a collection of five chapters that will appear in my forthcoming edited book entitled Citizens and E-Government: Evaluating Policy and Management. These papers are representative of some of the most important scholarship in this book demonstrating the role of citizens in e-government. The chapters in this special issue range in scope from theoretical and strategic pieces, as seen through the papers by Jaeger and Bertot and Anttiroiko’s, to more evaluative and empirical papers, as seen through the Pietersen, Reddick, and Cassell and Hoornbeek. There are two core messages of this special issue. First, e-government research needs to take a step back and focus on identifying what citizens want in terms of service delivery. Second, there needs to be more research that evaluates the effectiveness of what works and does not work in regards to the use of e-government to engage citizens in governance.

The first paper in this special issue by Jaeger and Bertot examines the idea of creating user centric e-government. These authors believe that the future effectiveness of e-government will be contingent on the way that it meets the needs of users or citizens. They argue that nearly half of the population in the United States does not have adequate computing and broadband technologies, this means that government must provide services with multi channels to meet user needs. Essentially, e-government websites are not being designed to focus on the needs of users. Jaeger and Bertot believe that if e-government is truly going to be transformative, it has to take into account the views of citizens in its implementation. These authors offer practical strategies that can be used to create more citizen-centric e-government such as engaging citizens in focus groups, testing for usability of websites, and encouraging comments from users. As noted by Jaeger and Bertot, the problem is that the citizen focused approach is most costly to implement and requires a cultural shift in the way that government normally provides services. This article is an important contribution to the e-government literature; it is one of the first to explain strategies that can be used to create more citizen centric government. The second paper in the special issue explores some of the current technologies that can be used to engage citizens more in their government.

Anttiroiko’s article examines the idea of Government 2.0 applications and their impact
on government. Government 2.0 is based on the idea that citizens have a new role in public service and governance processes by utilizing social networking and content sharing Web 2.0 technologies. What is particularly innovative in this paper is that the author not only explains the latest Web 2.0 technologies, but also shows their impact on government. Some important Web 2.0 technologies that governments could use are short messaging, content sharing such as YouTube, and "crowdsourcing," or learning from unsolicited opinions of users of government services. The author also provides a theory of growth of this technology in government, showing that there is a possibility of transformative government from Web 2.0 technologies. This article is one of the first to show the impact on Web 2.0 technologies and their potential for transformative change on government.

Pieterse’s article examines the issue of channel choice and service delivery by government. The message of this article is that governments need to understand why citizens use certain channels when they contact government. The idea being, without understanding the choice of service channel, governments will not be able to address citizens’ needs. Pieterse’s research is an area that is important and understudied in e-government research. This author makes the argument for a multi-channel environment because citizens prefer different service channels depending upon the task at hand. This author examines the difference channel management strategies and arrives at the conclusion that the best strategy would be an integrated approach, where all services are offered in all channels. This may be a more expensive option, but it does provide choice to citizens, something essentially for democratic participation and governance. This paper reminds us that the Internet is just one of many technology options available to citizens, when they initiate contact with government, and governments should be aware of this when implementing new e-government projects.

Redick provides a comparison of channel choice, comparing e-government empirically with other types of contact channels such as the phone. Through an examination of public opinion data, citizens prefer to use multiple contact points when initiating contact with government. Citizens that contacted government through e-government were more likely to expect to get information or services from a government website, they tended to be younger and college educated. While citizens that used the phone to contact government they were more likely to live in an urban setting and less likely to be employed by government. Service channel use was dependent upon task at hand for the citizen. For more information gathering tasks the preferred service channel was the Internet. For more personal issues, such as tax problems, the preferred method was to contact government over the phone. The overall message of this paper is that governments should better understand demand for their service channels in order to provide the optimal mix to their citizens.

Cassell and Hoornbeek’s article, the final paper in this special issue, examines citizens’ engagement as a way to understand democracy through the use of e-government. These authors examine three types of engagement that citizens could have with e-government, namely electronic bureaucracy, information management, and populism. This is an empirical paper which has data from a content analysis of local government websites in a region of the United States. The authors find minimal evidence that local governments are promoting populist democracy through their websites. For instance, a very few local governments actually offer blogs as a way to encourage debate among citizens. The dominate model of e-government is information sharing, which is consistent with most of the e-government literature. The end result of their article is that the e-government literature is just starting to study democratic governance and their evidence shows that local governments are a far way from enhancing democratic outreach on their websites.
Engaging Citizens on the Internet: An Assessment of Local Governments in Ohio

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ABSTRACT

This article presents empirical results relating to citizen-government relations on the internet that are based on an assessment of the World Wide Web presence of 428 local governments in northeast Ohio. Northeast Ohio provides a useful picture of E-government-citizen relationships because it includes a range of local government forms (counties, townships, etc.), urban and rural populations, and Midwestern influences that many consider “typical” of American states. The website reviews conducted assess citizen-government engagement in a variety of areas. The measures used include simple engagements like the ability to sign up for email updates and the presence of event calendars to more involved interactions, such as blogs, e-pay services, and open records requests. Using these measures, the authors assess citizen-government engagement among local governments in the sample.

I. INTRODUCTION

Citizen engagement is at the core of how we understand democracy. Citizen engagement is often messy and frustrating. However, a central promise of democracy is that engaging citizens brings broader interests into the decision-making process, diffuses power, and inhibits corruption by concentrated power elites. And while governments have long wrestled with the question of how best to engage citizens, advances in technology over the past two decades are forcing governments at all levels to rethink how they should engage with citizens. As Reddick (2004) puts it, “The Internet is one communication tool that has the potential to radically change the face of government in the 21st century” (38). In response to the charge by Reddick and others that technology is changing the way governments engage citizens, the goal...
of this paper is two-fold: first, to contribute to an understanding of how local governments in the United States are using the internet to engage citizens; and second, to test several hypotheses to explain the conditions under which governments pursue different models of citizen engagement.

The paper draws on an analysis of 428 local governments in northeast Ohio. Northeast Ohio, which includes 13 counties with a total population of about 4 million citizens, offers a useful case study for assessing web-based citizen engagement efforts. There are a lot of local governments in northeast Ohio (Ohio ranks sixth in the number of local governments in the country, and northeast Ohio is well represented among these local governments), so analyzing citizen engagement efforts in this area is likely to provide a rich sample of alternative approaches. The region also includes the four major forms of general purpose local governments in the United States: counties, cities, villages, and townships. In addition, the region’s mix of urban and rural areas, its socio-economic variation, and its racial diversity make it a useful prism through which to view web-based citizen engagement practices.

This study differs from existing literature on e-government in two ways. First, it looks at government websites in terms of how web applications (which we also refer to as website “attributes”) reflect particular goals or understandings of citizen engagement. Much of the existing literature examines governmental websites through the lens of technological capacity. Scholars often make the case that governments’ use of the internet evolves over time along a continuum of technological sophistication—from simple posting of information on a website to more advanced Web 2.0 applications like online forums or social networking sites. This study builds on the work of Kakabadse et al. (2003) in conceptualizing web applications not in terms of their technological sophistication but how specific website attributes promote different types of citizen engagement. Specifically, three distinct models of engagement are examined which Kakabadse and his colleagues term “electronic bureaucracy,” “information management,” and “populist.” By focusing on these three models, the study offers an alternative perspective to the “stages” approach that characterizes much of the e-government literature.

A second way in which our study differs from existing work is that our analysis extends to local governments that have traditionally been left out of the research because they were too small or the information was too difficult to collect. Our study includes 13 counties, 102 cities, 201 townships, and 112 villages. In Ohio, townships are the most common form of general purpose local government: they are unincorporated areas which develop general purpose government capacities and are governed by boards of trustees. Incorporated areas with more than 5,000 residents are cities, and those with less than 5,000 residents are considered villages. By including all local governments in our study we provide a more comprehensive picture of how local governments are using (or not using) technology to engage citizens. We also seek to assess what factors determine the type of engagement local governments seek to promote with their websites.

To examine the relationship between citizens and local governments, the paper is divided into several parts. In section II, we briefly discuss the literature on how government websites are conceptualized. This section also outlines the models of citizen engagement developed as an alternative to traditional accounts. In section III, we present a descriptive summary of the results of our analysis of local government websites in northeast Ohio. The analysis presents information on the types of website attributes governments are using most often, from which we infer the types of citizen engagement that governments seek to promote through their websites. In the following section, four theoretical models are presented and tested. Our interview findings are also summarized in this section. And finally, we conclude with
a brief summary of our overall findings and some lessons regarding what we have learned from this study.

II. CITIZEN ENGAGEMENT AND THE WEB

The means by which governments engage citizens through the internet has grown exponentially over time creating a small growth industry among academics and consultants in the development of typologies that seek to make sense of the exploding number of website applications (Ho, 2002; Moon, 2002; Layne & Lee, 2001; Cousey & Norris, 2008). This section discusses the conventional ways of conceptualizing websites and then offers an alternative approach which is then examined in later sections of the paper.

Conventional Wisdom

The most common approaches in the literature conceptualize government websites in terms of a series of evolutionary stages. The stages begin with an informational presence such as a posting of on-line brochures or general information, followed by two-way interaction where citizens can download material and send emails to public officials. The next stage becomes a seamless integration across government services. And in the final stage, governments use technology to promote greater citizen participation and democracy. Eventually, as policy makers and citizens come to realize the advantages of e-government, the technology becomes so pervasive and powerful that it culminates into a “virtual government” an automated, citizen-centric operation capable of delivering government services to citizens, businesses, and other government agencies 24 hours a day, seven days a week (Fountain, 2001; Siefer & Petersen, 2002; The Gartner Group, 2000; Baum & Di Maio, 2000).

Two factors distinguish the stages approach. First, it conceptualizes government websites in terms of their technological complexity rather than according to what the intent of government officials or web designers might be. Websites are grouped into different stages based on the websites’ level of technological sophistication. Little attention is given to the possibility that governments might seek to promote distinct forms of citizen engagement with their websites that may or may not require higher levels of technology complexity. Second, the stages approach assumes that adoption occurs in a linear and step-wise fashion (Layne & Lee, 2001; Baum & Di Maio, 2000; Ronaghan, 2001; Hiller & Belanger, 2001; Moon, 2002; Wescott, 2001). Once on the e-government train, local, state and national governments steadily move forward along a technological continuum. Moreover, as governments understand the value of new website attributes, they will share knowledge with other governments and over time all governments will move down the track toward Web 2.0 and beyond. In short, e-government research on the development of government information technology uses a stages approach and assumes that, despite some bumps in the road, administrative evolution (where the most efficient processes win out) eventually drives governments to adopt the latest and best technology.

While the stages approach has become a way of conceptualizing government websites, Cousey and Norris (2008) and others (Akesson et al., 2008; Walker, 2001) point out that, after a dozen years of data, the conventional story lacks empirical support. Despite the benefits touted by information technology consultants and scholars, governments in the United States appear to have either gotten off the e-government train or at the very least appear stalled. This should not be that surprising because Silvia Bolgherini (2007) notes that since 2001, two-thirds of e-government programs “fail in full or in part, thus involving relevant expenses, both direct and indirect” (264). In the developing world, the failure rate is 85 percent. Drawing on ICMA survey data for 2000, 2002, and 2004, Cousey and Norris (2008) find that few governments have moved beyond an informational web presence. Brown (2007), using the same
ICMA data, offers a more positive spin arguing that although local governments have achieved only minor benefits this reflects a “maturation model”, a process that is more incremental and slower than previously anticipated.

Coursey and Norris (2008) also note that there is little empirical evidence to support the hypothesis that e-government transforms or changes local governments in the way the conventional narrative predicts. There is little evidence that e-government reduces costs. And there is even some evidence that e-government has reinforced the political and administrative structures of traditional government (Coursey & Killingsworth, 2001). Pina et al. (2007) also find that e-government at the local level has done little to increase transparency or accountability. Finally, in contrast to conventional wisdom, e-government has not developed in a linear or step-wise fashion. Local governments appear to have adopted an informational presence very quickly and then stalled and failed to move toward a more transactional approach. Brown (2007) reaches a similar conclusion: that between 2000 and 2004 the “average change differences on a variable-by-variable basis indicate relatively small to flat growth in terms of e-government services and benefits” (p. 189). If the conventional story is incorrect, where does that leave us?

Citizen Engagement Models

Kakabadse et al. (2003) offer an alternative theoretical perspective from which to view citizen engagement on the web. While acknowledging that the technological capacity of a government is important, we build on their work to suggest that technological capacity makes sense only in the context of how a government views the purpose(s) of their websites. Kakabadse and his colleagues develop a typology organized around different models of citizen engagement. The models reflect not technological capacity but distinct forms of citizen engagement that are promoted through the Web. Models corresponding to three forms of citizen engagement are proposed: “electronic bureaucracy,” “information management,” and “populist.”

The electronic bureaucracy model refers to the delivery of government services. Web applications designed to “allow for easier, quicker, and cheaper transactions with government on behalf of businesses and citizens, and to reduce, over time, the size of the public sector” (Ibid. 47). Under this model, governments use the Web to replace street-level bureaucracy with system-level bureaucracies (Reddick, 2004, p. 39). The electronic bureaucracy model emphasizes web applications that allow one to circumvent real life bureaucratic transactions. These include website attributes that allow one to pay taxes and fees on line, file for building permits, or register for recreational activities.

Information management is another model, distinct from electronic bureaucracy, in which the goal is to increase communication between government and citizens (we also refer to it as the mass communication or communication model). The model includes one- and two-way forms of communication but also suggests viewing the government’s website as a means of marketing the governmental jurisdiction and communicating with prospective citizens and businesses who might be considering locating to the area. Policies that fall within the information management model include: placing computers in public places; posting decision-makers’ contact information on line; posting public information such as speeches, meeting minutes, or notices on-line; and offering “text-only” applications that allow those physically challenged to also communicate.

Finally, the populist model seeks to promote democratic engagement among citizens through forums, blogs, social-networking sites, and other types of electronic town-hall meetings (London, 1994). Electronic voting, electronic polling, and on-line discussions between candidates and citizens also fit within this perspective of citizen engagement. What distinguishes website attributes in the populist model is that while they disseminate facts and information, the applications seek to involve
citizens in a dialogue with each other around public issues (Kakabadse et al., 2003).

In short, a theoretical perspective that is based on differing citizen engagement models attempts to incorporate the intentions of public officials into an understanding of website development. In particular, it assumes that public officials and web designers seek to promote particular types of citizen engagement. The model thus acknowledges the possibility that a government may prefer to remain at stage one or two of their website development simply because it fits with their understanding of citizen engagement.

This kind of perspective thus views government choices regarding web based citizen engagement strategies as a policymaking process that is affected by political influences which, in turn, produce particular kinds of web based policy outputs. In the sections that follow, we examine Kakabadse et al.’s (2003) models of citizen engagement empirically. We also draw on theories of sub-national policy variation to identify and test differing explanations for choices of web based citizen engagement strategies made by local governments in northeast Ohio.

Data and Methodology

The data underlying this research were compiled through searches of local government websites in northeast Ohio during a six-month period, from October 2008 through March 2009. The area consists of 13 counties, which comprise a majority of northeast Ohio. To compile the data, we enlisted the professional help of a government information technology specialist in northeast Ohio who is knowledgeable regarding both the management of local government websites and e-government practices among northeast Ohio local governments.

Using an annual report published regularly by the Ohio Secretary of State’s office (Brunner, 2006, 2007), we identified a total of 428 general purpose governments: 13 counties, 102 cities, 112 villages, and 201 townships, and we were able to compile complete data on all but two villages in a data set for analysis. This annual report, along with numerous internet web queries and links from northeast Ohio county websites, enabled us to identify and locate web addresses for local government jurisdictions in our sample. This effort yielded the identification of a total of 285 local government jurisdictions with worldwide websites.

We evaluated websites to assess how they are used to engage citizens. Thirty-three evaluative criteria were used to code attributes that reflect citizen engagement. Each criteria was coded as “1” if the attribute existed and “0” if it did not exist. Drawing on the work of Kakabadse et al. (2003) the web attributes were organized into three groups that correspond to three types of models: 1) electronic bureaucracy; 2) information management; and 3) populist model. The group identification of each attribute was based on Kakabadse et al.’s description of each model. In some cases, we placed an attribute into more than one category. For example, a blog is a form of communication between citizens and government. However, blogs also allow citizens to discuss and interact with each other, which reflect a populist model. Out of 33 attributes: 23 are coded as information management; 15 are coded as electronic bureaucracy; and three attributes are coded as populist.

Several steps were taken to increase the validity of the coding. First, our information technology specialist developed a coding guidebook and trained website coders on how to use it. Each website was coded separately by two individuals, and the results of these coding processes were then compared to identify discrepancies. In cases of discrepancies a third reviewer was used. And finally, these resolved discrepancies were then spot-checked using a fourth review conducted by our information technology specialist to identify any idiosyncratic or systematic sources of error on the part of the third coder. The coding designations which resulted after this final review are those which we present in this paper. Website data were then supplemented with socio-economic
and demographic data from the US Census Bureau for each government jurisdiction in the dataset.

The statistical software package, STATA 9.0 was used to conduct descriptive and analytical analyses of the data. These quantitative analyses were supplemented with qualitative information. Four separate interviews were conducted with Information Management (IT) professionals employed by local governments that scored high on indices of citizen engagement. Two interviews were conducted with chief technology officers in two counties, one interview was conducted with a city manager in medium size city located in a relatively sparsely populated area, and a fourth interview was conducted with the Web and Communications Editor of a medium size city located in an urban area. Although the interviewees are employed across a range of local governments, our intent here was not to be representative. Instead, the goal of the interviews was to understand how governments that are particularly innovative in their use of web technology view the purpose of their websites; and to identify what strategies these governments found helpful to conduct government business and enable citizen input for local governance processes. The interviews were conducted using a semi-structured instrument, and they served as a helpful descriptive supplement to our quantitative analysis of local government websites.

III. CITIZEN ENGAGEMENT THROUGH THE INTERNET IN NORTHEAST OHIO

How do local governments in northeast Ohio use the Web to engage citizens and the public? To address this question, we first look at all local governments in the region. Next, we break down the analysis according to our three models of citizen engagement and by government type. Our findings in these areas are presented in Tables 1 and 2, and in Figure 1 below.

All Local Governments

In our analysis of websites we found all 102 cities and 13 counties in northeast Ohio have websites. Among smaller governments, Web presence is more uneven. Just under half of townships (49 percent) and nearly two-thirds of villages (63 percent) in our study have government websites. Overall, two-thirds of the local governments in our sample had websites. These findings are in line with the e-government literature that finds smaller governments are less likely to use the Web than larger governments. At the same time, we find smaller local governments with less than 5000 residents are making significant inroads in their use of the web. The finding is particularly striking given their relative lack of resources.

As Table 2 suggests, there is a significant range of website attributes used by local governments to engage citizens. The most common forms of citizen engagement include

<table>
<thead>
<tr>
<th>Local Government Type</th>
<th>Total Number</th>
<th>With Website</th>
<th>Without Website</th>
<th>Percentage with Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>County</td>
<td>13</td>
<td>13</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>City</td>
<td>102</td>
<td>102</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>Village</td>
<td>112</td>
<td>71</td>
<td>41</td>
<td>63%</td>
</tr>
<tr>
<td>Township</td>
<td>201</td>
<td>99</td>
<td>102</td>
<td>49%</td>
</tr>
<tr>
<td>All NE Ohio Local Governments</td>
<td>428</td>
<td>285</td>
<td>143</td>
<td>67%</td>
</tr>
</tbody>
</table>

Source: Authors’ analysis of local government websites in northeast Ohio.

Table 1. Website presence among northeast Ohio local governments, by local government type

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the placement of phone directories on line (56 percent), posting of government contact email addresses (51 percent), calendar/event listings (48 percent), posting of minutes and agendas (47 percent), and downloading forms (47 percent). A sizeable number of governments also post job listings on line (22 percent), enable record searches (12 percent), and allow the payment of taxes online (13 percent). These findings are consistent with previous work on e-government.

Models of Citizen Engagement

Figure 1 illustrates that governments commonly use websites as means of promoting communication between citizens and government. Counties have on average nine website attributes that fit the information management model, cities have seven, and villages and townships have three and two such attributes, respectively. Moreover, among those villages and townships that have websites, the number of Web applications that fit within a information management model increases to five and four, respectively.

We also find evidence that local governments are following an electronic bureaucracy model through their website. Counties and cities have, on average, six and four applications on their website that fit within an electronic bureaucracy model. Smaller governments are far less likely to follow an electronic bureaucracy model: townships have on average less than one application; and villages have just over one application. Again, among townships and vil-

<table>
<thead>
<tr>
<th>Model</th>
<th>Website Attributes</th>
<th>% of Counties with Website Attribute</th>
<th>% of Cities with Website Attribute</th>
<th>% of Villages with Website Attribute</th>
<th>% of Townships with Website Attribute</th>
<th>% of NE Ohio Local Governments with Website Attribute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electronic Bureaucracy Website Attributes</td>
<td>Downloadable Forms</td>
<td>100</td>
<td>91.18</td>
<td>41.07</td>
<td>24.38</td>
<td>46.96</td>
</tr>
<tr>
<td></td>
<td>Employment Opportunities</td>
<td>84.62</td>
<td>60.78</td>
<td>10.71</td>
<td>3.98</td>
<td>21.73</td>
</tr>
<tr>
<td></td>
<td>Contact Us Forms</td>
<td>23.08</td>
<td>34.31</td>
<td>20.54</td>
<td>9.45</td>
<td>18.69</td>
</tr>
<tr>
<td></td>
<td>Citizen Complaints</td>
<td>30.77</td>
<td>34.31</td>
<td>17.86</td>
<td>10.45</td>
<td>18.69</td>
</tr>
<tr>
<td></td>
<td>Search Engine</td>
<td>53.85</td>
<td>44.12</td>
<td>10.71</td>
<td>6.97</td>
<td>18.22</td>
</tr>
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<td></td>
<td>Online Taxes</td>
<td>46.15</td>
<td>42.16</td>
<td>5.36</td>
<td>1</td>
<td>13.32</td>
</tr>
<tr>
<td></td>
<td>Public Records Searches</td>
<td>92.31</td>
<td>25.49</td>
<td>8.93</td>
<td>2.49</td>
<td>12.38</td>
</tr>
<tr>
<td></td>
<td>Contract Opportunities</td>
<td>76.92</td>
<td>23.53</td>
<td>3.57</td>
<td>3.48</td>
<td>10.51</td>
</tr>
<tr>
<td></td>
<td>Pay Utility Bills</td>
<td>15.38</td>
<td>17.65</td>
<td>5.36</td>
<td>1</td>
<td>6.54</td>
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<tr>
<td></td>
<td>Public Records Forms</td>
<td>15.38</td>
<td>15.69</td>
<td>0</td>
<td>2.49</td>
<td>5.37</td>
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<tr>
<td></td>
<td>Pay Parking/Court Fines</td>
<td>15.38</td>
<td>14.71</td>
<td>0.89</td>
<td>0</td>
<td>4.21</td>
</tr>
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<td>Building Permits Online</td>
<td>7.69</td>
<td>5.88</td>
<td>3.57</td>
<td>0.5</td>
<td>2.83</td>
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<td></td>
<td>Licenses Online</td>
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<td>0.89</td>
<td>0</td>
<td>2.57</td>
</tr>
<tr>
<td></td>
<td>Public Records Requests</td>
<td>23.08</td>
<td>5.88</td>
<td>0.89</td>
<td>0.5</td>
<td>2.57</td>
</tr>
<tr>
<td></td>
<td>Online Form Submittal</td>
<td>0</td>
<td>2.94</td>
<td>0.89</td>
<td>1</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Table 2. Local government Website attribute distribution

continued on following page
Table 2. continued

<table>
<thead>
<tr>
<th>Model</th>
<th>Website Attributes</th>
<th>% of Counties with Website Attribute</th>
<th>% of Cities with Website Attribute</th>
<th>% of Villages with Website Attribute</th>
<th>% of Townships with Website Attribute</th>
<th>% of NE Ohio Local Governments with Website Attribute</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Phone Directory</td>
<td>100</td>
<td>93.14</td>
<td>49.11</td>
<td>38.81</td>
<td>56.31</td>
</tr>
<tr>
<td></td>
<td>Email Contact Addresses</td>
<td>84.62</td>
<td>83.33</td>
<td>48.21</td>
<td>34.83</td>
<td>51.4</td>
</tr>
<tr>
<td></td>
<td>Calendar</td>
<td>53.85</td>
<td>86.27</td>
<td>42.86</td>
<td>30.85</td>
<td>47.9</td>
</tr>
<tr>
<td></td>
<td>Online Meeting Minutes</td>
<td>84.62</td>
<td>82.35</td>
<td>37.5</td>
<td>32.84</td>
<td>47.43</td>
</tr>
<tr>
<td></td>
<td>Special Links - Visitors, etc.</td>
<td>84.62</td>
<td>58.82</td>
<td>21.43</td>
<td>10.95</td>
<td>27.34</td>
</tr>
<tr>
<td></td>
<td>Employment Opportunities</td>
<td>84.62</td>
<td>60.78</td>
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<td>21.73</td>
</tr>
<tr>
<td></td>
<td>Contact Us Forms</td>
<td>23.08</td>
<td>34.31</td>
<td>20.54</td>
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<td>18.69</td>
</tr>
<tr>
<td></td>
<td>Citizen Complaints</td>
<td>30.77</td>
<td>34.31</td>
<td>17.86</td>
<td>10.45</td>
<td>18.69</td>
</tr>
<tr>
<td></td>
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<td>18.22</td>
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<td></td>
<td>Citizen Feedback Request</td>
<td>38.46</td>
<td>28.43</td>
<td>8.04</td>
<td>6.97</td>
<td>13.32</td>
</tr>
<tr>
<td></td>
<td>Audio Files</td>
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<td>41.18</td>
<td>3.57</td>
<td>1.99</td>
<td>12.62</td>
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<td></td>
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<td>11.21</td>
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<tr>
<td></td>
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<td>10.51</td>
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<td>9.58</td>
</tr>
<tr>
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<td>18.63</td>
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<td>5.47</td>
<td>8.64</td>
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<tr>
<td></td>
<td>RSS Feeds</td>
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<td>4.46</td>
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<td>3.74</td>
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<td>6.86</td>
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<td>1</td>
<td>2.34</td>
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<td></td>
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<td>0.98</td>
<td>0</td>
<td>1</td>
<td>0.93</td>
</tr>
<tr>
<td></td>
<td>Language Translator</td>
<td>15.38</td>
<td>1.96</td>
<td>0</td>
<td>0</td>
<td>0.9</td>
</tr>
<tr>
<td></td>
<td>Live Video Streaming</td>
<td>0</td>
<td>1.96</td>
<td>0</td>
<td>0</td>
<td>0.47</td>
</tr>
<tr>
<td></td>
<td>Email Contact Addresses</td>
<td>84.62</td>
<td>83.33</td>
<td>48.21</td>
<td>34.83</td>
<td>51.4</td>
</tr>
<tr>
<td></td>
<td>Citizen Feedback Request</td>
<td>38.46</td>
<td>28.43</td>
<td>8.04</td>
<td>6.97</td>
<td>13.32</td>
</tr>
<tr>
<td></td>
<td>Blog(s)</td>
<td>7.69</td>
<td>6.86</td>
<td>0</td>
<td>1</td>
<td>2.34</td>
</tr>
</tbody>
</table>

*Italicized elements characterize more than one model. Source: Authors’ analyses of NE Ohio websites.
lages that have website, the usage of (electronic bureaucracy) website attributes increases as the mean number of applications grows to one and two, respectively.

Finally, we find minimal evidence that local governments are promoting a populist model through their website. Cities and counties in northeast Ohio have adopted on average one application that fits within a populist model. In most cases these are applications that solicit citizen feedback. In a very small number of cases, local governments use blogs as way to encourage participation and debate among citizens. However, there appears to be little evidence that local governments are pursuing a populist model in an intensive or widespread way.

IV. WHY DO SOME GOVERNMENTS MAKE GREATER USE OF THE INTERNET THAN OTHERS?

We now draw on the work of Kakabadse et al. (2003) and the theoretical literature on sub-national policy variation to construct models which enable us to test the influence of policy relevant variables on web based citizen engagement strategies. We first describe our measures of citizen engagement – our dependent variables, and we construct these variables based on the work of Kakabadse et al. (2003). We then draw on theories of sub-national policy-making and recent adaptations of them in the e-government literature to identify appropriate independent variables to test in our models. And finally, we present the results of our analyses, and offer insights from our discussions with local government information management professionals.

Dependent Variables

To determine what factors influence the type of citizen engagement promoted through a government website, we constructed an engagement index for each of our theoretical models of engagement. For each website attribute associated with each of our models, a “yes” response received a point. Therefore the maximum obtainable score for information management is 23, the maximum for electronic bureaucracy is a 15, and the maximum for populist is a three. The maximum for all website attributes is 33 (Note: some website attributes are located in more than one model).
The results indicate that information management is the dominant model used by local governments in developing their websites. The mean score for information management is 4.05. Therefore, on average just over four information management website attributes existed on local government websites. Electronic bureaucracy is also important, although less so than information management. We find that website attributes drawn from the electronic bureaucracy model averaged 1.8. And we find that the populist model of citizen engagement is promoted only minimally among local governments, as the average number of attributes identified that are consistent with that model is .67. These results are summarized in Table 3 below.

After developing indexes for our models of engagement we wanted to increase the comparability across models. We therefore standardized each of the scores on a 100 point scale where 0 is the least amount of applications and 100 is the most amount of applications possible for each model. This is a linear transformation on our dependent variables that has no affect on the estimates except to make them interpretable in a percentage metric. For example, a mass communication score of 60 means the government had 60% of the applications possible to observe for the citizen engagement model. A score of 40 on the electronic bureaucracy index means the government had 40 percent of the applications possible to observe for the electronic bureaucracy model. This allows us to compare across models that have different numbers of website attributes possible.

It is important to stress at this point that without a systematic survey of website managers and government officials it is impossible to be certain of the intent behind the development of websites. During the course of this study we conducted several interviews. However, the findings presented here are preliminary and infer a type of model of civic engagement based upon the types of attributes found on the governments’ websites.

**Independent Variables**

Drawing on theories of sub-national policy variation and recent e-government literature, we now identify and then proceed to test hypotheses regarding factors that influence various forms of web based citizen engagement. These hypotheses can be grouped into three broad categories: government capacity, socio-economic, and population density.

**Government capacity hypotheses** – For many years, scholars analyzing sub-national policy variation have asserted that policy development depends on government capacity (Bowman & Kearney, 1988). This broad hypothesis has also been applied by scholars of e-government. Larger governments, with greater capacity and greater demands on their bureaucracy, are likely to have more applications on their website than smaller governments (Norris & Moon, 2005). This means we would

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>N</th>
<th>Minimum Value</th>
<th>Maximum Value</th>
<th>Mean Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information Management</td>
<td>428</td>
<td>0</td>
<td>20</td>
<td>4.05</td>
</tr>
<tr>
<td>Electronic Bureaucracy</td>
<td>428</td>
<td>0</td>
<td>15</td>
<td>1.8</td>
</tr>
<tr>
<td>Populist</td>
<td>428</td>
<td>0</td>
<td>3</td>
<td>.67</td>
</tr>
<tr>
<td>All Attributes</td>
<td>428</td>
<td>0</td>
<td>25</td>
<td>5.035047</td>
</tr>
</tbody>
</table>

Source: Authors’ analysis of local government websites in northeast Ohio

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expect county governments to have more applications across the three models of citizen engagement than cities, villages, and townships, respectively. And we expect cities to have more applications across the three citizen engagement models than villages and townships. And finally, we expect villages to have more applications on their websites than townships because, as incorporated areas, villages tend to be responsible for more public services than townships. In our model we include dummy variables for county, city, and village, leaving township as the reference variable.

**Socio-economic hypotheses** – For many years, students of sub-national policy variation have also asserted that racial (Hero, 1998), educational (Gray, 1996), and economic (Dye, 1967) characteristics of a community influence policy development, and these variables have also been applied by scholars to the study of e-government (Reddick 2005; Tolbert & McNeal, 2003). A digital divide that exists along racial lines means that communities of color are less likely to see governments rely on the Web as means of citizen engagement. Wealthier communities and those with higher levels of education, by contrast, should be more likely to rely on the internet and to expect government to adopt new technological innovations through which to communicate.

We measure the influence of race in our model by including the percentage of the population that is white. Our indicator for education is the percentage of the population that has graduated from college with a Bachelor of Arts (BA) or equivalent degree. And, our measure of economic status is the per capita income in the community.

**Population density hypothesis** – Basic economic theory suggests that highly populated areas create economies of scale for governments in the development of their websites, independent of the government type. We thus expect a more extensive development of government websites in more densely populated areas. We measure density by dividing total population into the land area of the community.

### Model Results

To improve our understanding of local government choices regarding web-based citizen engagement strategies, we tested our hypotheses across all three models of citizen engagement and with an overall count of the number of website attributes. We used ordinary least squares regression to conduct the analysis because our dependent variables are continuous and our data are from individual government websites not panel data over time. Each of our models is statistically significant. The results are presented in Table 4.

**Electronic bureaucracy model.** Our model for electronic bureaucracy explains nearly 54 percent of the variance (R-square is .54) and suggests that government capacity and education matter.

Coefficients for village, city, and county are statistically significant and positively related to the dependent variable. The coefficients also increase substantially with the size of the government. A county government increases our dependent variable by 31.45 percentage points, city government by 18.42, and village by 2.5. The findings also point to a gap between villages and cities, and suggest that the decisions about pursuing electronic bureaucracy forms of engagement are in part traceable to government capacity.

Education also predicts electronic bureaucracy forms of citizen engagement. Our measure of education is statistically significant and positive. The coefficient of .45 means that a 10 percent increase in the number of BA or equivalent degrees in the community leads to 4.5 percent increase in our electronic bureaucracy index.

And finally, we expected governments in wealthier jurisdictions to make greater use of the Web to promote electronic bureaucracy forms of citizen engagement. However, we find that per capita income does not influence e-bureaucracy forms of engagement as we expected. Rather, it is inversely related to our index of electronic bureaucracy, after control-
Table 4. Predicting local government citizen engagement efforts, by type of effort

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Electronic Bureaucracy Model</th>
<th>Mass Communication Model</th>
<th>Populist Model</th>
<th>All Attributes Model</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient (Robust SE)</td>
<td>T-stat (Prob)</td>
<td>Coefficient (Robust SE)</td>
<td>T-stat (Prob)</td>
</tr>
<tr>
<td>Village</td>
<td>2.48*</td>
<td>1.93</td>
<td>1.08</td>
<td>0.65</td>
</tr>
<tr>
<td></td>
<td>(1.29)</td>
<td>(0.055)</td>
<td>(1.66)</td>
<td>(0.517)</td>
</tr>
<tr>
<td>City</td>
<td>18.42***</td>
<td>8.27</td>
<td>16.84***</td>
<td>7.73</td>
</tr>
<tr>
<td></td>
<td>(2.23)</td>
<td>(0.00)</td>
<td>(2.17)</td>
<td>(0.00)</td>
</tr>
<tr>
<td>County</td>
<td>31.45***</td>
<td>8.30</td>
<td>26.05***</td>
<td>7.15</td>
</tr>
<tr>
<td></td>
<td>(3.78)</td>
<td>(0.00)</td>
<td>(3.64)</td>
<td>(0.00)</td>
</tr>
<tr>
<td>Education</td>
<td>0.4523***</td>
<td>4.74</td>
<td>0.6387***</td>
<td>5.79</td>
</tr>
<tr>
<td></td>
<td>(.095)</td>
<td>(0.00)</td>
<td>(.1103)</td>
<td>(.00)</td>
</tr>
<tr>
<td>Population Density</td>
<td>0.9567</td>
<td>1.75</td>
<td>1.66***</td>
<td>2.51</td>
</tr>
<tr>
<td></td>
<td>(.062)</td>
<td>(.125)</td>
<td>(.066)</td>
<td>(.012)</td>
</tr>
<tr>
<td>% White Population</td>
<td>-0.08</td>
<td>-1.52</td>
<td>-0.871*</td>
<td>-1.70</td>
</tr>
<tr>
<td></td>
<td>(.052)</td>
<td>(.129)</td>
<td>(.0511)</td>
<td>(.009)</td>
</tr>
<tr>
<td>Per Capita Income</td>
<td>-0.00001054***</td>
<td>-2.05</td>
<td>-0.0000872</td>
<td>-1.34</td>
</tr>
<tr>
<td></td>
<td>(.000005)</td>
<td>(.041)</td>
<td>(.000065)</td>
<td>(.182)</td>
</tr>
<tr>
<td>Constant</td>
<td>9.288*</td>
<td>1.79</td>
<td>12.57**</td>
<td>2.45</td>
</tr>
<tr>
<td></td>
<td>(5.196)</td>
<td>(0.075)</td>
<td>(5.12)</td>
<td>(0.015)</td>
</tr>
<tr>
<td>Model Level Results</td>
<td>Prob. &gt; F = 0.00***</td>
<td>Prob. &gt; F = 0.00***</td>
<td>Prob. &gt; F = 0.00***</td>
<td>Prob. &gt; F = 0.00***</td>
</tr>
<tr>
<td></td>
<td>R-squared = 0.5386</td>
<td>R-squared = 0.4929</td>
<td>R-squared = 0.2575</td>
<td>R-squared = 0.5557</td>
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<tr>
<td></td>
<td>N=426</td>
<td>N=426</td>
<td>N=426</td>
<td>N=426</td>
</tr>
</tbody>
</table>

Interpreive Information
Significance: *< .10; **< .05; ***< .01

Dependent Variable – Standardized measure of the proportion of attributes present on local government websites as a percentage of the total number of attributes in each conceptual category (E-bureaucracy, Mass Comm., Populist, All). It is defined by the following formula: (X / n) * 100, where X is the number of attributes in a particular category for a local government website and n is the number of attributes in that category. This is a standardized variable.

Source: Authors’ analysis

ling for government capacity, education, race, and population density.

**Communication management.** Our model of communication management forms of citizen engagement explains nearly fifty percent of the variance (R-squared is .49) and suggests that government size, education and population density matter.

Coefficients for county and city are statistically significant and positive. A county government increases our communication index by 26 percentage points and a city government increases our index nearly 17 percentage points. Village is not statistically significant. Our socio-economic variables indicate that the number of college graduates in the community lead to a greater number of communication management attributes, even after controlling for the type of government and population density. At the same time, per capita income is not statistically significant. Finally, population density is a useful predictor of a communication management form of engagement. The 1.66 coefficient means that an increase of 1000 residents per square mile leads to a 1.6 percent increase the communication attributes. Race is statistically
significant (at the .10 probability level), but its influence does not operate in the direction that we had expected. Here, surprisingly, we find that an increase in the percentage of the population that is white tends to result in reductions in the mass communication engagement index.

An interesting finding is that the coefficients for government size are smaller than with our electronic bureaucracy index. This suggests that government size may play less of a role in predicting website attributes in the communication form of citizen engagement than in the electronic bureaucracy form. At the same time, coefficients for education and population density are larger in the communication management model than in the electronic bureaucracy model, which suggests that education and population density have a larger impact in promoting communication than electronic bureaucracy services through the web.

**Populist.** Our populist model explains the least amount of variation across our models (R-square is .26) and suggests that only government size and education are good predictors of the degree to which governments seek to promote citizen participation and dialogue through their website.

Coefficients for city and county are statistically significant and positive. The coefficient for county is 20.9 and for city it is 16.2, suggesting again that the larger the governmental unit the more populist attributes will be found on the governmental website. Village was not statistically significant.

Of our socio-economic variables, only education is statistically significant and positive. The coefficient for education is .74 which means that a one percent increase in the number of college graduates in the community leads to a .74 percent increase in level of populist citizen engagement. An interesting finding is that education appears to have a greater impact on a populist use of government website than other models. The coefficient for education in the populist model is 64 percent higher than in the electronic bureaucracy model of engagement.

**Discussions with Local Government Information Management Professionals**

We conducted four interviews with information management professionals from communities in our sample. Several significant points emerged from these discussions.

First, while those whom we interviewed emphasized both the dissemination of information to large audiences and the use of the internet to enable more efficient and effective bureaucratic services, none of the four focused extensively on fostering citizen-to-citizen engagement as the primary purpose for their current website engagement efforts. Where populist conceptions of citizen engagement were raised, they tended to be discussed in terms of being potentially valuable directions for future development, rather than descriptions of current purposes or activities.

Second, while populist conceptions of website purposes were not prevalent, several of those interviewed emphasized the important role of their worldwide web sites in enhancing democratic governance. By and large, their comments in this area focused on information provision, and the growing role of their websites in educating citizens about issues in their communities and in enabling more effective input from citizens to their governments. Several pointed to increases in email traffic to local officials and to improvements in the quality of input because of information available to citizens on the web. Several of those interviewed also pointed out that systems for tracking responses to citizens with email inquiries had been established to help ensure government responses to citizen inquiries.

It is useful to note in this context, however, that concerns about the value of open ended citizen-to-citizen uses of websites were also highlighted. At least one of the officials interviewed, for example, expressed concern about the potential abuse of blogs by small numbers of individuals who may seek to impersonate public officials and/or make comments that are inappropriate for community consumption.
thus enabling a degradation of the quality of democratic dialogue. Consequently, while most of those interviewed suggested that the web could inform citizens and enable improvements in democratic processes, at least some of them also suggested that it could not – and perhaps should not seek to – replace person to person contacts in local government settings.

A third and final insight offered by some of those interviewed focused on the politics underlying website engagements. As information management professionals, some viewed their role as primarily a technical one, and they at least implicitly suggested that true efforts to foster democratic engagement are appropriately directed by elected officials. Others suggested that their primary role was to disseminate information and provide efficient services, and that some local politicians had not yet expressed strong interest in using the web for purposes of democratic engagement. In this rendering, local government websites are recognized as valuable tools for democratic input, but also as tools which may be used to funnel that input in ways that are both efficient and relatively easy for governments to handle – particularly given growing resource constraints among local governments in Ohio during the time in which this research was being conducted.

V. SUMMARY OF FINDINGS AND LESSONS LEARNED

Several findings and lessons emerge from the results described above, and they relate to both the state of current local government efforts to engage citizens on the web and to the factors that appear to influence web-based citizen engagement efforts.

First, the results of our website surveys are consistent with previous suggestions that the development of e-government capacities is not inevitable. Among the 428 local governments in our sample, only a handful of them appear to be heavily engaged in using a wide range of website elements to engage citizens. Most of them have a reasonably modest web presence, as the average number of website attributes identified was approximately 5 – less than one-sixth of the potential universe of website attributes we identified for investigation. In addition, one-third of the local governments we investigated still do not appear to have any worldwide web site presence at all. The worldwide web is now well over ten years of age and this study re-enforces the conclusion that we are still some distance from realizing the full potential that some observers have envisioned for the conduct of governance and citizen engagement.

Second, local governments undertake different kinds of web based citizen engagement efforts. However, while we found evidence of citizen engagement efforts focused on both information management and the delivery of e-bureaucracy services, we found little evidence of populist interventions – less than 3% of the websites in our sample included a blog, for example. In addition, we did not identify any standard, or “cookie-cutter”, set of website attributes. No single website attribute was used by more than 60% of governments assessed, and only 2 website attributes were used by more than 50% of the local governments we investigated. Web-based telephone directories and email contact address lists were the only two attributes that were present on websites for more than one-half of the local governments in our sample. While our effort in this paper to distinguish e-government citizen engagement strategies according Kakabadse et al.’s (2003) three major types provides initial insights regarding this variation, more extensive efforts to verify the results presented here and to differentiate web based citizen engagement efforts (both theoretically and empirically) are appropriate if we are to understand fully why local governments choose the strategies they do.

Third, our analyses confirm once again that government capacities do matter, but they also suggest that the extent to which they matter depends at on the kinds of citizen engagement strategies that local governments emphasize. Not surprisingly, larger governments (counties and cities) with greater capabilities tend to have
a more extensive website presence than smaller
governments with less developed capacities.
This is the case across measures of all three
types of models of website engagement that are
assessed, although these capacity-based factors
appear to be most important in explaining the
development of E-bureaucracy-related website
attributes. Thus, it appears that the capacities
of local governments affect not only the extent
of citizen engagement effort, but also the types
of efforts that are undertaken.

Fourth, of the socioeconomic variables we
assessed, education appears to have the strongest
and clearest impacts on citizen engagement
efforts. The education level of the community is
a strong and statistically significant predictor of
citizen engagement according to all three of
the models of it that we investigated. However,
our standardized analyses also suggest that
education is particularly important in predicting
citizen engagement strategies that are consistent
with populist and information management
website engagement strategies. This, in turn,
suggests that highly educated communities may
be quicker to develop website-based tools that
are designed to foster democratic governance
processes than less educated communities. By
contrast, our measures of race and economic
capacity yield relatively weak results which are
not consistent with our initial hypotheses.

Fifth, while our analyses suggest that
government capacities and education are
important determinants of web-based citizen
engagement efforts, they also suggest that the
policy dynamics underlying varying forms of
engagement may differ from one another. Gov-
ernment capacities appear to contribute more to
E-bureaucracy efforts than to information provi-
sion and populist engagement efforts. On the
other hand, education appears to be a particularly
strong determinant of populist and information
management forms of citizen engagement – both
of which are more democratically oriented forms
of engagement than E-bureaucracy. In addi-
tion, while population density does not appear
to have a significant influence on all forms of
engagement, it does appear to be significantly
related to information management efforts. By
contrast, neither diversity nor wealth appears to
provide theoretically and empirically defensible
explanations for any of the three major forms of
web-based citizen engagement. While we view
all of these findings as suggestive rather than
conclusive, we do believe that they provide a
foundation for further research and inquiry into
the policy dynamics underlying varying forms
of web-based citizen engagement.

And finally, even though some of our analy-
ses call the extent of local government prog-
ress in fostering citizen engagement through
e-government into question, they also confirm
its fundamental value as a potential tool of
democratic governance. Efforts to provide basic
information to engage citizens in governance
are clearly one of the most common uses of
the local government websites we investigated,
and these kinds of website attributes – phone
directories, email contact addresses, calendars,
and meeting minutes – were also some of the
most common elements of the websites across
all sizes and types of local governments. If an
educated populace is a central key to democracy
as our forefathers suggested, this is a good sign.
Our discussions with website professionals
associated with some of the more developed
local government websites we investigated also emphasized the importance of
information provision to their work, and they
seemed to view it along with simplifying the
business of government as a central purpose
of their work. At the same time, however, they
were also clear in their view that democratic
engagement is fundamentally a political process
and that their website-related activities are not
immune from these kinds of influences.

CONCLUSION

While the research presented here confirms
many of the conclusions reached in previously
published literature, it also suggests that the
e-government literature has not yet accounted
fully for a fundamental characteristic of demo-
ocratic governance – the politics underlying local
government administration. Local governments
are using their websites to accomplish their purposes, and the extent to which they are doing so appears to depend on their capabilities, the education levels of their citizens, and the density of their populations. At the same time, however, it is also clear that the growth in e-government engagement is neither uniform nor inexorable. Many local governments are not advancing their efforts as quickly as some observers have suggested would occur, and many smaller governments are not moving forward in this area at all. While the research underlying this paper must be viewed as preliminary, it does provide a foundation for future research that takes account of the differing purposes of government and the ways in which political and policy dynamics may affect e-government now and in the future.

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REFERENCES


ENDNOTES

1 Vicente Pina and his colleagues (2007) also find that local governments in the European Community have not moved beyond an informational presence. The note that “most ICT initiatives still view people from a passive perspective” (465).

2 The individual we enlisted serves as the Information Technology Manager for a northeast Ohio County. He is recognized as an e-government leader in the state of Ohio and has been in his current position for more than 15 years.

3 Throughout the remainder of the paper, the reader will observe noted sample sizes of 428 or 426, depending on whether the data were able to compile for these two villages was sufficient to support the analyses shown.

4 This search took place in three stages. First, graduate students affiliated with Kent State University’s Center for Public Administration and Public Policy were assigned local governments and searched for their worldwide websites using the tools noted in the text. Next, our information technology specialist reviewed the websites identified to ensure that they actually represented the websites of the jurisdictions in our sample. And finally, this same specialist conducted an independent search to identify any sites that might have been missed.

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The evaluate criteria used in our study builds on the work of Marc Holzer and his colleagues (2008).

It is appropriate to recognize, however, that the capacities of counties and cities are likely to lead them to have more extensive bureaucracies than villages and townships, so it is possible that higher levels of E-bureaucratic forms of web-based citizen engagement may be related not only to greater capacities, but also to a greater need to make bureaucracy efficient.

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