

# The Relationship between Internal Technology Use and Civic Engagement in Local Government Agencies in the United States

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**Synopsis.** This analysis explores the relationship between the internal use of technology in local government agencies and agencies' application of technology for civic engagement. Using data from a 2010 national survey of local government managers sponsored by the Institute for Policy and Civic Engagement (IPCE), we examine the relationship between the presence and use of information technologies for internal use and the presence and use of technologies for communication and interaction with citizens and other stakeholders.

**Background.** Online information technology applications are generally applied for both internal and external purposes in the public sector. Internally, online technologies are applied to manage the business of government. As new service demands arise, governments are increasingly recognizing the need to develop sophisticated online systems to collect, manage, and distribute information within and across agencies. The use of technology for internal management depends upon both the existence of computing hardware, on the software that can streamline work process, communication, and decision making.

Externally, online information technology is applied to conduct the business of government and to provide citizens with services. A recent report from *Pew Internet & American Life Project* from the Pew Research Center notes that in 2009, 82% of all Americans who were online used a government website to either look for information or conduct a transaction with a government agency. Also, with the implementation of the American Recovery and Reinvestment Act, a sophisticated public website was established to allow citizens to track the flow of stimulus money. While service transactions and information provision have been implemented for some time, use of online technologies to engage citizens and other stakeholders has been slow to take off. Governments have been less enthusiastic about adopting online technologies to engage citizens and other stakeholders for policy and decision making purposes.

While this brief does not go into all the different explanations about why online participation has been slow to take off, it does assess whether there is a relationship between government's use of technology for internal management and its use of online technology to interact with citizens and other stakeholders. We expect that there is a relationship because an agency's experience with technology for service and management may increase the agency's comfort with the use of technology for citizen and stakeholder engagement. Therefore this analysis explores the

question: Is the use of online technology for civic engagement associated with the use of computers and online technologies for internal management and service delivery?

**Data**

The analysis uses data from a web survey on e-government technology and civic engagement conducted by the Science, Technology and Environmental Policy Lab at the University of Illinois at Chicago and supported by IPCE. The survey was administered to government managers in 500 local governments with citizen populations ranging from 25, 000 to 250,000. Because larger cities often have greater financial and technical capacity for e-government, all 184 cities with a population over 100,000 were selected while a proportionate random sample of 316 out of 1,002 communities was drawn for smaller cities with populations under 100,000. For each city, lead managers were identified in each of the following five departments: general city management, community development, finance, parks and recreation, and the police department. A total of 2,500 city managers were invited to take part in the survey. The survey began on August, 2<sup>nd</sup> in 2010 and closed on October, 11<sup>th</sup>, 2010. A total of 902 responses were received for a final response rate of 37.9%.

**Finding 1. Employee use of computers and the internet in local governments is pervasive.**

To understand the computer use and capacity of local governments, we asked respondents two questions about the proportion of their employees’ use of computers and the internet for their work. As shown in Table 1, a large majority of employees used computers while just under three quarters of them used the internet for their work. Overall these findings are expected and show the high level of computerization of local governments in the US.

Table 1. Computer and Internet Use in Local Governments

Approximately what proportion of the employees in your department use:	Total Respondents	Number indicating 100%	Number indicating 50% and less	Mean percent
a computer for their work?	865	564	70	90
the Internet for their work?	836	327	271	73

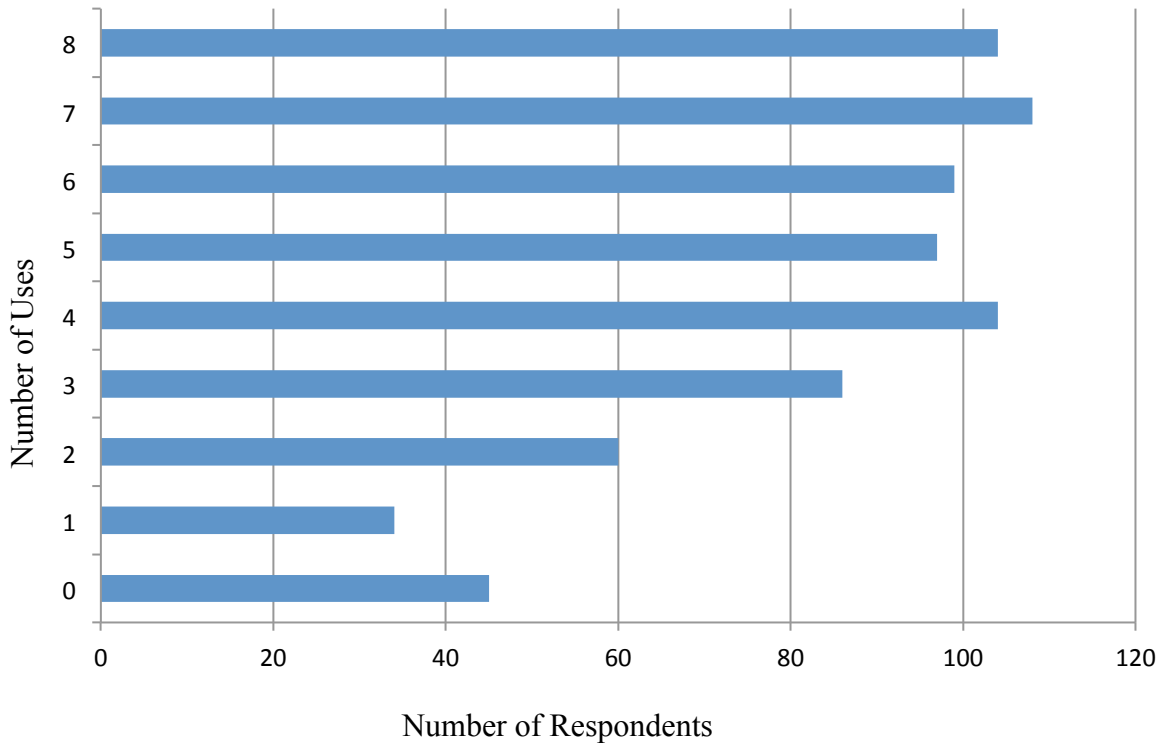
**Finding 2. There is a substantial level of use of Intranets in local governments.**

To understand the extent to which local governments employ intranets for their work, we asked the question: “Does your local government or department have an Intranet (a web server accessible only to local government’s employees, sometimes called a ‘portal’)”? Of the 865 responses to this question, 700 responded ‘yes’, 124 responded ‘no’ and 41 respondent ‘don’t know’.

Beyond the existence of an Intranet, we also asked respondents to indicate whether they used their Intranet for any of the following eight activities: posting job openings for internal recruitments, providing employee benefit forms, providing online report generation, providing online procurement tools, enabling project teams to collaborate, enabling financial reporting,

expanding telecommuting staff access to information and data, and providing online training. Findings are presented in Figure 1. With a median of 5.0, it is clear that agencies with intranets actively use them for a variety of different management activities.

Figure 1. Local Government Use of Intranets

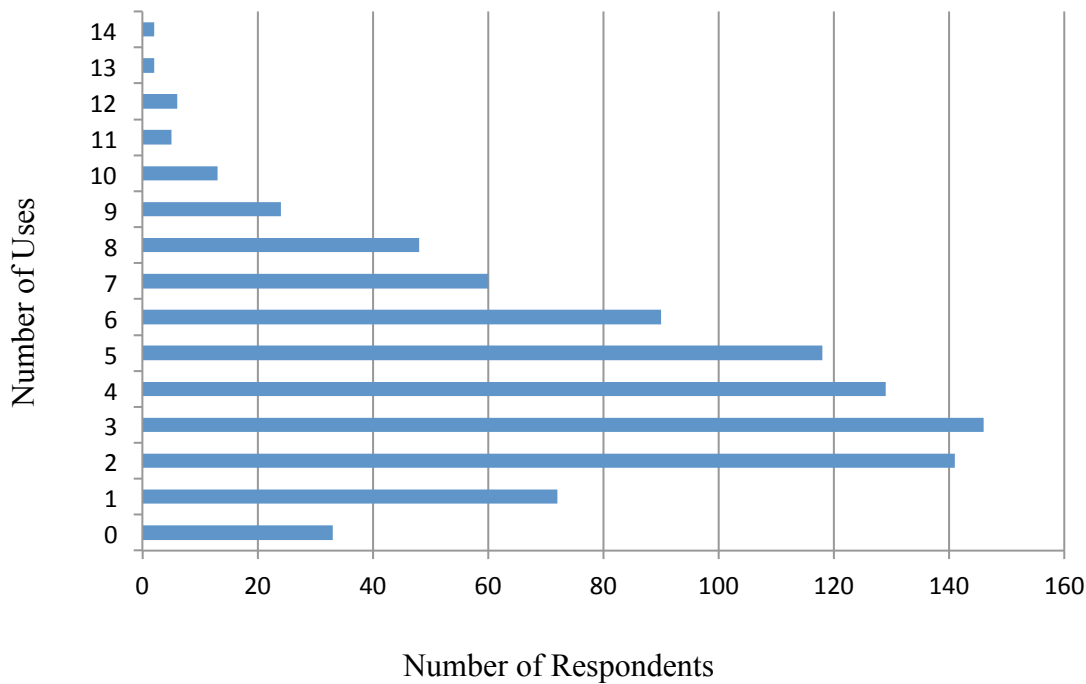


**Finding 3. There is a highly skewed distribution of technology use by the organization for participation with citizens and external stakeholders.**

Because we were interested in learning about the use of technologies by government for participation with citizens and other external stakeholders, we asked the question: “To the best of your knowledge, does your organization use the following electronic technologies to enable or facilitate participation by citizens and external stakeholders?” Participation was defined as the process in which citizens and external stakeholders take part in agency decisions.

The question listed 14 technology choices included blogs, online chats, discussion forums, email, online newsletters, audio webcasts, text messaging, really simple syndication (RSS) feeds, social networking sites (e.g. facebook, myspace, twitter), video sharing sites (e.g. You Tube), video webcasts, web surveys or polls, wikis, and electronic polling during face-to-face meetings. The distribution of responses is presented in Figure 2. The median number of technologies used is 4.0.

Figure 2. Number of technologies used by the organization



**Finding 4. Local governments use technologies to enable citizens and stakeholders to participate in government to a moderate extent.**

To understand more about how often technologies are used by the organization to engage citizens and other stakeholders, we asked the question: “During the last year, how often did your organization use electronic technologies to enable the following citizen and stakeholder groups to participate in government activities and events?” Several choices (12) were offered including: individual citizens, neighborhood associations, news media, interest groups, consultants, professional associations, internal department staff, other city departments, mayor, governor’s office, state legislators, and federal government agencies. The frequency scale ranged from one to five, where five was ‘very often’ and one was ‘never’. Results show that the mean frequency was 2.9, which is near ‘sometimes’ on the scale, indicating a moderate level of technology use to enable participation.

**Finding 5. Correlations between Internal and External Use of Technology**

To understand whether there is an association between the use of technology for internal purposes and the use of technology for external purposes, we conducted bivariate correlations. We can see from the table that while the percentage of employees who use computers is not significantly correlated with e-participation technologies and e-participation frequency, all other measures – internet use, have intranet, and Intranet use – are significantly and positively related to e-participation technologies and e-participation frequency. In general, these findings show that local governments that have greater experience with online technologies for internal

purposes are also more likely to adopt technologically-based participation activities. However, it is not possible to determine whether, for example, intranet use *directly* leads to more participation, we can only see that they are significantly associated with each other. Nevertheless, it is clear that those local government departments that are more comfortable with online technologies will be more likely to use them for multiple internal and external purposes.

**Table 2. Correlations of Internal and External Technology Use**

	Computer Percent Use	Internet Percent Use	Have Intranet	Intranet Use	e-Participation Frequency
Internet Percent	0.57 ***				
Have Intranet	0.10 ***	0.05			
Intranet Use	-0.02	0.00	0.65 ***		
e-Participation Frequency	-0.01	0.10 **	0.10 ***	0.20 ***	
e-Participation Technologies	-0.04	0.09 **	0.22 ***	0.33 ***	0.37 ***

\*\* p < 0.05; \*\*\* p < 0.01

### Conclusions

Overall, our findings show that while there is a high level of computer and intranet use in local governments, there is only a moderate use of technologies for civic engagement and participation purposes. Additionally, we find a significant association between the internal technology variables and e-participation variables. Using technology internally, particularly the internet and intranet, may better enable agencies to proficiently provide technology for external stakeholders in two important ways. First, consistent use of online technologies by agency employees may raise their level of comfort and willingness to consider using online applications for participation and engagement. Second, technical capacity developed for internal management or service purposes is often transferable to other types of uses including participation and engagement. Hence, the association between the use of online technology for both internal and external uses is likely related to both the attitude of the organization toward the use of technology and the technical capacity of the organization.

*Questions about this research should be directed to Mary K. Feeney, PhD, Associate Professor, UIC Department of Public Administration - [mkfeeney@uic.edu](mailto:mkfeeney@uic.edu)*

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