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## Are Public Officials Obstacles to Citizen-Centered E-Government? An Examination of Municipal Administrators' Motivations and Actions

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# **Are Public Officials Obstacles to Citizen-Centered E-Government? An Examination of Municipal Administrators' Motivations and Actions**

By: Stephen Kwamena Aikins and Dale Krane

## **Abstract**

This study investigates why municipal officials have not fully taken advantage of the interactive features of the Internet to bring citizens closer to their governments. Studies show that although the Internet has great potential to improve government–citizen relations, many governments at all levels have not taken advantage of this potential to improve Web site deliberative features to enhance online citizen participation in the policy process. Based on the data analysis from a survey of local government chief administrative officers in five Midwestern states, the authors find evidence that city officials have not taken advantage of the Internet to bring citizens closer to their governments because these officials strongly prefer traditional citizen participation to Internet-based citizen participation. In addition, deployment of resources to support online participation is restrained by the low preference for Internet-based citizen participation. These findings call into question the widespread assumption that public officials enthusiastically embrace the movement toward e-democracy.

## **Keywords**

administrators, citizen participation, Internet, city Web sites, city officials, resource deployment, beliefs in citizen participation, Internet-based citizen participation

The use of Internet technology to further citizen participation is believed to hold great promise to enhance citizen participation and democratic governance by allowing citizens to access public information and interact with government officials, by promoting better accountability of public officials to citizens through efficient and convenient delivery of services, and by producing fertile ground for reinvigorated civil society (Weber and Loumakis 2003; Budge 1996; Barber 1984; Scavo and Shi 1999; La Port et al. 2000). Consequently, some pundits and scholars have touted the Internet as a means to strengthen the political community, foster democratic renewal, and reverse the recent downward trends in civic engagement by offering a more convenient and less costly alternative to traditional outlets of citizen participation (Klotz 2004; Johnson and Kaye 2003; DiMaggio et al. 2001; Trippi 2004). Research suggests that an engaged, active citizenry committed to participating in democratic elections is typically more likely to feel an obligation to promote the public good (Hayes and Kogl 2007). Other studies suggest there is a growing evidence that the Internet has proved to be more fertile ground for building young people's knowledge of and engagement in public affairs than many traditional media (Andrews 2009; Bachan et al. 2008).

Empirical studies show that although the Internet has great potential to improve government– citizen relations, many governments at all levels have not taken full advantage of this potential to improve Web site features to enhance Web-enabled governance through online citizen participation in the policy process (Musso, Weare, and Hale 2000; Chadwick and May 2001; West 2005; Kearns, Bend, and Stern 2002; Needham 2004; Eggers 2005; Global E-Policy and E-Governance Institute and Rutgers University E-Governance Institute 2005, 2007; Jensen and Venkatesh 2007). Many critics claim that the development of electronic public services has until now been primarily guided by supply-side factors (Bertot and Jaeger 2006; Kunstelj, Jukic, and Vintar 2007) and technological possibilities (Bertot and Jaeger 2008; Ebbers, Pieterston, and Noordman 2008) rather than user needs. Thus, studies of e-government indicate more interest in developing government Web sites that integrate a market-based model of Web-enabled governance as a vehicle for government to “service” its “customers” than in using Web sites to foster citizen participation (La Port et al. 2000). In response to this reality, most research on e-government generally focuses on efficiency, transparency, “good governance,” and “customer satisfaction” with little attempt to investigate the reasons for the paucity of deliberative features on local government Web sites (Druke 2005; Danzinger and Andersen 2002; Norris and Moon 2005). This market-based approach to Web-enabled governance overshadows concerns regarding democratic governance, with implications for citizen participation, deliberation, and public accountability.

Other forms of Internet-enabled interactive media that have been growing over the past few years are social networks and blogging. Wyld (2007) examines the phenomenon of blogging in the context of the larger revolutionary forces at play in the development of what has been termed the second-generation Internet, where interactivity among users is key. He concludes that blogging is a growing tool for promoting not only online engagement of citizens and public servants but also offline engagement. While some public officials such as members of Congress, governors, city mayors, and fire and police departments do engage in blogging activities, the public sector has been slow and more cautious in entering this new world (Wyld 2007).

A growing number of scholars have begun to articulate and test theories about the role of online deliberation (Beierle 2004; Berkman Center for Internet and Society 2005; Schlosberg and Dryzek 2002; Sunstein 2001), information (Bimber 2002, 2003), communications technology (Froomkin 2003), and design (Noveck 2004) in democratic governance. These studies are mostly normative with little empirical grounding and virtually no attempt to investigate the reasons why many governments at all levels have not aggressively pursued the interactive potential of the Internet to bring citizens closer to their governments. For these reasons, the need for rigorous empirical research that investigates why governments have not fully utilized the Internet to bring citizens closer to their government is greater than ever before.

If one wants to explore the reasons governments have not taken advantage of the Internet to foster citizen participation, the key factors include whether public officials believe in citizen participation, whether they favor traditional or Internet-based citizen participation, and whether they deploy resources to support Internet-based citizen participation. Therefore, this study investigates whether local government officials prefer traditional citizen participation to Internet-based citizen participation, whether they deploy resources to support Internet-based citizen participation, and whether officials’ beliefs influence resource deployment for the use of the Internet to support citizen participation.

### **The Internet and Citizen Participation**

Citizen participation is defined as citizen involvement in decision making pertaining to the management of public affairs and service delivery (Langton 1978). Participation occurs when citizens and public

officials have participation needs and when participation mechanisms exist (S. K. King, Feltey, and Susel 1998). Traditional citizen participation primarily consists of direct interpersonal contact without the use of the Internet, through mechanisms such as hearings, citizen forums, community or neighborhood meetings, community outreaches, citizen advisory groups, and individual citizen representation. Internet-based citizen participation relies on the use of various Internet technologies to facilitate citizen participation through deliberative features such as policy discussion forums, chat rooms for citizen discussions on government policies and initiatives, online bulletin boards, online feedback and comment forms, online citizen-initiated contact of government officials, and online citizen surveys. Deliberative features of the Internet are those technologies that promote democratic governance by facilitating communication, interaction, and discussion between citizens and government officials.

The normative arguments over traditional citizen participation revolve around its benefits and costs. Advocates for traditional citizen participation assert that citizen involvement in democracy will produce more citizen-supported decision making on the part of administrators and a better appreciation of the larger community among the public (Stivers 1990; Oldfield 1990; Box 1998). Some scholars claim improved citizen participation could halt the deterioration of public trust and hostility toward the government (C. King and Stivers 1998). Citizen participation also allows the public to voice its needs, which provides legitimacy for government to develop publicly supported goals, missions, and service priorities (Langton 1978, 13–24). DeSario and Langton (1984) argue an enduring task in public management is to resolve the tension between public demand and management reality. Factors such as resource availability, management complexity, and population heterogeneity limit government's capacities to meet public demands. Through participation, citizens get the opportunity to reevaluate their demands, better understand management limitations, and help build consensus on proposed public programs and policies.

The above-mentioned benefits notwithstanding, incorporating citizen input into public decision making could have societal costs if not done carefully (Irvin and Stansbury 2004; Thomas 1995). As argued by Thomas (1995), in spite of proven accomplishments of citizen groups in some policy areas, there is a growing body of data to support the contention that public participation that is automatic, unrestrained, or ill-considered can be dangerously dysfunctional to political and administrative systems. It is not always easy to get people involved or to ensure that participants are representative of the community. In addition, expert professionals might worry about the results of sharing decision making for complex issues with the public (Thomas 1995). For example, government officials might be reluctant to include citizens in the budget process for fear that it will increase spending expectations beyond affordable levels.

The importance of the role of public administration in engendering citizen participation has more recently been outlined in the model of the new public service, or NPS (Denhardt and Denhardt 2007). NPS is based on the premise that democratic values and service in the public interest should be preeminent normative values in public administration. As suggested by Denhardt et al. (2009), fostering citizenship and democratic governance requires engaging with citizens in dialogue about the public interest and involving them in planning, implementing, and evaluating policies and programs. However, public managers attempting to foster citizen engagement face practical challenges pertaining to the scale of participation, who participates, the level of expertise needed to participate, and time constraints (Roberts 2004). Consequently, they struggle with the dilemma of how we can ensure that citizen engagement fosters the common good and thoughtful deliberative democracy rather than simply serving as mechanisms for measuring public opinion (Denhardt et al. 2009).

The Internet has been advocated as one cost-effective avenue by which governments can increase information, citizen access, and participation. Using the Internet, governments can begin to organize and

channel participation to further more democracy and community advancement at a minimum cost in terms of other public values such as economic efficiency, environmental security, and political equity (Klotz 2004; Johnson and Kaye 2003; DiMaggio et al. 2001; Trippi 2004; O'Looney 1995). Government's use of the Internet to support citizen participation may be shaped by the factors that influence traditional citizen engagement and interaction between citizens and government. Several empirical studies (Kweit and Kweit 1981; Nalbandian 1991; Ebdon 2002) have shown a positive relationship between council-manager form of government and the use of citizen participation. Other studies have found cities with large populations to be more likely to encourage citizen participation in decision making (Wang 2001; O'Toole, Marshall, and Grewe 1996; Ebdon 2000). In addition, studies by Verba, Schlozman, and Brady (1995) have revealed individual and societal income as well as occupation are some of the most important factors influencing whether people are active in political engagement. Furthermore, it is common for state governments or for city councils to mandate the availability of procedural and technological requirements to encourage citizen participation in decision making.

Given these previous studies, one would expect the form of government, population size, per capita income, budget, and legislative mandate to influence officials' deployment of resources to support Internet-based citizen participation. Therefore, we hypothesize that the larger the population of local government officials' cities, the more resources will be allocated to Internet-based citizen participation; the higher the per capita income of local government officials' cities, the more resources will be allocated to Internet-based citizen participation; the likelihood the existence of mandated citizen participation in local government officials' cities will be directly related to the allocation of resources toward Internet-based citizen participation; and the municipality's form of government will be directly related to the allocation of resources toward Internet-based citizen participation.

Notwithstanding its potential for democratic governance, the Internet raises key policy and administrative issues related to the use of the technology for citizen participation and access. For instance, the required investment in computer hardware, monthly service fees, and computer skills can be prohibitive, especially for minorities and low-income citizens. In addition, effective expression in a text medium requires a relatively high level of education (Klein 1999). Furthermore, improvements in citizen access to decision making and broadened participation often come at substantial cost, with those bearing the cost having substantial say in setting the agenda (Atherton 1987).

Both prescriptions and actual efforts to stimulate e-democracy identify the critical obstacles as those of access, opportunity, skills, and technology (Mossberger, Tolbert, and Stansbury 2003; Micelli 2005). To be sure, building extensive and functional networks and eliminating the inequities of the "digital divide" are important steps toward enhanced citizen participation, but their attainment crucially depends on various factors, including the actions of public officials. In their study of municipalities that have attempted to create municipal-sponsored wireless broadband networks to increase civic engagement, Tapia and Ortiz (2010) found that delivering broadband Internet access to citizens in impoverished neighborhoods does not solve problems with civic engagement, public participation, and social exclusion and that additional educational programs are necessary to address the problems. Other research (Kvasny and Payton 2005; Kvasny and Kiel 2006) also suggests that the success of engaging the public depends on a variety of factors, including training, education, users' perception of information technology (IT), and the organization's past experience with using IT. We presume local government officials will commit resources such as funding, Internet use training, assignment of personnel, access provision (e.g., electronic kiosks), promotion of city Web sites, and provision of education materials on the Internet to engage citizens online if they believe in Internet-based citizen participation. Therefore, we hypothesize

that the stronger the beliefs of local government officials in Internet-based citizen participation, the more resources will be deployed to support Internet-based citizen participation.

Approaches to e-democracy that focus on surmounting barriers of access and technology often assume that public officials see the Internet as important to their responsibilities, and therefore public officials enthusiastically embrace the movement toward e-democracy. But as Di Maria and Rizzo (2005, 76) forcefully explain, “The promotion of e-democracy means, above all, a reverse approach in the relationship between Administrations and citizens, with a shift in power towards the latter and the consequent problem of how to re-organize and instill coherence throughout a distributed source of inputs.” If the Internet possesses the potential to transform the relationship between citizens and officials, then some, if not many, officials may not be motivated to encourage the full use of the Internet to enhance citizen participation. This implies officials who cherish the status quo of the administrator–citizen power relationship will most likely guard it through traditional means of citizen participation, but those who believe the Internet will bring positive change will support it through fiscal policies. Therefore, we hypothesize that the stronger the belief of local government officials in traditional citizen participation, the fewer resources will be deployed to support Internet-based participation.

Furthermore, theories of e-democracy envision new ways of doing the public’s business, including the creation of inclusive, communitywide dialogues on the formulation and implementation of public policy (e.g., Eggers 2005; Scavo 2005). Communication between citizens and officials is a two-way street in which both parties send and receive messages, and, as has long been understood, the quality of communication is a function not only of the message (content) but also of the mode of communication. Different modes of communication are characterized by differential benefits and costs to public officials, and officials will exhibit preferences for particular means of communication over others, depending on the audience and the situation. For example, a local official may prefer a more traditional town hall–style meeting to learn of a neighborhood’s problems compared to a barrage of emails (Krane 2008). Similarly, officials may well take advantage of the Internet to disseminate their accomplishments or to publicize available services, but they may choose not to rely on the Internet for citizen views about technical aspects of policy decisions.

Considering the costs and benefits associated with the pursuit of traditional citizen participation, the opportunities and challenges posed by Internet-based citizen participation, and the fact that many governments have not taken advantage of the Internet’s great potential to improve Web site deliberative features, at least two important questions beg for answers: (1) whether local government officials believe in or prefer to use traditional citizen participation more than Internet-based citizen participation and (2) whether they deploy adequate resources to support Internet-based citizen participation. For the purposes of this study, these two questions are subdivided into the following research questions:

1. To what extent do local government officials believe in the pursuit of citizen participation without the use of the Internet?
2. To what extent do local government officials believe in using Internet technology to support citizen participation?
3. Do local government officials believe in traditional citizen participation more than in Internet-based citizen participation?
4. To what extent do local government officials deploy resources for the support of Internet-based citizen participation?

## **Method**

This study presents a cross-sectional analysis of survey responses of chief administrative officers (CAOs) of cities with functioning Web sites in five north-central states (Iowa, Kansas, Minnesota, Missouri, and Nebraska). These five states have a total of 3,906 municipalities (US Census Bureau 2005), of which 548 had functioning Web sites as of December 30, 2005, according to information obtained from the online directory of official state, county, and city Web sites. Roughly 40 percent of the municipalities with functioning Web sites were included in the survey. The five states were selected because they have similar geographic and economic environments, and the Midwestern location provided a common regional basis for comparison. The CAOs include appointed administrators such as city managers and elected mayors who are responsible for making administrative decisions pertaining to city governance. A stratified random sample was drawn from the Web sites of city governments within the five states. The stratification was based on the following category of city population sizes: less than 5,000, 5,000 to 24,999, 25,000 to 49,999, 50,000 to 74,999, 75,000 to 99,999, and 100,000 or more. The advantages of stratification are (1) a reduction in the probability of a biased sample and (2) an increase in sample representation of specific categories of city sizes (Black 1999; Singleton and Straits 1999).

The sampling frame consists of the list of all cities with official Web sites (in the five selected Midwestern states) obtained from the online directory of official state, county, and city government Web sites. Because the sampling frame changes frequently, several potential problems are inherent to its use, such as the following: domain names on the list that may not be those of cities, domain names on the list that may be outdated, domain names on the list that may be wrongly placed under a particular city, and domain names of cities outside the United States that may be on the list. To avoid inaccuracies in the sampling frame, the list of all cities in the selected Midwestern states was thoroughly examined to detect any of the above-mentioned potential problems before stratification and random selection were performed. In addition, the list was reviewed for multiple listings of domain names. To minimize the potential problem of omitted eligible domain names, multiple sources of lists of municipal government domain names were used. For example, the list of all cities was cross-checked against a list from the respective official state Web sites.

A questionnaire was mailed to 218 CAOs of the stratified random sample of city governments in the five Midwestern states, and 117 returned the survey, representing a 54 percent response rate. Demographic data obtained from the 2000 American Community Survey revealed the municipalities included in the study sample are predominantly white, better educated, and slightly affluent communities compared to U.S. averages. For example, the sample population is 91.12 percent white with 28.34 percent college-educated residents, compared to U.S. averages of 75.1 percent and 24.4 percent, respectively. Of the 117 survey responses analyzed, cities with fewer than 5,000 residents make up 22 percent, cities within the 5,000 to 24,999 population range make up 48 percent, those within the 25,000 to 49,999 range make up 17 percent, and cities with 100,000 or more residents make up 6 percent. Together, officials in the first three city population ranges provided 87 percent of the total responses. Considering that most of the cities in the five Midwestern states sampled have fewer than 50,000 residents and that very few of the cities in these states have populations greater than 100,000, the responses can be deemed to be a good reflection of the population sizes of the cities across the five Midwestern states.

The first two parts of the survey measured several variables of interest on a 7-point Likert-type scale. Parts I and II measured the extent of respondents' beliefs in activities that enhance traditional citizen participation and in activities that enhance Internet-based citizen participation. Respondents were specifically asked to indicate how strongly they believe that city officials should perform the following activities with and without the use of the Internet: inform and educate citizens about policy issues, include citizens in discussions of policy prior to any final decision, solicit and take citizens' opinions into account

in making decisions, inform citizens about administrative services provided by the city, include citizens in discussions of administrative services, and provide feedback to citizens on their inputs and inquiries. This allowed for a comparison between belief in citizen participation without the use of the Internet (traditional citizen participation) and belief in citizen participation with the use of the Internet (Internet-based citizen participation).

Part III gauged respondents' agreement as to whether their city governments deploy adequate public resources to support Internet-based citizen participation. Resource deployment was measured on a 7-point scale regarding respondents' city government performance of activities in seven areas. The areas were allocation of funds for city website, allocation of funds specifically for Internet-based city participation, assignment of personnel, access provision (e.g., electronic kiosks), Internet usage training, promotion of city Web site, and availability of education materials on the Internet. These variables were included in the measure because together they provide the means for acquisition of the needed technological infrastructure to facilitate access provision, the necessary personnel for support functions, the upgrade of citizen skills needed for navigation, and the creation of awareness regarding government Web site availability.

Part IV probed the respondents' preferences for the method of communication with citizens. Communication preference was measured by asking respondents to rank order their preference for communication with citizens from six options. These are regular post office mail, telephone, Internet email, electronic bulletin board, face-to-face communication, and other means such as television, newspaper, and radio. In addition, respondents were provided options from which they selected their reasons regarding preferences for specific communication methods. The variables in this category were measured because they provide insight into and the rationale behind the choices made by government officials regarding access provision and Internet-based citizen participation. Part V examined the degree to which municipal use of the Internet has been mandated by state legislation or municipal ordinance. Part VI gathered details about the percentage of the municipal IT budget committed to support electronic government and citizen participation, the form of municipal government, the location of public Internet access, and the respondent's title. In addition to the survey data, 2000 U.S. Census Bureau data and data from the 2000 American Community Survey were obtained from the U.S. Census Bureau Web sites and used to determine the municipality population sizes and per capita incomes, respectively.

Municipal government officials are the appropriate participants for an examination of Internet-based participation because local government is the tier of public authority to which citizens first look to solve their immediate problems. It is also the level of democratic government at which the citizen has the most effective opportunity to actively and directly participate in public agency decisions regarding his or her community. Descriptive statistics were used to analyze respondents' beliefs, and a paired-samples t test was used to analyze differences between traditional citizen participation beliefs and Internet-based citizen participation beliefs. Since the analysis requires the measurement of the same citizen participation subject under two different set of conditions— without the use of the Internet and with the use of the Internet— the two groups are not independent; thus, the use of paired t-tests is necessary (Cody and Smith 1997). Regression analysis was used to determine the relationship between resource deployment and beliefs in traditional and Internet-based citizen participation.

## **Findings**

### *Beliefs in Traditional and Internet-Based Citizen Participation*

The first three research questions examined the extent to which local government officials believe in pursuing citizen participation with and without the use of the Internet. Table 1 displays the mean scores



and average mean scores of city officials' beliefs in engaging in activities of citizen participation without the use of the Internet and with the use of the Internet. As illustrated in Table 1, the mean score along a 7-point scale for respondents' belief that city officials should inform and educate citizens about policy issues without the use of the Internet is 6.25, compared to a mean score of 6.00 for their belief in engaging in the same activity with the use of the Internet. The table shows consistently higher mean scores for belief in traditional citizen participation for all the variables measured. A closer review of Table 1 reveals that municipal officials are more reluctant to use the Internet in obtaining input and feedback from citizens, as illustrated by the higher paired mean differences for those instances. By contrast, municipal officials are more disposed to using the Internet when they wish to educate citizens about policy and administrative services. This result does not mean municipal officials prefer to use the Internet to communicate with citizens. As we will see in Table 4 below, 83 percent of the officials surveyed indicated they mostly prefer to provide information to citizens outside the medium of the Internet.

Important to the analysis of the first three research questions is whether these differences between local government officials' beliefs in traditional citizen participation and Internet-based citizen participation are statistically significant. Table 1 provides the paired mean difference, the standard error of the mean, and the significance level. With a paired mean difference of 0.248 and a standard error of the mean of 0.121 for inform and educate citizens about policy issues, the probability that the paired mean difference was obtained by chance alone is .043, which indicates the mean difference between the two beliefs is statistically significant. Similarly, the table also shows statistically significant ( $p < .01$ ) mean differences between traditional and Internet-based beliefs for all the other variables measured. Also as exhibited in Table 1, the average mean scores were 6.02 for belief in traditional citizen participation and 5.21 for belief in Internet-based citizen participation ( $p < .01$ ), which indicates a statistically significant difference between city officials' belief in traditional citizen participation and their belief in Internet-based citizen participation. Thus, the respondents view these two modes of citizen participation as distinct and appropriate for specific types of communication with citizens.

The above findings suggest that municipal CAOs prefer traditional citizen participation to Internet-based citizen participation. While they strongly believe in (1) informing citizens about policy and administrative services provided, (2) including citizens in the discussion of policy and administrative services provided prior to any final decision, (3) taking citizens' opinions into account in making decisions, and (4) providing feedback to citizens on their inputs and inquiries, their beliefs in using their city Web sites for those same activities are more restrained. This stronger belief in traditional citizen participation could indicate that the respondents consider policy making and agenda setting as professional matters and that involving citizens could slow down the decision-making process to address problems, even though growing numbers of practitioners and scholars have begun to realize that it is necessary to pay attention to citizens' concerns, needs, and demands if a balance between efficiency and responsiveness of public administration is to be achieved (Thomas 1995; Holzer, Hu, and Song 2004; Fischer 2000). On the other hand, this preference for traditional citizen participation may simply reflect habit and normal practice.

The less than enthusiastic belief in Internet-based citizen participation is also consistent with the argument that, in spite of the recent changes, even public administration proponents of enhanced citizen participation believe that the channels themselves need to be chosen or shaped along different lines given different purposes or policy development situations (Thomas 1995). As Holzer, Hu, and Song (2004) point out, the ultimate purpose of digital democracy is to address the underlying weaknesses and problems of representative democracy, and the most important challenge for digital government is to construct a channel for operationalizing citizens' policy involvement. Perhaps municipal CAOs do not

view the Internet as the best medium for public involvement because if one applies the test of the three critical components of a healthy public deliberation—a context of participatory discourse, multiple policy stakeholders, and achieving constructive consensus—Internet features such as online forums, chat rooms, and email fail the test (Holzer, Hu, and Song 2004). For example, as explained later by the findings in Table 4 below, although the Internet's characteristics of convenience and instant communication make it a very viable medium for online forums and chat rooms for policy discussion, many local government officials do not prefer this medium for providing information to citizens, who could well be multiple policy stakeholders, because of concerns of universal accessibility. This notwithstanding, some municipalities are beginning to use e-governance for civic engagement.

#### *Resource Deployment for Internet-Based Citizen Participation*

The survey results show 70 percent of the respondents stated their city governments do not allocate funds specifically for citizen participation. In addition, while 82 percent of the city governments allocate funds for city Web sites, only 38 percent allocate funds specifically for Web site features that facilitate citizen participation. This result appears to be consistent with the results illustrated in Table 2, which shows 55 percent of respondents stated their city governments spend less than 5 percent of their IT budget on e-government. In addition, 61 percent stated their city governments spend less than 5 percent of the e-government budget on city Web site features that support citizen participation. This implies that overall at least 55 percent of the local governments whose officials were surveyed spend less than 0.25 percent ( $0.05 \div 0.05 = 0.0025$ , or 0.25 percent) of their IT budget on city Web site features that support citizen participation. Despite these findings, it is important to recognize that, according to Table 2, 45 percent of respondents' city governments spend 5 percent or more of their IT budgets on e-government and 39 percent spend 5 percent or more of their e-government budget to enhance Internet-based citizen participation. Thus, the fact that at least 39 percent of city governments spend 0.25 percent or more of their IT budget to enhance online deliberation may be indicative of the beginning of an upward trend in expenditures in and commitment to citizen-centered e-government.

A key goal in this study is to determine the relationships between beliefs in Internet-based and traditional citizen participation and our dependent variable of interest—resource deployment to support Internet-based citizen participation. Given the possibility that form of government, population size, per capita income, budget, and legislative mandate influence officials' deployment of resources to support Internet-based citizen participation and confound the results of our analysis, they were included as independent extraneous variables. Kerlinger (1986) notes that a potential extraneous variable can be controlled by including it as another attribute, an observed variable, in the study. By considering the above-mentioned factors as variables in their own right, we were able to ascertain how they interact with the independent variables of interest and the extent to which they influence the deployment of resources to support Internet-based citizen participation, either individually or in combination with the independent variables of interest.

Table 3 shows that resource deployment is a function of population ( $p = .001$ ), per capita income ( $p = .047$ ), and belief in Internet-based citizen participation ( $p = .046$ ). With an  $R^2$  value of .295, we can conclude that 29.5 percent of the variation in resource deployment is explained by the variation in these three variables. This implies that the city officials' deployment of resources to support Internet-based citizen participation is influenced by officials' beliefs in Internet-based citizen participation, the size of the city's population, and the degree of affluence of the municipalities. Considering the preference city officials declared for traditional citizen participation over Internet-based citizen participation and the statistically significant relationship between belief in Internet-based citizen participation and resource deployment, it is not surprising that at least 55 percent of the local governments spend less than 0.25

percent of their IT budget on Web site features that support citizen participation. Thus, we can conclude that resource deployment is restrained by officials' low beliefs in Internet-based citizen participation.

The analysis in Table 4 and Table 5 helps to provide some probable explanations for the above results. Both tables show cross-tabulations of the percentages of respondents' communication preferences with citizens and the respective reasons for those preferences. The columns in each table show the communication preferences, and the rows indicate the reasons for the preferences. Each cell in both Table 4 and Table 5 reflects the intersection of the percentage preference for a particular medium of communication and the reason for the preference. For example, Table 4 shows that 18 percent of respondents prefer to provide information to citizens via post office mail because of universal access, and 13 percent prefer email because of the speed and flexibility. Table 4 indicates that 83 percent of respondents prefer to provide information to citizens outside the medium of the Internet (total for email is 15 percent, electronic bulletin board 2 percent). Also, 46 percent prefer traditional media of regular post office mail, telephone, city newspaper, radio, and television over Internet medium because of universal access. In addition, 8 percent prefer telephone and face-to-face communication because of the influence of human presence, and 15 percent (17 percent total less 2 percent for email) prefer traditional media because of ease of follow-up and reply. Together, 69 percent of respondents prefer non-Internet media for the reasons stated above. Further analysis using the Pearson  $\chi^2$  shows a statistically significant relationship between the most preferred means of providing information to citizens and the reasons for those preferences.

Table 5 shows that 39 percent of respondents prefer to receive information from citizens via email and 35 percent indicate speed and flexibility as their reasons. In addition, 30 percent prefer face-to-face communication, 10 percent for the reason of human presence and 15 percent because of ease of follow-up and reply. Despite the relatively high preference for the Internet as a medium for receiving information from citizens, it is worth noting that 61 percent still preferred some other non-Internet-based media for diverse reasons indicated in Table 5. A Pearson  $\chi^2$  test reveals a statistically significant relationship between the most preferred means of receiving information from citizens and the reasons for those preferences. These findings notwithstanding, it is worth mentioning that although most local government officials are not enthusiastic about the Internet as a medium of communication with citizens, a sizable number of them do recognize the speed and flexibility of Internet technology as a communication medium. This may explain why, according to Table 2, 39 percent of respondents' city governments spend 5 percent or more of their e-government budget to enhance their Web site for participation. Therefore, it is possible that some city government officials may have used email to communicate and obtain information and to facilitate some form of electronic dialogue.

The results from this study confirm the notion that in general how decision makers perceive the benefits and costs of an innovation such as enhancing city Web site features for citizen participation is an important factor in their decision to deploy resources for it. Many public organizations adopt IT such as a city Web site and online service requests deliberately to facilitate transaction processing and efficient service delivery because they believe the technology has cost savings potential and can empower staff to manage more with less (Druke 2005; Rocheleau and Wu 2002; Edminston 2003; Government Performance Project 2002; Moon 2002; Norris and Moon 2005). In our view, this market-based approach to Web site adoption leads city government officials, in most instances, to perceive deliberative features as costly Web site attributes that defeat the purpose of cost savings. These perceptions could, in turn, serve as a basis for their less than enthusiastic beliefs in Internet-based citizen participation and their continued stronger beliefs in traditional citizen participation.

## **Conclusion**

The findings from this research indicate that local government officials have not taken advantage of the interactive features of the Internet to bring citizens closer to their governments because (1) they strongly believe in citizen participation without the use of the Internet and (2) resource deployment to support the use of the Internet for citizen participation is restrained by officials' low beliefs in Internet-based citizen participation. These findings reaffirm the importance of leadership commitment to organizational change and appear consistent with the argument that public involvement initiatives seldom work without the "commitment of individual administrators to make them work" (Berry, Portney, and Thomson 1993, ).

Internet-based citizen participation is an important governance issue not only because of the rapid rate at which many citizens are using the Internet to contact their governments but also because it is increasingly recommended by consultants and scholars that Web-enabled governance should become the defining model for a more democratic administration of modern government. Municipal officials' decisions pertaining to Internet-based citizen participation could become significant catalysts for change in governments, or their decisions could stymie the application of modern technological benefits to democratic governance. The results of this study suggest that the latter outcome is a real possibility.

This study did not include factors accounting for municipal officials' preference for traditional citizen participation over Internet-based citizen participation. In addition, the effect of citizens' perceived risks of Internet-based citizen participation and their willingness to demand adequate resource deployment on city Web site design and adoption of Internet-based citizen participation were outside the scope of this study. As the results from at least one empirical study (Best, Krueger, and Ladewig 2007) show, citizen risk perceptions constitute a significant factor in decisions to participate in a variety of online political activities. Finally, this study included only Midwestern cities with functioning Web sites. As a result, the beliefs of and resource deployment by officials in other cities and in those without Web sites in supporting Internet-based citizen participation are not represented, and this could limit the generalizability of the research results on a national or global basis. In spite of these limitations, the findings are useful because the examination of citizen-centered e-government from the perspective of resource deployment is an area with very little empirical research. Further studies are required to examine the factors accounting for the differences in city officials' beliefs in traditional and Internet-based citizen participation, to determine whether citizens' perceived risks and demand for resource deployment do affect city Web site design and adoption of Internet-based citizen participation, and to determine whether a broader sample could make a difference in the results.

Overall, the implication of the results from this study is that if city governments are to realize the full benefits of the Internet across the spectrum of its utilization, there have to be new ways of thinking about digital government to enhance democratic governance through Internet-based citizen participation. This could happen if municipal officials view Internet technology as a useful tool for the conduct of their responsibilities—not just service delivery but also enhanced citizen participation in policy making. If the Internet is to become an effective medium for constructing a new paradigm of public deliberation, then the beliefs and actions of local officials are critical factors in the commitment and deployment of resources to this goal.

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**Table 1.** Comparing Beliefs in Citizen Participation Activities Without and With the Use of the Internet

Belief variables measured	Traditional (without using city Web site): Mean	Internet based (using city Web site): Mean	Paired mean differences	Standard error mean	t	Sig. level (two-tailed)
Inform and educate citizens about policy issues	6.25	6.00	0.248	0.121	2.043	.043
Include citizens in discussions of policy prior to any final decision	5.84	4.58	1.256	0.134	9.403	.000
Solicit and take citizen opinion into account in making decisions	5.95	4.80	1.145	0.126	9.110	.000
Inform citizens about administrative services provided by city	6.35	6.00	0.350	0.090	3.881	.000
Include citizens in discussion of administrative services provided	5.65	4.58	1.068	0.135	7.912	.000
Provide feedback to citizens on their inputs and inquiries	6.09	5.29	0.795	0.116	6.844	.000
Average belief in citizen participation	6.02	5.21	0.809	0.092	8.290	.000

Note: N = 117.

**Table 2.** Percentage of IT Budget Spent on E-Government and of E-Government Budget Spent on Internet-Based Citizen Participation

Percentage responding	Less than 5 percent	5-14 percent	15-24 percent	25-34 percent	35 percent or more	Don't know	Total
Percentage responding for percentage of IT budget spent on e-government	55	15	8	3	6	13	100
Percentage responding for percentage of e-government budget devoted to Web site enhancement for citizen participation	61	13	5	2	5	14	100

Note:  $N = 117$ .

**Table 3.** Overall Model Coefficients for the Relationships between Traditional and Internet-Based Citizen Participation and Resource Deployment

	Unstandardized coefficients		Standardized coefficients		
	B	SE	$\beta$	t	Sig.
(Constant)	4.056	3.168		1.280	.203
Population	0.000	0.000	.305	3.584	.001
Form of government	0.191	0.289	.055	0.659	.511
Per capita income	0.499	0.248	.047	2.009	.047
Belief in traditional citizen participation	0.800	0.492	.149	1.626	.107
Belief in Internet-based citizen participation	0.581	0.288	.190	2.022	.046
Percentage of IT budget devoted to e-government	0.130	0.158	.071	0.820	.414
Local legislative mandate	-0.101	0.804	-.011	-0.126	.900
State legislative mandate	-0.625	0.449	-.115	-1.392	.167
$R^2$	.295				
Adjusted $R^2$	.236				

Note: Dependent variable: resource allocation.

**Table 4.** Officials' Preferences for Providing Information to Citizens and Related Reasons (in Percentages)

Reason for preference	Most preferred means of providing information to citizens						Total
	Post office mail	Telephone	Email	E-bulletin board	Face to face	Other (TV, newspaper, radio, etc.)	
Universal access	18	2	0	0	0	26	46
Influence of human presence	0	2	0	0	6	0	8
Speed and flexibility	2	0	13	2	4	1	22
Ease of follow-up and reply	2	3	2	0	7	3	17
Ensured delivery	2	0	0	0	0	0	2
Other	2	0	0	0	1	2	5
Total	26	7	15	2	18	32	100
Pearson $\chi^2$	146.559						
df	25						
Assymp. sig. (two-tailed)	.000						

**Table 5. Officials' Preferences for Receiving Information from Citizens and Related Reasons (in Percentages)**

Reason for preference	Most preferred means of receiving information from citizens					Total
	Post office mail	Telephone	Email	Face to face	Other (TV, newspaper, radio, etc.)	
Universal access	2	2	0	3	2	9
Influence of human presence	0	5	0	10	0	15
Speed and flexibility	1	1	35	2	0	39
Ease of follow-up and reply	1	9	3	15	1	29
Ensured delivery	4	0	0	0	0	4
Other	2	0	1	0	1	4
Total	10	17	39	30	4	100
Pearson $\chi^2$	150.876					
df	20					
Assymp. sig. (two-tailed)	.000					