



12. Does your local government have a policy or procedure on any of the following? (Check all applicable.)

- |   | Yes                      | No                       |
|---|--------------------------|--------------------------|
| a. Web site privacy                             | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Web site options for visually impaired users | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Web site security                            | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Web site language translation capability     | <input type="checkbox"/> | <input type="checkbox"/> |
| e. Paid advertising on the web site             | <input type="checkbox"/> | <input type="checkbox"/> |
| f. Links to businesses that request a link      | <input type="checkbox"/> | <input type="checkbox"/> |

**ONLINE PROCUREMENT**

13. Please indicate by checking the boxes below which procurement activities you complete online.

Service	<u>Review product offerings online</u>		<u>Make purchases online</u>	
	Yes	No	Yes	No
a. Property and/or liability insurance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Office supplies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**GEOGRAPHIC INFORMATION SYSTEMS (GIS)**

14. Does your jurisdiction utilize GIS programs that create maps and display data spatially to help you to analyze information?

- Yes     No

14A. If "yes," will you rely more on GIS technology to assist in emergency preparedness as a result of recent terrorism-related threats in the U.S.?     Yes     No     Not Sure

14B. Does your local government provide GIS data online to residents/businesses?     Yes     No

14C. If "Yes," does your local government charge a fee to residents/businesses for GIS data?     Yes     No

15. Which department manages the GIS function? (Please check the department that has primary responsibility.)

- |  |  |
|--|--|
| <input type="checkbox"/> a. Information technology | <input type="checkbox"/> c. Planning                       |
| <input type="checkbox"/> b. Engineering            | <input type="checkbox"/> d. Other (Please identify.) _____ |

**INTRANET**

16. Does your local government have an Intranet (a web server accessible only to local governments employees, sometimes called a "portal")?     Yes     No

16A. If "yes," how is the Intranet managed?     in house     by a service provider

16B. If "yes," how do you use/plan to use the intranet? (Please check all below.)

	Currently use		If you do not currently use an intranet, do you plan to use one in the future?	
	Yes	No	Yes	No
a. Provide news & information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Publish documents & manuals online to reduce printing costs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Post job openings for internal recruitments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Provide employee benefit forms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Provide online report generation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Provide online procurement tools	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Enable project teams to collaborate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Enable inter-/intra-agency data and information sharing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. For financial reporting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Expand telecommuting staff access to information and data	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Service	Is currently offered	% of residents/businesses using	Is NOT currently offered	We plan to offer the service	We do not plan to offer the service
k. Online property registration, such as animal, bicycle registration	<input type="checkbox"/>	%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. Forms that can be downloaded for manual completion (e.g., voter registration, building permits, etc.)	<input type="checkbox"/>	%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. Online communication with individual elected and appointed officials	<input type="checkbox"/>	%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n. GIS mapping/data	<input type="checkbox"/>	%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o. Employment info. /applications	<input type="checkbox"/>	%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p. Council agendas/minutes	<input type="checkbox"/>	%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
q. Codes/ordinances	<input type="checkbox"/>	%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
r. Electronic newsletter sent to residents/businesses	<input type="checkbox"/>	%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
s. Streaming video	<input type="checkbox"/>	%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
t. Other (Please describe.)	<input type="checkbox"/>	%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7. If your local government offers any of the web-based online services listed above, is there also a paper option and payment by mail or in person for the majority of these services?  Yes  No

8. Which if any of the following barriers to E-government initiatives has your local government encountered? (Check all applicable.)

- a. Lack of technology/web staff
- b. Lack of technology/web expertise
- c. Lack of information about E-govt applications
- d. Lack of support from elected officials
- e. Issues relating to convenience fees for online transactions
- f. Lack of collaboration among departments
- g. Difficulty justifying return on investment
- h. Staff resistance to change
- i. Issues regarding privacy
- j. Issues regarding security
- k. Lack of financial resources
- l. Need to upgrade technology (PCs, networks, etc.)
- m. Resident resistance to change
- n. Lack of resident/business interest/demand
- o. Web site does not accept payment by credit card
- p. Bandwidth issues
- q. Other (Please specify.) \_\_\_\_\_

9. How has E-government changed your local government? (Check all applicable.)

- a. Has reduced the number of staff
- b. Has changed the role of staff
- c. Has reduced time demands on staff
- d. Has increased demands on staff
- e. Has increased non-tax-based revenues from fees, advertising
- f. Has increased citizen contact with elected and appointed officials
- g. Business processes are being re-engineered
- h. Business processes are more efficient
- i. Has reduced administrative costs
- j. Has improved local gov't communication with the public
- k. Has improved customer service
- l. Other (Please specify.) \_\_\_\_\_

10. If you currently provide e-government services, how are they developed? (Check all applicable.)

- a. Developed in-house by local government staff
- b. Developed by consultants and local government staff
- c. Outsourced to Application Service Providers
- d. Programs are purchased from IT vendors and integrated into our databases.
- e. Other (Please specify.) \_\_\_\_\_

11. How does your local government provide the following? (Check all applicable.)

	In-house by local government staff	Currently outsources
a. Web site hosting	<input type="checkbox"/>	<input type="checkbox"/>
b. Web site design	<input type="checkbox"/>	<input type="checkbox"/>
c. Web site operations and management	<input type="checkbox"/>	<input type="checkbox"/>
d. Integration of Web site with local government databases	<input type="checkbox"/>	<input type="checkbox"/>

11A. Do you use a Web Content Management System?  Yes  No

11B. If "no," do you plan to introduce a Content Management System that enables non-technical staff to manage and maintain your Web site?  Yes  No

2C. If your local government has a web site, which department has overall responsibility for the day-to-day management of your local government's web site? (Check only one.)

- a. City/county manager/CAO
- b. IT department
- c. Finance department
- d. PIO/Communications office
- e. Library
- f. Mayor's office
- g. Business development office
- h. Clerk
- i. Web management team representatives from different departments
- j. Consultants
- k. Planning/economic development dept.
- l. Volunteers
- m. Other (Please describe.) \_\_\_\_\_

For purposes of this survey, e-government is the use of the Internet to deliver services and information

3. Does your local government have a separate information technology department that is responsible for all information technology needs, including e-government?  Yes  No

3A. If "Yes," how many FTEs are in that department?  
 a. 1-5       b. 6-10       c. 11-20       d. 21-50       e. More than 50

4. What is your total operating budget for information technology for the current fiscal year? \$ \_\_\_\_\_

5. Has your local government conducted a citizen survey to determine what online services residents and businesses want?  
 Yes       No

5A. If "yes," which are the top three most requested online services identified by survey respondents? (Check only three. If more than three are checked, none of the answers will be used.)

- a. Online service requests (e.g., requesting pothole repair)
- b. Online financial transactions (e.g., online payment of taxes)
- c. Online registration for community events (e.g., park/rec activities, adult education)
- d. Online complaints (e.g., reporting graffiti, missed trash pickup)
- e. Council meeting minutes
- f. Budget document
- g. Police reports
- h. Newsletters e-mailed to residents
- i. Employment info./applications
- j. Permits/licenses
- k. Other (Please describe.) \_\_\_\_\_
- l. Other (Please describe.) \_\_\_\_\_

6. Please provide the following information about e-government on your local government web site. (Place a check in the box under the relevant columns.)

Service	Is currently offered	% of residents/businesses using	Is NOI currently offered	We plan to offer the service	We do not plan to offer the service
a. Online payment of taxes	<input type="checkbox"/>	%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Online payment of utility bills	<input type="checkbox"/>	%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Online payment of fines/fees	<input type="checkbox"/>	%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Online completion and submission of permit applications	<input type="checkbox"/>	%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Online completion and submission of business license applications/renewals	<input type="checkbox"/>	%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Online requests for local government records	<input type="checkbox"/>	%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Online delivery of local governments records to the requestor.	<input type="checkbox"/>	%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Online requests for services, such as pothole repair	<input type="checkbox"/>	%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. Online registration for use of recreational facilities/activities, such as classes and picnic areas	<input type="checkbox"/>	%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. Online voter registration	<input type="checkbox"/>	%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Appendix A

**Electronic Government 2004**

April 2004

The International City/County Management Association (ICMA) is conducting this survey to assess local government activity in the area of Electronic Government (e-government) and to provide information that will be helpful to local governments in their e-government initiatives. The results of this survey will be published in various ICMA publications. Please assure the success of this project by completing the survey and returning it to ICMA by **May 21, 2004**.

Thank you for your participation.

Robert J. O'Neill, Jr.  
Executive Director, ICMA

**CUSTOMER SERVICES AND MANAGEMENT**

For the purposes of this survey, the local government web site is the official web site. This does not include web sites produced by the Chamber of Commerce.

1. Does your local government have Internet connectivity?  Yes  No

1A. If you have Internet connectivity, please identify the method. *(Check only one.)*

- a. Dial-up  
 b. DSL  
 c. Cable  
 d. High bandwidth  
 e. Other *(Please specify.)* \_\_\_\_\_

2. Does your local government have a web site?  Yes  No

2A. If "No," do you plan to create a web site in the next year?  Yes  No

2B. If your local government does not plan to create a web site in the next year, please explain why.

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local governments that have not already conducted a survey may want to, so their e-government initiatives can be improved.

increases the question of validity because the original researchers may not have asked exactly what this study was trying to examine. This study also experienced having no valid measure of digital divide; therefore an analysis for that question could not be done.

### **CONCLUSIONS & RECOMMENDATIONS**

Local governments are aware that e-government initiatives can be very beneficial when it comes to communicating with and providing services to citizens. Most of the counties/municipalities surveyed have a website, and they perceive their website has a positive effect on their administration.

It seems local governments are aware of the same concerns that citizens have when it comes to the use of e-government. Some local governments show concern when it comes to privacy and security concern, but most local governments do not see it as a barrier to e-government use. There are a significantly higher number of local governments that did not choose privacy or security concerns as a barrier to e-government. If these local governments do not see a concern in this area, maybe they have standards or procedures that can eliminate most of the citizen's concern. If this is the case, it is recommended that local governments that do not have security or privacy issues share these standards with the local governments that still need these areas addressed.

Despite concerns from critics such as Bekkers and Homburg (2007) who posits that collaboration can be a barrier to governments to provide e-government services, many local governments have an Intranet and are working together to provide better services to their citizens. It is possible that local governments are lacking in the area of citizen-centricity, with a mere 10% of local governments providing a survey to see what citizens would like from their local government. With this being such a central idea to the success of e-government initiatives,

Table 4

Crosstabulation between Privacy Concerns and E-Government Use

<u>Privacy a Concern</u>	<u>E-Government Initiative</u>	
	<u>Yes</u>	<u>No</u>
Yes	796 (23.5%)	1 (4.5%)
No	2,586 (76.5%)	21 (95.5%)
Total	3,382 (100.0%)	22 (100.0%)

$$\chi^2(1, N = 3,404) = 4.396, p = .036$$

<u>Security a Concern</u>	<u>Yes</u>	<u>No</u>
	Yes	1,081 (32%)
No	2,301 (68.0%)	20 (90.9%)
Total	3,382 (100.0%)	22 (100.0%)

$$\chi^2(1, N=3,404) = 5.271, p=.022$$

The final research question this study attempts to answer is whether or not digital divide is considered a barrier to e-government. In this information and communication technology age, citizens cannot utilize the services offered by their local governments if they are among the population of people in the digital divide that does not have the access to computers and the internet. Unfortunately, the ICMA survey did not provide any variables in which the digital divide could be analyzed.

### LIMITATIONS

A major limitation with this study is that there appears to be a bias with the response rates, as previously addressed. Because of this bias, results found in Table 4 and Table 5 should be taken with caution. Another limitation with this study is that it utilized highly skewed secondary data. With any survey research there are weaknesses, but secondary data analysis

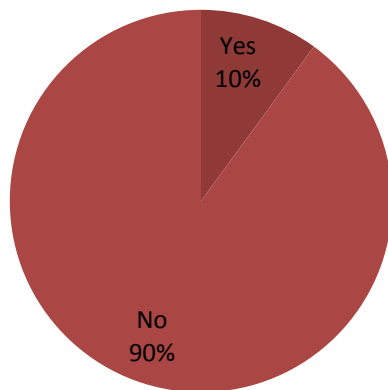
enable inter-intra-agency data and information sharing.

This study asks whether there is a relationship between local government's perception of privacy and security concerns and their use of e-government. Table 4 shows the crosstabulation between privacy concerns and e-government use, while Table 5 shows the crosstabulation between security concerns and e-government use. Research by Colesca (2009) showed that citizens weigh privacy and security issues at the top of their list of concerns when it comes to government and internet usage. 4.5% of county/municipalities that did not have an e-government initiative felt privacy was a concern. 95.5% of county/municipalities that did not have an e-government initiative felt privacy was not a concern. When it came to security 9.1% of county/municipalities that did not have an e-government initiative felt security was a concern. 90.9% of county/municipalities that did not have an e-government initiative felt security was a concern. If privacy and security issues were keeping local governments from having e-government initiatives, the number of county/municipalities that answered privacy was a concern while not running a website would be higher. The same can be said for the security issues. If local governments are not engaging in e-government initiatives then privacy and security issues may not be cause for this.

administering a survey. Graph 1 illustrates the response to the citizen-centricity question. Of the county/municipalities surveyed, only 9.7% responded that they had conducted a survey to see what services their citizens wanted. A staggering 86.8% had not conducted a survey on the types of services citizens expected. This high percentage could possibly mean that these county/municipalities are not getting the most out of their e-government initiatives because they have left the most important component, the citizen, out of the process.

### Graph 1

*Counties/Municipalities that has conducted citizen survey*



The next research question asks whether local governments are collaborating to provide e-government services to citizens. Bekkers and Homburg (2007) noted that collaboration can be a barrier to governments because it entails sharing information across organizational boundaries, which is not always a simple task. In order to share information with other departments, local governments must have an Intranet network. Slightly more than half of the counties/municipalities surveyed (50.3%) stated their local government had an Intranet. 49.7% of local governments did not have an Intranet at the time of the survey. 33.4% of the counties/municipalities with an Intranet used the web server to enable project teams to collaborate. 50.2% (n = 743) of counties/municipalities with an Intranet used the web server to

The next research question asks what the perception of local governments is when it comes to their e-government initiatives. Table 3 contains the results of the analysis of this research. A total of 1,764 county/municipalities (51.7%) answered that overall communication with the public had improved. A total of 2,061 county/municipalities (60.4%) answered that their government initiatives improved customer service. This response received the greatest number of responses; therefore it is possible local governments perceive this to be the greatest benefit of their local government initiatives. This could also possible mean that local governments are trying to be attentive to what the citizen wants, showing they are focusing on citizen-centricity in some ways.

Table 3

*Perception of e-government initiatives*

	<u>N</u>	<u>Percentage</u>
Reduced Staff	59	1.7%
Reduced Time Demands on staff	623	18.3%
Reduced Administrative Costs	266	7.8%
Improved Customer Service	2,061	60.4%
Improved Communication with Public	1,764	51.7%

The next research question asks whether or not local governments have conducted a citizen-survey to see which e-government services citizens want their local government to provide. Islam (2007) noted that citizens should be at the center of any local government initiative. He further states that if any local government initiatives is going to be successful, they must first know what services they should provide to their citizens, and this can be done by

Table 1

<i>Counties/Municipalities with a Website</i>		
Response	N	Percentage
Yes	3,092	91.1%
No	302	8.9%
Total	3,394	100.0%

Table 2 explores local governments' website use further; it shows an analysis of the type of online services provided to citizens. The results show that majority of the local governments were not currently providing services such as payment of bills, payment of fines and fees, completing and requesting permit applications, and requesting local government records online. However, most of them plan to provide these services online in the future. Most of these services explored fall in line with what Moon (2002) described as the second and third stages of new public management. With most of local governments not currently providing these services but planning to do so in the future, it can be argued that most of the local governments are in the early (first) stage of new public management.

Table 2

	Currently		In Future	
	Yes	No	Yes	No
Payment of utility bills	269 (9.2%)	2,654 (90.8%)	873 (50.3%)	862 (49.7%)
Payment of fines/fees	212 (7.3%)	2,712(92.7%)	882 (51.8%)	822 (48.2%)
Completion/Submission of Permit Applications	301 (10.2%)	2,646(89.8%)	1,271(72.4%)	484(27.6%)
Completion/Submission of Business License Application/Renewals	183 (6.3%)	2,728(93.7%)	1,068 (61.9%)	656 (38.1%)
Requests for local government Records	799 (27.1%)	2,153(72.9%)	685 (54.2%)	579 (45.8%)

Note. The percentages reported in parentheses

Digital Divide: The gap between those people and communities with access to information technology and those who do not.

Citizen-centric: Putting the concerns of citizens first when it comes to developing and running e-government initiatives.

Perception of efficiency: Efficiency will be measured by a reduction in staff, reduction in time demands on staff, reduction in cost, or whether or not customer service has improved overall.

### **Operational Definitions**

<b>VARIABLES</b>	<b>ITEMS</b>
Electronic government	1
Perception towards e-government	9
Privacy	8
Security	8
Collaboration	16, 16B
Citizen-centricity	5
Digital Divide	N/A

### **RESULTS**

Of the 3,394 local governments that responded, 90.7% reported that they operated a website while 8.9% did not. Table 1 illustrates the total number of the local governments that operated a website at the time of the survey. 49.6% of those governments planned to create a website within the next year, while 50.4% did not plan to. The high response of local governments that already operates a website could possibly mean that local governments are aware of the potential benefits of operating a website.

chief-administrative officers in municipalities with populations of 2,500 and over, and to the chief-administrative officers of counties with the council-administrator or council-elected executive form of government. The survey collected information for categories such as Customer Service and Management, Online Procurement, Geographic Information Systems (GIS), Intranet, and Financing. A copy of the survey can be found in Appendix A of this study. For the purpose of the ICMA survey, e-government was defined as the use of the Internet to deliver services and information.

### **Response Rates**

A total of 7,944 municipalities and counties received the survey instrument and 3,410 responded, giving the survey an overall response rate of 42.9 percent. Of the 7,944 total surveys mailed, 7,095 were sent to municipalities and 849 were sent to counties. ICMA received a total of 3,007 responses from municipalities, giving a response rate from municipalities of 42.4 percent. A total of 403 counties responded to the survey, giving a response rate from counties of 47.5 percent. Municipalities with a population of 2,500-4,999 had only a 39.4 percent response rate. Examination of survey responses from counties only, finds a response rate of 60.1 percent of counties with a population of 100,000-249,000 compared to 27.3 percent from counties with a population under 2,500.

### **Conceptual Definitions**

Electronic Government: The use of internet to deliver services and information.

Collaboration: Sharing information with another agency or department to provide information and services to the public.

Privacy: Keeping citizen's personal information for government use only.

Security: Keeping financial or other personal data of citizen's from the risk of hackers.

government back from a successful initiative. While Cordella (2007) suggests e-government initiatives are a movement toward New Public management, Bekkers and Homburg (2007) suggests that the customer versus citizen debate is another aspect to slow e-government initiative. Addressing both citizen and governmental barriers, and keeping e-government programs “citizen-centric” will most likely lead to more successful e-government initiatives.

## **METHODOLOGY**

### **Research Questions**

The purpose of this study will attempt to answer several research questions:

1. What is the rate of e-government usage by local governments?
2. What is the perception of local governments on the effect of e-government on their administration?
3. Are local governments working on making e-government more “citizen-centric”?
4. Are local government departments collaborating to provide e-government services?
5. Do local governments perceive security concerns as a barrier?
6. Do local governments perceive privacy concerns as a barrier?
7. Is there a relationship between local government perceptions of security concerns and their e-government usage?
8. Is there a relationship between local government perceptions of privacy concerns and their e-government usage?
9. Do local governments consider digital divide to be a barrier to e-government?

### **Data**

In order to examine the stated research questions, this study will use secondary data collected by the International City/Community Management Association (ICMA) in a 2004 survey of municipalities on their electronic government services. ICMA mailed surveys to the

government agencies being able to collaborate and share information, e-government will not be able to provide the one-stop-shop service that will make initiatives successful.

**Citizen vs. Customer.** Another myth presented by Bekkers and Homburg (2007) is the idea of the citizen as an “empowered” customer. The authors believe that this view does not come without risk. Focusing on service delivery and citizens as consumers narrows the multidimensionality of both public administration and citizenship. This narrowing of multidimensionality can lead to a decrease in legitimacy. The challenge is to develop forms of electronic service delivery that addresses citizens as their identities as consumer, voter, and good citizen.

**Technology.** According to Bolgherini (2007), governments are often pressured by external sources to adopt new technologies and e-government tools. Bolgherini compares these pressure levels to the pressure levels governments experience to become active in globalization and Europeanization. Just as the pressure levels in those situations produce different results, the same can be seen for the pressure governments experience with e-government policy initiatives. These different results can determine whether e-government policy will reach success or failure. Bolgherini states that the failure of e-government policy can be directly linked to the inability to apply and start the same technologies used in e-government projects. This situation can occur when the wrong technology is being used or when there is a misjudgment in what it will take to implement the technology.

Critics of e-government are harsh of the exact things that proponents feel need to be presents for e-government to flourish, such as government collaboration. While Chatzidimitriou and Koumpis (2007) suggest that collaboration is needed for a successful e-government initiative, Bekkers and Homburg (2007) suggest that collaboration is what holds a local

use the Internet at home. Parents of African-American children and teens reported that 23 percent of their children use the internet, while 57 percent of White Americans reported the same. For Hispanic-American individuals, only 16.1 percent reported using the Internet, against the third of Americans with Internet use.

According to Kuttan and Peters (2003), the divide is still quite large for the elderly population. Individuals age 55 and older, not matter the level of education or income, are among the least likely to use a computer or the Internet. A staggering 57 percent of the elderly population does not use computers, and only 27 percent of Americans over the age of 60 years have access to a computer. The divide with the elderly population could be a major problem when it comes to e-government, because it is typically older populations who interacts the most with government agencies.

### **Government Barriers**

**Collaboration.** What some authors believe to be criticisms of e-government can be looked at as government barriers to implementing e-government. One such example is Bekkers and Homburg (2007), who identify these potential barriers as myths to e-government. One myth that comes with e-government is that it will create a “new and better government”. This new and better government, though, is dependent upon integrated service delivery that implies several offices should work together in handling replies, questions, or other needs and concerns of citizens relating to e-government. Offices may have to share knowledge and information through internal and external organizational boundaries. The cooperation between offices and the integration of different information systems and different policies suggest that interests and positions will have to change. The very same ICT that is viewed as a source of innovation can become a source of resistance. Chatzidimitriou and Koumpis (2007) has suggested that without

those who do not” (p. 3). The authors also point out several ways a community can be divided: suburban communities versus rural/inner-city communities; minorities versus the majority; and rich versus poor (2003). The term digital divide can be measured differently when applied globally, but in the United States the digital divide is measured in terms of personal computer ownership and access to the Internet (2003). Comparisons of personal computer ownership rates and the rate of individuals with access to the Internet are then made between major demographic categories (race, income, age, disability, location (rural/urban), education, and gender) and combination of categories.

According to Hawkins (2005) the NTIA indicates physical access as the main barrier between the haves and the have-nots. In terms of access the digital divide represents an “equipment gap”, and the rural population seems to be affected the most by this gap. Internet service providers and technologies exist where there is a high demand and supplying those demands is financially possible. Rural areas are typically less populated than urban areas; therefore Internet infrastructure is slow to develop. Not only do rural areas have less population, but they are also separated from more competitive markets by time and distance. This separation makes it impossible for rural communities to access more profitable economies.

The digital divide among racial and ethnic lines is significant, but not all minorities are found on the wrong side of the divide (Kuttan & Peters, 2003). Of minority groups, the groups with the highest levels of home Internet access are Asian American and Pacific Islanders at 56.8 percent. Even 33.2 percent of Asian Americans and Pacific Islanders in the lowest income bracket have Internet access and 39.4 percent of them own a computer. The digital divide remains an obstacle for African American, Hispanic, and Native American populations. While a third of individual Americans use the Internet at home, only 18.9 percent of African Americans

security, and transparency. All of these concerns can also act as a barrier to e-government. E-government initiatives are information intensive. They often involve sharing of a large amount of data, usually personal, about the citizen. These projects are increasingly involving the identification and authentication of individual citizens as they consume forms of electronic public service (Taylor & Lips, 2009). Bearing this in mind, there should be no surprise that citizens expect a great level of security of privacy when engaging electronically with the government.

The characteristics of citizens should be understood before an e-government strategy is adopted (Colesca, 2009). For example, it should be understood that citizens must not only have a certain level of trust in government, but a certain level of trust in the internet usage as well. Citizens with a low level of trust in the government to implement e-government initiatives together with a low level of trust in the Internet could lead to a condition where citizens are adversaries to technology and government (Colesca, 2009).

Finally, another barrier to e-government can be the fact that government agencies are not collaborating to provide better service to citizens. In a sense, e-government should be a one-stop-shop of services that are accessible to citizens. A study on one-stop-shop initiatives in Europe suggests that one-stop government enables 24-hr; single point access to public services that are integrated around citizens needs (Chatzidimitriou & Koumpis, 2007).

**Digital Divide.** “Digital divide” is a term popularized by the U.S. National Telecommunications and Information Administration (NTIA) in the mid-1990s (Warshauer, 2003). In their book, *From Digital Divide to Digital Opportunity*, Kutan and Peters (2003) give a generalized definition of the digital divide as “a gap between those people and communities who have access to information technology (personal computers, the Internet, skills, etc.) and

## **Citizen Barriers**

**Citizen-Centricity.** Though e-government can provide more information and services in a shorter amount of time, there are certain factors that can act as barriers to e-government reaching its full potential. One such barrier would be e-governments initiatives that are not “citizen-centric.” As noted by Islam (2007), many e-government initiatives have been placing most of the focus on the ‘e’ and less focus on the target audience, the citizen. It is the citizen that needs to be at the heart of e-government. Islam writes that the true value of e-government comes from not simply migrating existing services to online channels, but from the ability to force a government department to rethink, reorganize, and streamline its delivery. He further notes that this process is started by making e-government initiatives more citizen-centric. Governments must develop a “business-plan” of sorts that answers three basic questions: Who are the users? What are their goals? How can users achieve their goals?

The idea of putting people first when it comes to e-government spans several countries and types of government. In a study on the service delivery program of the South African Social Security Agency (SASSA), the idea of putting people first is addressed. ‘Batho Pele’, which means people first, has nine principals to guide public servants. These principals include: consultation with citizens; setting service standards; increasing access to information; ensuring courtesy; providing information; openness and transparency; redress; and finally, value for their money (Visser & Twinomurinzi, n.d.) The study found the SASSA was not aligned with the philosophy of Batho Pele, putting the citizens first, therefore it was found to be ineffective in the delivery of public service.

**Trust/Privacy.** In a study by Colesca (2009) that asks citizens what issues they have when it comes to Internet usage and e-government, some of the top concerns included trust,

integration (horizontal and vertical integration); and (5) political participation (Moon, 2002).

The first stage of e-government deals only with providing information. Information is one-way and its only goal is to provide citizens with a description of services offered, along with contact information (Cordella, 2000). This stage is the most basic form of e-government (Moon, 2002).

The second stage of e-government is two-way communication, or interaction. This stage allows the citizen to send information to a government have that government respond by providing information back to the citizen (Cordella, 2000). In this stage, email systems as well as information and data-transfer technologies are incorporated into government websites. An example of this stage would be the Social Security Administration's web site, where the agency receives new application and benefit statement requests, then processes and responds to service request (Moon, 2002).

Moon (2002) explains that in the third stage of e-government, the government allows online service and financial transactions. This stage allows not only communication between citizens and government, but it also allows citizens to engage in tasks once carried out by public servants, through web-based self-service. An example of this stage of e-government would be constituents renew licenses, paying fines, and applying for financial aid.

Moon (2002) states that at the fourth stage of e-government, the government attempts to integrate various government services vertically (intergovernmental integration) and horizontally (intragovernmental integration) for the enhancement of user friendliness, effectiveness, and efficiency. Finally, in the fifth stage of e-government involves using the web to promote political participation. At this stage, government websites include online voting, online public forums, and online opinion surveys for more direct interaction with the public.

4. Are local government departments collaborating to provide e-government services?
5. Do local governments perceive security concerns as a barrier?
6. Do local governments perceive privacy concerns as a barrier?
7. Is there a relationship between local government perceptions of security concerns and their e-government usage?
8. Is there a relationship between local government perceptions of privacy concerns and their e-government usage?
9. Do local governments consider digital divide to be a barrier to e-government?

## **LITERATURE REVIEW**

### **New Public Management**

A growing mindset among government agencies is how they can use information and communication technology (ICT) to improve efficiency, and deliver better service to citizens (Tiamiyu & Ogunsola, 2008). Using ICT to improve government services align with the principles of new public management. New public management is the idea that managerial and governance practices in the public sector should have objectives typically found in market economics. It is the idea of the public sector, as is the case in the private sector, becoming more results driven. In this line of thinking, efficiency of management supersedes the need of effectiveness in the delivery of the public service. Citizens are viewed as customers and it is the main objective of government to serve and satisfy the customer's needs. The idea is that e-government will be more secure, fairer, and more responsive to the customer than paper based systems (Cordella, 2007). There are five stages of e-government that help to achieve the goals of new public management: (1) simple information dissemination (one-way communication); (2) two-way communication (request and response); (3) service and financial transactions; (4)

191 nations, 173 operated websites in 2003. The number of member nations operating websites is up from 143 nations that operated websites in 2001.

### **PURPOSE & SIGNIFICANCE**

It is the idea that e-government will provide more government agencies with a cheaper, quicker, and more efficient way of providing services to their constituents. This may not always be the case. There are many barriers and other factors that can stand in the way of citizens wanting to use any form of e-government. Local governments must be familiar with the concerns of citizens when it comes to e-government use. If local governments are not familiar with these concerns, then they will not have the citizen involvement needed to reach the full potential of e-government initiatives. The purpose of this research is to study whether or not local governments are in agreement with what citizens consider to be the major barriers to using e-government. The significance of this research lies with being able to examine whether or not local governments and citizens have the same concerns about the use of e-government. If local governments are in agreement with citizens, then those governments can focus on specific areas to improve. If local governments are not finding the same barriers to e-governments as citizens, then this may suggest greater problems than a miscommunication between a government and its citizens. This could result in the prolonged initiation of any new e-government initiatives as local governments attempt to align their e-government services with what citizens need. For the purpose of this study, the following research questions will be examined:

1. What is the rate of e-government usage by local governments?
2. What is the perception of local governments on the effect of e-government on their administration?
3. Are local governments working on making e-government more “citizen-centric”?

The use of the internet is part of many Americans' everyday lives. Between 1990 and 1998, the number of computers connected to the internet grew from less than 1 million to almost 30 million (Ho, 2002). Also according to Ho, between 1989 and 1997, network services increased from 6 percent of individuals to 23 percent. The increase in network services includes both home and work networks.

Electronic government, or e-government, is a concept that is fairly new to the public administrator. To the public administrator, e-government would be the application of modern electronic information technology and management theory to continuously innovate and improve traditional government affairs so as to achieve efficient government management and service (Ping & Ming Ming, 2008). A broader definition of e-government is any way Internet Technology (IT) is used to simplify and improve transactions between governments and other actors, such as constituents, businesses, and other governmental agencies (Moon, 2002).

On the federal level, the Clinton administration made attempts to advance e-government, through which government overcomes the barriers of time and distance in providing public service. In June of 2000, President Clinton delivered his first Webcasted address to the public and announced a series of new government initiatives. One such initiative was the establishment a integrated online service system that puts all online resources offered by the federal government on a single Web site. It should be of no surprise that as internet usage among American citizens has increased over time, local governments would also seek e-government initiatives to provide better services to their citizens.

The use of e-government cannot be limited to the United States alone. According to the United Nations (2003) *World Public Sector Report on E-government*, most of the world's nations have their own web sites. The United Nations is comprised of 191 member nations and of those

## Abstract

E-government can be defined as the use of Internet Technology (IT) to simplify and improve transactions between governments and other actors. It is believed that e-government can provide government agencies with a cheaper, quicker, and more efficient way of providing services to their constituents. Many government agencies, including local governments, have begun to engage in e-government initiatives. This research will study whether or not local governments are in agreement with what citizens consider to be the major barriers to e-government use. If both parties recognize the same barriers, government agencies can work to improve their e-government initiatives for their citizens. The results of this study found that most local governments do indeed have an e-government initiative, suggesting they possibly know the benefits of having one. Though some local governments did have some of the same concerns as citizens, such as privacy and security, those concerns are not keeping local governments from engaging in e-government use.

**Identifying Barriers: A look at e-Government  
Initiatives in Local Government**

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