
The effect of local and federal government website use on trust in government: an exploratory analysis

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Abstract: The objective of this paper is a closer examination of how information and communication technology (ICT) may influence consumer/citizen attitudes toward local and federal governments. This is accomplished through an exploratory analysis of how demographic variables affect local and federal government website use and their effect on trust in these levels of government. A survey of government website use was constructed utilising feedback from individuals experienced in using e-government websites. Analysis was based on a two-step Heckman selection model, including probit and generalised ordered logit models. It was found that gender, age, education, race, and income all can affect local government website use. This exploratory study contributes to a more detailed understanding of who uses the websites of the governments that most directly affect people's lives and whether e-government website use can lead to trust.

Keywords: electronic government; public policy; technology; electronic business; trust; marketing.

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1 Introduction

One of the more famous quotes attributed to Ben Franklin indicated that the only certain things in life are death and taxes. Although few rational people would argue with the certainty of man's mortality, the context of Franklin's quote was actually in reference to the widespread effect of government. However, to that list of unavoidable things in life can be added the effect of 'technology'. Indeed, among the most common topics discussed in the media and in everyday conversation are the latest issues facing government and the latest technology. While some may argue that technology has a more immediately noticeable presence (such as computers, cell phones, and mobile internet access), government is no less important as it manifests itself in our laws, regulations, services, and taxes. In fact, the two subjects have become increasingly connected via electronic government, or 'e-government'.

With growing fiscal challenges and concerns over increasing costs, the adoption of e-government is increasing (Mossberger et al., 2003) and presents the potential of improved efficiency, effectiveness, transparency, and communication (Das et al., 2009; West, 2005). Another influence of e-government adoption is citizens' desires for increased government accountability (Hart-Teeter, 2003) and citizen empowerment (Coleman and Gotze, 2001). At the federal level, the implementation of e-government services was heralded by such initiatives as the E-Government Act of 2002 (2002) through which all applicable government services would eventually be provided.

However, as with many technological innovations, the adoption of e-government comes with certain challenges. As Mick and Fournier (1998) observed, the use of technology presents certain 'paradoxes', such as utility at the price of complexity. E-government can also present certain paradoxes – in order to provide more online services more efficiently, governments must often gather more personal information on its citizens. Such personal information can be seen and misused by others; this relates to the 'trust tension' presented by electronic government (Dutton et al., 2005).

Trust in any level of government is vital because it establishes the legitimacy and stability of any political system (Tolbert and Mossberger, 2006). A lack of trust in a government would indicate the public does not believe the government is doing the job that is expected of them (Levi and Stoker, 2000; Miller and Listhaug, 1990). Such an absence of trust in government could lead those under its authority to be less compelled to follow its rules and regulations (Levi, 1997; Tolbert and Mossberger, 2006; Tyler, 1998), thus diminishing its legitimacy and resulting in a threat to economic and social

progress (Smith, 2010), or, on a grander scale, a threat to democracy itself (Donovan and Bowler, 2004).

It is believed that the public's trust in government has been in a state of decline for over 30 years (Hibbing and Theiss-Morse, 2002; Nye et al., 1997; Smith, 2010). Among the factors that have been attributed to this decline have been scandals, poor overall performance, policy failure, economic factors (Peters, 1999; Welch et al., 2004), and an inherent suspicion of government. However, it is believed that e-government can possibly alleviate this disassociation that many consumers/citizens feel toward government.

The study of trust at various levels of government has been well documented in the literature (e.g., Carter and Belanger, 2005; Cooper et al., 2008; Dutton et al., 2005; Tolbert and Mossberger, 2006; Warkentin et al., 2002). However, the need to study the concept of trust in electronic government at the local *and* federal levels is particularly important since people have the most contact with government at those levels. The value of research using this concept of 'proximity' is recognised in the literature (e.g., Colesca, 2009; McNeal et al., 2008; Premkumar et al., 2006; Tolbert and Mossberger, 2006; Welch et al., 2004).

People interact more with their local government because citizens tend to have contact more often with local officials. Such local officials can be neighbours and members of the same local organisations; therefore they are more accessible and more familiar (Thomas, 1998). According to Box and Musso (2004), people generally identify more with a lower, smaller level of government. Local government is the level of government with which citizens have the most contact as individuals. In fact, city governments provide many of the essential services that have a direct impact on daily life (Premkumar et al., 2006). Consequently, it is understandable that trust in government tends to be highest at the local level (Bowler and Donovan, 2002). It is not surprising that Tolbert and Mossberger (2006) found that trust at the local level "is important in terms of studying the effects of electronic government on citizens".

The issue of trust at the *federal* level is noteworthy because federal officials make decisions that affect all citizens (e.g., the economy, foreign policy, social security, healthcare, etc.). The federal government is the level at which citizens are most affected collectively as citizens and tends to be the level of authority that first comes to mind when people hear the term 'government'. Although the Pew Research Center (2010) stated that trust in the federal government has been recently reported to be near historic low levels due to a 'perfect storm of conditions', Tolbert and Mossberger (2006) found that the use of federal government websites appeared to have the greatest positive effect on the attitudes that citizens have toward government processes. Furthermore, they state that the federal and local government websites present 'the most fruitful venues' for future study of electronic government. Although many works have analysed the effects of electronic government at *either* the local, state, or federal level, such an analysis at *both* the local and federal levels is lacking. This is a gap in the literature that we attempt to fill in this paper.

This paper is organised as follows. In the next section we develop the concepts of electronic government, trust, and trust in government. Then, we utilise these concepts along with demographic variables in an exploratory analysis of data that were obtained from a web-based survey. The contribution of this paper is a deeper understanding of who actually uses local and federal government websites and to what extent such users trust the respective level of government. Next, we provide a discussion regarding how both local and federal governments can utilise such information to improve their

respective websites. Lastly, we discuss limitations to this study and suggestions for future study.

2 Background

2.1 E-government

Just as there are many definitions of ‘electronic commerce’ and ‘electronic business’, there are many definitions of ‘electronic government’. In their comparative study of e-government with private companies, Soto-Acosta and Meroo-Cerdan (2006) acknowledged that “e-government programmes are diverse and difficult to assess...”. As a result, the concept of e-government has no standard definition as it tends to be many things to different groups (Yildiz, 2007; Al-Rababah and Abu-Shanab, 2010). Turban et al. (2002) allude to the all-encompassing nature of electronic government by referring to it as the application of various technologies to “provide delivery of public services to citizens, business partners and suppliers, and those working in the public sector”. Similarly, Backus (2001) states that electronic government is a form of e-business that exists in governance and refers to it as “the processes and structures needed to deliver electronic services to the public (citizens and businesses), collaborate with business partners and to conduct electronic transactions within an organisational entity”. Other researchers and organisations refer to e-government simply as the use of information and communication technology (ICT) to facilitate the efficient delivery of government services and the interaction with citizens (e.g., Heeks, 2002; OECD, 2003; West, 2004; Carter and Belanger, 2005; Durrant, 2005; Segovia et al., 2009). For the purposes of this paper, we consider ‘electronic government’ to simply be the use of any portion of a local or federal government’s webpage to facilitate an exchange, whether informational, personal, or transactional, between a citizen/consumer and that level of government.

Similarly, there seems to be no standard agreement on the purpose of e-government. Segovia et al. (2009) propose that the impetus behind e-government is cost control and improved service to citizens. Alshehri and Drew (2011) add that e-government systems present a means to reduce costs, improve services, save time, and increase public sector effectiveness and efficiency, whereas Thomas and Streib (2003) believe that e-government can improve communication between governments and their citizens via email, thereby enabling direct participation in government decision making by citizens. It has been considered as a means of increasing the responsiveness of citizens by improving service delivery, thereby increasing public confidence in government (Gore, 1993; Markoff, 2000; Raney, 2000). McNeal et al. (2008) point out that e-government could possibly increase the availability of government services and information available to citizens at any time. Such a platform could make government more efficient and transparent (Ho, 2002; West, 2004). According to Tolbert and Mossberger (2006) that transparency could make respective units of government more accountable to their constituents. Kumar and Peng (2006) state that the main goal of e-government is to provide citizens with better services and increase its internal effectiveness and efficiencies, whereas Premkumar et al. (2006) contend that e-government is not limited to internal management, but is also concerns how to serve the needs and expectations of the general public.

Regardless of its definition or purpose, among the challenges and barriers facing e-government are privacy and confidentiality of information and the security against unauthorised access (Layne and Lee, 2001). In their review of e-government literature, Alshehri and Drew (2011) state that security is a vital component in the trust relationship between citizens and government. As previously mentioned, the concept of trust is fundamental to the success and legitimacy of any democracy.

2.2 Trust

Certain concepts are so basic to human interaction that although they are assumed to be understood, their intangibility, complexity, and multidimensionality make them subject to various definitions. The concept of 'trust' is one of those concepts (e.g., Das et al., 2009; Krot and Lewicka, 2012; Mayer et al., 1995; McKnight et al., 2002; Rousseau et al., 1998). Trust also involves a wide range of relationships and has been examined by many disciplines, each with its own interpretation (Colesca, 2009). The marketing literature is rife with definitions of trust, including seminal works such as Anderson and Narus (1990) who saw trust as a "belief that another company will perform actions that will result in positive outcomes for the firm as well as not take unexpected actions that result in negative outcomes". That definition was simplified by Moorman et al. (1993) who saw trust as "a willingness to rely on an exchange partner in whom one has confidence". In the management literature, Rousseau et al. (1998) observed that trust involved "a psychological state compromising the intention to accept vulnerability based upon positive expectations of the intentions or behaviour of another".

What is common to any definition of 'trust' is the lack of control over, and the unpredictability of, another party's actions. This uncertainty is decreased by trust (e.g., Geffen, 2000; Jarvenpaa and Tractinsky, 1999; Lewis and Weigert, 1985; Luhmann, 1979), which is crucial to successful interpersonal and inter-organisational relationships (Ring and Van de Ven, 1994; Mayer et al., 1995; Zaheer et al., 1998; Das and Teng, 1998). Considering the risk and uncertainty of confidential and personal information transmitted in electronic commerce, trust is a major inhibitor of online commercial transactions (e.g., Bhattacharjee, 2002; Gefen and Staub, 2000; Jarvenpaa and Tractinsky, 1999; Pavlou, 2001). With respect to electronic government, Das et al. (2009) contend that trust, which is influenced by culture, significantly affects e-government usage. Furthermore, the lack of trust is considered by Gilbert et al. (2004) as a major barrier to citizen adoption of e-government and by Warkentin et al. (2002) as detrimental, even defeating, to its success.

It has been indicated in the literature (e.g., Dutton et al., 2005; Lee and Turban, 2001) that in e-government there is a difference between trust in the technology and trust in the people using the technology to communicate and provide services. A similar observation is made by Tolbert and Mossberger (2006) when they emphasise Thomas' (1998) two modes for the creation of trust that pertain to government: institution-based and process-based. This paper recognises that trust can be generated from citizen perceptions of efficiency, effectiveness, and participation that stem from both institution-based trust and process-based trust (Tolbert and Mossberger, 2006).

Unlike the trust relationship in e-commerce where consumers have numerous choices between companies, those same consumers do not have the same flexibility of choice with e-government. Modern ICTs present a technological paradox for electronic government in that such technology can influence the level of trust needed for adoption.

ICT clearly provides the means for any organisation to be more effective and efficient in providing services. However, in order for governments to provide needed services, they must collect personal information from the people they intend to serve. The challenge of the security of such personal information is a major obstacle in the trust relationship between citizens and governments (Alshehri and Drew, 2011). The method of transmitting and managing such information and its security is strongly linked to the issue of trust (Seltsikas and O'Keefe, 2010).

Some previous studies have found no relation between the use of government websites and trust in government (e.g., West, 2004). Although Moregeson et al. (2010) found that the use of an agency's website can lead to trust and confidence in the future performance of the particular agency of the website that was used, they found no relationship to an increase in trust of government and called for an analysis of multiple levels of government. However, others have found evidence that such a relationship could exist. Welch et al. (2004) found that general government website use is positively associated with user satisfaction in e-government and that e-government satisfaction is positively associated with trust in government. Although they found the satisfaction-trust relationship to be recursive, they found no direct link between e-government use and trust in government. Furthermore, visiting a local government website was linked directly with trust in local government in the study of Tolbert and Mossberger (2006), but for federal government website users trust was a function of other factors.

As there is no concurrence in the literature as to whether e-government use at the local and federal government levels leads to trust in those levels of government, a closer look at the issue based on primary data is warranted. This exploratory study aims to provide a deeper understanding of who actually uses local and federal websites and whether such use leads to trust in those governments. The value of such insight will assist governments with the targeted delivery of their services via websites.

3 Research methodology

3.1 Survey design and data

By definition, an internet survey assumes a certain technological facility, awareness, and competence of potential respondents; the ability to navigate a website was assumed in our target market. To ease data collection, we made our survey instrument available online. Online surveys also make it possible to reach a broader participant base in a timely manner than other data collection methods.

The survey (see Appendix 1) is used to identify users of local and federal government websites and the different perceptions of trust they have toward local and federal government. The survey is divided into three parts

- internet experience
- demographic/background information
- use of government service websites.

Questions used in this survey were gleaned from interviewing three types of experts:

- consumers who have used government websites
- government officials
- e-government experts in the academic community.

In total, we interviewed 16 experts in person and by phone, with each interview lasting approximately 30 minutes. The survey was then pre-tested with a group of 24 individuals to make sure respondents understood the questions. Since no questions were rewritten as a result of the pre-test, these 24 responses were included in the final sample.

A letter of introduction, including the online survey link, was then distributed by e-mail in the summer of 2008. The Valdosta-Lowndes County Chamber of Commerce, a sponsor of this study, distributed the e-mail with the link to approximately 1500 Chamber members. Over the next two months, we received 201 usable responses, providing a response rate of approximately 13.4%. This is obviously a limitation of the study; but the descriptive statistics in Table 1 suggest that our sample is remarkably similar to the national sample obtained by Hart-Teeter (2003).

Table 1 Descriptive statistics (*N* = 201)

<i>Variable</i>	<i>Description</i>	<i>Mean</i>	<i>Standard deviation</i>
GENDER	0 = Female; 1 = Male	0.50	0.51
AGE	Respondent's age	41.6	15.4
EDUC	1 = No high school diploma; 3 = Undergraduate Degree; 5 = Graduate degree	3.2	1.4
WHITE	1 = White; 0 otherwise	0.83	0.37
INCOME	Respondent's yearly income	61994	35967
YRSEXP	Years of internet experience	10.2	2.5
USE_CITY	1 = Use city government website; 0 otherwise	0.67	0.47
USE_COUNTY	1 = Use county government website; 0 otherwise	0.51	0.50
USE_FEDERAL	1 = Use federal government website; 0 otherwise	0.63	0.48
IMPORTANCE	10 = Internet is very important is your life; 1 = not very important	8.3	1.9

3.2 Model

Respondents choose whether or not to use certain websites. One possible outcome is that if the marginal benefits of using a website (completing the transaction at one's convenience, customising service delivery, etc.) outweigh the marginal costs (e.g., cost to access the internet, website navigation time, etc.), then a respondent will use a particular website. The other possible outcome is that a respondent will not use a given website if the expected marginal costs are greater than the marginal benefits. But, it seems likely

that respondents who do not use city, county, or federal government websites are a self-selected sample and not a random sample. So, econometrically, we need to account for the information that we have on respondents who do not use city, county, or federal government websites. Simply treating non-users of these government websites as having no trust in local government will underestimate the trust respondents have in their local government; or, estimates will exhibit downward bias. So, we estimate a two-step Heckman selection model (Heckman, 1997) to obtain consistent and asymptotically efficient parameter estimates. The descriptive statistics of the data we use in the modelling process are reported in Table 2.

The first step uses a probit model to estimate the probability of using both types of local government websites and to calculate the inverse Mills ratio (IMR). After testing some alternative model specifications using other variables such as respondent political partisanship (liberal, moderate, conservative) and housing TENURE (renter or owner), we specify a parsimonious probit model where the USE of a particular local government website is regressed against the IMPORTANCE of the internet to one's daily life, the number of HOURS spent on the internet per week, and the number of years of experience with the internet (YRSEXP) for each respondent. In the city government model, IMPORTANCE and YRSEXP are significant at the 0.09 level; in the county government model, IMPORTANCE is the only significant predictor of county government website use ($Z = 2.02$); in the federal government model, IMPORTANCE is the only significant predictor of federal government website use at the 0.10 level ($Z = 1.62$).

Table 2 User response percentages

	<i>City</i>	<i>County</i>	<i>Federal</i>
Use of website	67.1	48.7	63.2
Info Search	52.3	35.9	49
Communication	19.6	11.1	13.1
Available when needed	88	88.9	92.6
Requires less time	86.4	91.7	83
Improved trust	29	36.1	32.6
Overall beneficial	36.3	42.5	37.9
Personal data risk	21.3	8.4	16.4
Unsafe for financial info	17.4	14.1	18.3

In the second step, a generalised ordered logit model is employed, where the dependent variable TRUST takes on five possible values ranging from 'Strongly Disagree' to 'Strongly Agree'. We estimate this model *for all respondents*, making sure to control for sample selection bias by including the IMR as one of the independent variables. The generalised ordered logit model, discussed in detail by Williams (2006), can be written as:

$$P(Y_i > j) = g(X\beta_j) = \exp(\alpha_j + X_i\beta_j) / 1 + \exp(\alpha_j + X_i\beta_j), \quad j = 1, 2, \dots, M-1 \quad (1)$$

where M is the number of categories of the dependent variable. The results of the generalised ordered logit models are reported in Table 3.

Table 3 Generalised ordered logit results

	City government			County government			Federal government		
	β	T-stat	Prob.	β	T-stat	Prob.	β	T-stat	Prob.
Panel 1: No use of local government websites vs. all trust categories									
Gender	2.91	4.25	0.00	2.17	3.53	0.00	0.88	0.90	0.37
Age	0.08	3.47	0.00	0.08	3.44	0.00	0.05	1.96	0.05
Education	0.38	2.08	0.04	-0.31	-1.75	0.08	1.77	4.62	0.00
White	0.55	0.60	0.55	1.49	1.38	0.17	0.70	0.52	0.60
Income	-0.00002	-1.71	0.09	0.00001	1.17	0.24	0.00	-0.32	0.75
Inv mills	-0.20	-0.07	0.95	-4.49	-1.79	0.07	-22.47	-3.82	0.00
Constant	-6.22	-2.30	0.02	-3.20	-1.25	0.21	2.05	0.71	0.47
Panel 2: Categories 0 and 1 vs. Categories 2-5									
Gender	-2.21	-2.49	0.01	-1.91	-2.38	0.02	-2.87	-3.30	0.00
Age	-0.05	-2.45	0.01	-0.11	-3.68	0.00	-0.05	-1.86	0.06
Education	-0.50	-2.57	0.01	-0.85	-4.50	0.00	0.25	1.14	0.25
White	-1.69	-1.92	0.06	-2.55	-1.06	0.29	16.76	0.02	0.98
Income	0.00002	1.90	0.06	0.00002	2.21	0.03	0.00	2.12	0.03
Inv mills	-1.67	-0.56	0.58	-13.74	-3.29	0.00	9.92	2.66	0.00
Constant	8.07	3.08	0.00	21.54	4.17	0.00	-18.94	-0.02	0.98
Panel 3: Categories 0-2 vs. Categories 3-5									
Gender	-1.58	-3.50	0.00	-0.46	-0.91	0.36	-0.05	-0.13	0.89
Age	-0.03	-1.87	0.06	-0.03	-1.47	0.14	-0.03	-1.61	0.10
Education	-0.45	-3.11	0.00	-0.49	-3.04	0.00	-0.43	-2.74	0.00
White	-1.14	-1.76	0.08	-1.73	-1.67	0.09	-18.03	-0.01	0.99
Income	0.00001	1.69	0.09	0.00000	-0.33	0.74	0.00	-0.25	0.80
Inv mills	1.86	0.92	0.36	2.55	1.19	0.23	0.39	0.20	0.83
Constant	3.81	2.70	0.01	3.72	1.83	0.07	21.69	0.01	0.99

Table 3 Generalised ordered logit results (continued)

	City government			County government			Federal government		
	β	T-stat	Prob.	β	T-stat	Prob.	β	T-stat	Prob.
Panel 4.									
Gender	-0.03	-0.07	0.94	0.16	0.32	0.75	0.67	1.44	0.14
Age	0.02	1.08	0.28	-0.02	-0.92	0.36	-0.01	-0.32	0.75
Education	-0.28	-1.68	0.09	-0.29	-1.74	0.08	-0.45	-2.79	0.00
White	0.56	0.76	0.45	-0.10	-0.13	0.90	0.47	0.66	0.51
Income	-0.00001	-1.66	0.10	0.00000	0.73	0.46	0.00	-1.99	0.04
Inv mills	-2.13	-1.05	0.29	-0.45	-0.21	0.84	-2.18	-1.11	0.26
Constant	-0.07	-0.06	0.96	0.44	0.24	0.81	2.31	1.44	0.15
Panel 5.									
Gender	-5.08	-3.09	0.00	-10.70	-2.68	0.01	-4.43	-3.25	0.00
Age	-0.03	-0.70	0.49	0.76	2.70	0.01	0.04	1.26	0.20
Education	0.24	0.60	0.55	0.60	1.15	0.25	1.38	2.67	0.00
White	0.61	0.44	0.66	20.31	0.68	0.50	-1.83	-1.63	0.10
Income	0.00009	3.25	0.00	-0.00010	-2.35	0.02	0.00	-1.40	0.16
Inv mills	14.18	3.66	0.00	61.51	2.70	0.01	2.18	0.80	0.42
Constant	-13.08	-3.81	0.00	-95.10	-2.13	0.03	-4.75	-1.81	0.07
Likelihood ratio test (Null hypothesis: proportional odds assumption)			LR test = 141.82 (prob. = 0.000)			LR test = 168.01 (prob. = 0.000)			LR test = 223.41 (prob. = 0.000)
Pseudo R-square		0.26			0.36			0.40	

* The generalised ordered logit estimates for state government and commercial websites are not reported because the models did not converge.

3.3 Results

The estimates in Table 3 correspond to unconstrained generalised ordered logit models, meaning that these estimates come from models where the proportional odds assumption does not hold for any of the independent variables.¹ Interpretation of the estimates is similar to how one would interpret a series of binary logistic regression models – the first panel contrasts Category 0 (non-users of local government websites) to all other categories of users (Categories 1–5); the second panel contrasts Categories 0 and 1 with Categories 2–5, etc. According to Williams (2006), a positive coefficient indicates that “higher values on the explanatory variable make it more likely that the respondent will be in a higher category of Y than the current one, while negative coefficients indicate that higher values on the explanatory variable increase the likelihood of being in the current or a lower category”. Because of the way the categories are defined here (starting with the category of non-users of local government websites as 0), interpretations may seem contrary to the indicated signs of the coefficients.² Likelihood ratio tests confirm the statistical superiority of the unconstrained models to models that impose the proportional odds assumption. Also, McFadden’s pseudo- R^2 statistics are 0.26 for the city government regression model, 0.36 for the county government model, and 0.40 for the federal government model. This is a strong result; Hensher et al. (1999) suggest that a pseudo- R^2 statistic between 0.2 and 0.4 is equivalent to an R^2 statistic of 0.7 to 0.9 in regular OLS estimation.

From Table 3, the estimates suggest the following patterns:

- Males are more likely than females to use city, county, and federal government websites (Panel 1). While this result contradicts the finding of Larsen and Rainie (2002), except for the insignificance of gender in the federal government model, males are less likely to have higher degrees of trust in all three levels of government (i.e., $\beta_{\text{Gender}} = -5.07$ for city government, -10.70 for county government, and -4.43 for federal government in Panel 5).
- Generally, older respondents are more likely to use local and federal government websites (Panel 1). But, some significant differences exist between the different levels of government. While trust in city government by older respondents tends to be muted at the highest level of trust ($\beta_{\text{Age}} = -0.03$ in Panel 5), trust in county government by older respondents seems to spike at the ‘Strongly Agree’ level of trust (i.e., $\beta_{\text{Age}} = 0.76$ in Panel 5). Also, older respondents are less likely to have more trust in federal government.
- Generally, more educated respondents are more likely to use city and federal government websites and less likely to use county government websites (i.e., $\beta_{\text{Education}} = -0.31$ for county government in Panel 1). Throughout the panels, generally we observe that more educated respondents are less likely to have more trust in local and federal government. However, there seems to be a difference at the highest levels of trust (Panel 5), where we see that respondents with more education tend to have more trust in all three government websites, as evidenced by the positive coefficients on Education in Panel 5.
- White respondents are more likely to use local and federal government websites (Panel 1). White respondents also are more likely to have less trust in city government in Panels 2 and 3 and more likely to have more trust in city government

in Panels 4 and 5. For trust in county government, the only significant result (in Panel 3) suggests that white respondents are more likely to have less trust in county government. For federal government, white respondents are more likely to have less trust in federal government at the highest trust level ($\beta_{\text{White}} = -1.83$ in Panel 5).

- The results for income are mixed. Evidence in Panel 2 suggests that higher income respondents are more likely to have more trust in all three government websites. However, Panel 3 suggests that trust in city government is more likely but trust in county and federal government is less likely as income increases (even though the result is statistically insignificant). The opposite directional impacts occur in Panel 4 for city and county government while trust in federal government by higher income respondents seems to continue to be less likely. Then, in Panel 5 the signs on the Income variable switch yet again for city and county government. Overall we conclude that Income has a significant and positive effect on trust in city government throughout the range of trust categories; that Income has a significant and negative effect on trust in county government in the highest trust category and a significant and positive effect on trust in Panel 2; and that Income has a significant and positive effect on trust in federal government in Panel 2 and significant and negative effect on trust in Panel 4.

4 Discussion

4.1 Gender

These results indicate that although men are more likely to use local (city and county) and federal government websites than women, those men are actually less prone to develop higher degrees of trust in those three levels of governments than women. Of all respondents, 54% who indicated the strongest level of trust in city government were female, 64% of respondents who indicated the strongest level of trust in county government were female, and 71% of those who indicated the strongest level of trust in federal government were female. Further descriptive statistics of this study's gender findings indicate that male respondents tend to have a higher education levels, have higher incomes (\$71,100 annual compared to \$52,000 annual for females), and tend to own their homes more than females (72% for male compared to 61% for females). Our finding that males are more likely to use local government websites is consistent with Fallows (2005), who suggests that men tend to use the internet more intensely and generally tend to conduct more online transactions than women. Simultaneously, our finding is in contrast to Larsen and Rainie (2002), who found that women are most likely to use such websites. The issue of gender differences in e-government website use is still unresolved due to the finding of McNeal et al. (2008), whose study differentiated between types of e-government use, that gender is unrelated to electronic government use. The only exception to this finding was when users sought government information, in which case males were more likely to conduct such e-government activity.

Whereas the different findings of gender use could be explained by differences in which year the study data was collected and the related differences in attitudes and technological exposure, the interesting finding of the present study is that this higher rate of local government website use by males apparently does *not* lead to higher levels of

trust by males in those local governments. Although the findings of McNeal et al. (2008) confirm previous research that indicates demographic variables are unrelated to trust in government, the explanation for the present finding could be, in spite of well-documented changes in 21st century demographics, that women are *still* the primary care givers for the majority of families. As a result, women may come into more contact with local government services, such as schools, libraries and parks. Consequently, women may have more opportunities to develop more trust in local government by way of their greater exposure to local government services. It is this pivotal role women have in families and society worldwide that is the basis of a call by Al-Rababah and Abu-Shanab (2010) for future studies to include a gender-based analysis of what is needed from electronic government.

4.2 Age

Although previous studies (e.g., McNeal et al., 2008), have suggested that age influences who uses the internet to contact government, such findings could be explained by the ICT prowess or ability of the chosen age group. Younger generations have the advantage of growing up with ICT as a daily component of their lives, whereas it could be argued that they do not have as much need as older people to contact local and federal governments. Regardless, such a potential digital skill difference is being eroded as time passes and each generation obtains more ICT experience.

While our results do not exhibit an overly strong relationship, we can state that in general older respondents are more likely to use local and federal websites. Although previous studies have indicated that trust in government decreases with age (e.g., King, 1997; Colesca, 2009), what is notable about the present findings are the differences in trust between the levels of government. Older respondents tend to have relatively stronger trust in county government than they have in city government. Despite older respondents' stronger levels of trust in local government, that strength of trust does not carry over to the federal government. Possible explanations may include their overall greater amount of experience with local governments and a greater exposure to the benefits of county government services compared to city government services (e.g., emergency medical services, health clinics, libraries, parks, voter registration, etc.). Another possibility is that older folks generally have more trust in local government because of the large number of complex *federal* government programmes created during their lifetimes (e.g., Social Security, Medicare) and possible frustrations with such programmes.

4.3 Education

Based on the descriptive statistics, it seems that the level of respondents' education decreases as the trust level in all three levels of government increases. In other words, the less educated respondents generally seem to trust all three levels of government more than higher educated respondents. Such a difference in trust could be based on the possibility that more education can lead to a greater understanding of political issues which, in turn, might lead to more skepticism and less trust. However, we then observe a sharp increase in the level of education for respondents who report the highest trust level in all three levels of government, which is congruent with such works as King (1997).

We believe that this possibly suggests a small group of respondents that is systematically different from the rest of the respondents. Under better circumstances (e.g., larger sample size, greater diversity of geographic coverage, etc.), we might be able to identify this small group of respondents as an individual market segment. Exploration of this possibility using respondents' ZIP codes suggests that these respondents may be more urban dwellers, which is consistent with previous works that use city size (e.g., Glaeser et al., 2000) and neighbourhood effects (Alesina and La Ferrara, 2002) to explain variations in trust.

Further, there seems to be a tendency for more educated respondents to use city and federal government websites compared to county government websites. Such a finding is congruent with the observation of McNeal et al. (2008) that higher education is associated with an increased likelihood of using some aspects of electronic government. Regarding the use of city websites, this may be a function of

- where they live (i.e., the general trend of more educated people to live in urban areas)
- where they work (i.e., jobs that require higher education, such as doctors, lawyers, and other professions, are generally located in urban areas).

Another possibility, following the work of Becker (1965), may be that more educated people are more involved in city government as leaders, volunteers, and organisers if they place a higher value on their time in such activities. Regarding federal website use, this may be a function of respondents' type of employment; having a job that requires more education (e.g., lawyer, doctor, professor, etc.) may entail greater contact with the federal government for such things as licensing, research, lobbying, funding, etc.

The fact that higher educated people are more likely to have more trust at the highest level in all three levels of government may be a simple result of their education. More educated people are better prepared to understand complex issues, are more likely to draw on a broader knowledge base from multiple subject areas, and are more likely to read material that would provide them with greater insight into government issues and government accomplishments.

4.4 *Race*

What is notable about race in this study is that it seems to be an indicator of government website use and trust in government. Black respondents who use city, county, and federal government websites comprise 3.9, 2.5, and 4.4% of the sample, respectively. This is in sharp contrast to the results for white respondents, who for the same three levels of government comprise 57.7, 43.7, and 54.7% of the sample, respectively. Although this is inconsistent with the findings of Larsen and Rainie (2002), who said that blacks are more likely to use local government websites, comparison with the present findings is limited due to the facts that the sample is drawn from one geographic area of the USA, that blacks represent less than 20% of the sample, and methodological differences between the two studies.

One possible cause of this finding is the general tendency for black people to live in urban areas and the tendency for white people to live in more rural areas. In addition, if we interpret these results in terms of overall internet use, it seems that white people use the internet more than black people. This possibly indicates a 'digital divide' effect of

which local governments need to be aware (e.g., Edmiston, 2003; Mossberger et al., 2003). One possible solution for all governments to increase the use of their websites is to increase public access to computers by making them more available in community centres, public libraries, municipal offices, and other government buildings. Such a technological infrastructure improvement can be achieved by city, county, and federal government cooperation.

Regarding our findings on trust and race, it would seem that blacks are more trusting in general of all levels of government than whites, which is consistent with the observations of King (1997). This could be a function of increased exposure to and benefit from government programmes by blacks as a result of their comparative financial situation (e.g., Leigh, 1989) and a resultant belief that government can assist them. However, this is in contrast to such studies as Abramson (1983) and Howell and Fagan (1988) that found that blacks are less trusting of government than whites based on the possible perception by blacks that they may have less political power and influence. A possible explanation of these contrasting findings could be the socio-political changes that have happened in the USA since those previous studies, as evidenced by the election of President Barack Obama in 2008.

4.5 *Income*

Although our results for income are mixed, they hint at possible interesting patterns. One of these is the overall positive effect income level has on trust in city and federal government. However, the same cannot be said for income and trust in county government, which suggests that more wealthy respondents do not trust county government as much as they trust city or federal government. The effect of income may be a function of the fact that higher paying occupations, such as doctors, lawyers, and other professionals, are located in urban areas. As a consequence, this would expose higher income people to routine city government services such as the payment of utilities, taxes, fines, and service fees, as well as access to information regarding neighbourhood activities, events, and issues. In addition, the effect of income on trust in federal government may be a result of when these data were collected (i.e., during a Republican administration and its favourable policies toward the wealthy). As described above with regards to race, increased use of city and county government websites among lower *income* residents could be achieved through a cooperative government effort to make more public internet connections and support available.

5 **Conclusion**

Although trust is acknowledged as a complex and multidimensional concept (e.g., Krot and Lewicka, 2012; Moregeson et al., 2010), it is also acknowledged as one of the more important principles in any business relationship (e.g., Krot and Lewicka, 2012; Moorman et al., 1993; Morgan and Hunt, 1994). Consequently, both local and federal governments, arguably as the levels of government with which most citizens identify, would do well to invest in efforts to increase the amount of trust citizens have in them.

This exploratory analysis has provided additional insight into the growing phenomenon of local and federal government website use (i.e., e-government) and its relationship to trust in those levels of government. Although none of the findings were

conclusive, this study suggests that males are more likely to use local and federal websites, but less likely to develop higher levels of trust in those governments than women. Older respondents are more likely to use both local and federal government websites, but are more likely to have stronger levels of trust in local government than in the federal government. Our results also suggest that more educated people tend to use local and federal government websites more, while less educated people seem to trust those levels of government more than people who are more educated. In contrast to previous studies, blacks are less likely to use local and federal government websites, but are more likely to trust all levels of government. Our findings regarding income are mixed, but indicate some evidence that income has a positive effect on trust in city and federal government.

6 Managerial implications

Although the challenge presented by a 'digital divide' may have been ameliorated by the availability of more affordable computers, smartphones, and increasing internet access, no discussion of managerial implications would be complete without acknowledging that such a challenge still exists. As a result, due to the potential benefit to be gained from its use, the equal opportunity of access to government websites and services by constituents should be a priority of any level of government. Increased involvement and accessibility to government information and services by unengaged constituents would improve the marketing of valuable services to a segment of society that has not 'eluded' technology in the sense of Mick and Fournier (1998), but a segment of society that stands to be rescued by it.

All levels of government could enjoy the benefits of increased public accessibility to the internet by providing internet-connected computers in public buildings, such as libraries, community centres, utility offices, city halls, etc. However, while this has been done to varying degrees in areas across the USA, accessibility alone is not the panacea for electronic government. As with any website, government websites must be of the quality to instil a positive perception and confidence among users (e.g., Alshehri and Drew, 2011; McKnight et al., 2002). A high-quality government website needs to be easy to use and possess clear navigation links. Even more important is that each major demographic group must be able to find content and services that are current and relevant to their needs (e.g., Al-Rababah and Abu-Shanab, 2010). To encourage the proper use of these public computers, governments should utilise available technology that would limit such computers to government related websites, thereby avoiding improper use, such as web-surfing and online game playing. In addition, citizen utilisation of such computers would be encouraged if governments would employ third-party certification services, as used by such commercial websites as Amazon.com and eBay.com, to assure users that their personal and financial information is safe (Warkentin et al., 2002).

Local and federal governments can also influence the psychological effects of citizen trust by improving the online experience of users (Welch et al., 2004). Presently, governments seem to be more successful in providing content or information and less successful with the interactivity or community aspect of electronic government (e.g., Edmiston, 2003; Premkumar et al., 2006; Welch et al., 2004). Technology currently exists that would allow for real time person-to-person interaction. Relevant examples would include bulletin boards, a 'live chat' function with a government employee,

or video conferencing/telecasting of town hall-type meetings. Any government concerns for political fallout from potentially sensitive or embarrassing online comments via such interactivity could be mollified by the use of non-profit third party websites to mediate such interactive communications (Premkumar et al., 2006). However, such interactive measures could possibly affect citizens' sense of participation in government and the perception that government is responsive to citizens' needs and concerns. Tolbert and Mossberger (2006) have pointed out that such a perception of local government responsiveness can lead to increased trust in local government. Furthermore, such a two-way interaction can also lead to an increase in citizen satisfaction with government, which can enjoy a recursive relationship with trust in government (Welch et al., 2004).

7 Limitations and future research

It needs to be emphasised that any findings and observations of this study need to be viewed in light of certain limitations that may affect the generalisation of our results. Primarily, the results of any online survey entail a potential problem of bias due to self-selection. However, as indicated in the Research Methodology, the issue of efficient parameter estimates has been addressed by the utilisation of a two-step Heckman selection model (Heckman, 1997).

Secondarily, the relatively small sample size ($n = 201$) poses some concern for the statistical strength of our results. Also, because the sample was taken from the South Georgia-North Florida region of the USA, a cultural bias in the findings is quite possible. Both limitations could affect the generalisation of results. A larger, more geographically diverse sample would facilitate a deeper examination of the needs of specific citizen/consumer groups such as the gender-based study called for by Al-Rababah and Abu-Shanab (2010).

Since the development of interactive ICT, such as Facebook, YouTube, Twitter, and Web 2.0 mentioned by McNeal et al. (2008), is rapidly expanding and the use of online government is growing (e.g., Larsen and Rainie, 2002; Hart-Teeter, 2003), several aspects of e-government should be considered in future research. Research that delves into the degree of government interactivity with citizens (i.e., customers), who use government websites and how such interactivity affects trust and perceived effectiveness, would provide a solid foundation for the improvement of government online service delivery. Additional insight would be especially useful in more sensitive and controversial areas such as the allocation of public funds, the awarding of government contracts, and electronic voting. As trust is a multi-dimensional construct and can be influenced by numerous factors, any study addressing the use of a viral technology on trust should be mindful of the changing technological, sociological, political, and economic climate in which the study is conducted.

This study has considered the effect of citizen/consumer use of government websites on trust in government in a government-to-citizen (G2C) exchange. However, e-government also includes other categories of exchange within a broader definition of the term, including government-to-business (G2B), government-to-government (G2G), and government-to-employees (G2E). Any category of e-government stands to benefit from the greater transparency and improved efficiency that ICT can provide. Therefore, more research as to the effect of ICT usage on trust in additional categories of e-government, such as e-procurement in G2B or sharing of sensitive information in

G2G, is warranted. In addition, it would be extremely helpful if a benchmarking tool could be created for governments via a comparative study of all levels and categories of governments with successful commercial websites. Such a study would not only provide a more complete picture of the field of e-government and allow all levels and categories to learn from each other, but it would also provide government managers the benefit of insight into what has and has not worked in the commercial sector.

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Notes

¹If the proportional odds assumption holds, notice that the $X_i\beta_j$ terms change to $X_i\beta$. Likelihood ratio test statistics in Table 3 reject the null hypothesis of the proportional odds assumption for both the city, county, and federal government models.

²To simplify the interpretation of the coefficients, we tried to recode the TRUST variable so that the first panel would compare respondents who reported 'Strongly Agree' to all other respondents, the second panel would compare respondents who reported 'Strongly Agree' and 'Somewhat Agree' to all other respondents, etc. The results were identical except the regression coefficient estimates took on the opposite sign. Gaining no ease of interpretation, we kept the dependent variable defined the original way.

Appendix 1: Survey instrument

This survey is being administered as part of a research project regarding the use of governmental websites. Your participation will help us understand consumer online practices and habits, which could help all levels of government to provide better service to consumers. The questions are not meant to embarrass you. Although there are no known risks associated with your participation in this survey, it is not always possible to identify all potential risks of participating in a research study. However, the University has taken reasonable safeguards to minimise potential but unknown risks.

DO NOT PLACE YOUR NAME ON THIS QUESTIONNAIRE: Your answers and information obtained by this study will remain *confidential* to the fullest extent allowed by law. Your answers will be combined with other answers to be analysed in an aggregate form for research purposes only, thereby *assuring your anonymity*. Although some questions may appear to be repetitive, it is important that you *respond to each item* honestly and accurately. This questionnaire will take you *approximately 15 min to complete*. Your participation is *strictly voluntary* and your completion of this questionnaire will serve as your consent to participate. You may stop your participation in this research at any time.

If you have any questions concerning this research study, please contact Dr. David B. Kuhlmeier, Tel: 229/245-3823 or dbkuhlmeier@valdosta.edu. This study has been exempted from the Institutional Review Board (IRB) review in accordance with Federal regulations. The IRB, a university committee established by Federal law, is responsible for protecting the rights and welfare of research participants. If you have concerns or questions about your rights as a research participant, you may contact the IRB Administrator at 229/333-7837 or irb@valdosta.edu. Thank you.

Part 1: Internet experience

1.0 On average, how many hours do you spend using the internet in one week for something OTHER THAN e-mail (e.g., information search, bill-paying, entertainment, etc.)?

- ___ 0–1 hours per week
- ___ 2–4 hours per week
- ___ 5–6 hours per week
- ___ 7–9 hours per week
- ___ 10–20 hours per week
- ___ 21–40 hours per week
- ___ Over 40 hours per week

1.1 How long have you been using the internet?

- ___ Less than 1 year
- ___ 1–2 years
- ___ 3–4 years
- ___ 5–6 years
- ___ 7–8 years
- ___ 8–9 years
- ___ 9–10 years
- ___ Over 10 years

1.2 On a scale of 1–10, please indicate how important the internet is to your daily life: (1 = The internet is not important in my life 10 = The internet is extremely important in my life)

1.....2.....3.....4.....5.....6.....7.....8.....9.....10

Part 2: Demographic/background information

2.0 Gender: ___ M ___ F

2.1 Age: Under 20

- ___ 20–24
- ___ 25–29
- ___ 30–34
- ___ 35–39

- ___ 40–44
- ___ 45–49
- ___ 50–54
- ___ 55–59
- ___ 60–64
- ___ 65–69
- ___ 70 or older

2.2 Which best describes your race (please check only one)?

- ___ White, non-Hispanic
- ___ Black
- ___ Hispanic
- ___ Asian
- ___ Other: _____

2.3 Check ONE statement that best describes you. I am:

- ___ a student
- ___ unemployed
- ___ a homemaker
- ___ employed full-time
- ___ employed part-time (non-student)
- ___ retired

2.4 Which of these best describes your education (please check only one)?

- ___ I did not earn a high school degree or its equivalent
- ___ I have a high school degree
- ___ I am currently an undergraduate college student
- ___ I have earned an undergraduate college degree
- ___ I am currently a graduate student
- ___ I have a graduate degree

2.5 If you are currently employed (including self-employment), which statement best describes YOU?

- ___ I am the highest wage earner in my dwelling
- ___ Another occupant is the highest wage earner in the dwelling
- ___ All occupants of the dwelling make approximately the same wages.

2.5a Which category best describes *your* total annual income before taxes?

- ___ Less than \$15,000
- ___ \$15,000 to \$24,999
- ___ \$25,000 to \$34,999
- ___ \$35,000 to \$44,999
- ___ \$45,000 to \$54,999
- ___ \$55,000 to \$64,999
- ___ \$65,000 to \$74,999
- ___ \$75,000 to \$84,999
- ___ \$85,000 to \$94,999
- ___ above \$95,000

2.6 Which best describes your living situation?

- ___ I own an entire house or condo
- ___ I rent an entire house or apartment
- ___ I rent a unit in an apartment complex
- ___ I rent a room in a house owned by someone else

2.6a Approximately how long have you lived in your current dwelling?

- ___ years

2.7 Do you receive financial assistance from the government (e.g., food stamps, WIC, etc.)?

- ___ Yes
- ___ No

2.8 Politically speaking, how would you describe yourself?

- ___ conservative
- ___ liberal
- ___ moderate

2.9 What is your zip code? _____

Part 3: Use of government service websites

Use of city government websites

3.0 In the past twelve (12) months, have you utilised any city government website for services (e.g., pay utility bill, register to vote, obtain information, etc.)?

- ___ Yes
- ___ No

3.1 If you answered 'No', please go directly to Question 3.6

3.2 If you answered 'Yes':

What type of service did you utilise in the past 12 (twelve) months at this city government website?

- ___ information search (e.g., economic data, public records, etc.)
- ___ obtain city government forms
- ___ communication with a city agency/official
- ___ application for employment
- ___ payment of utilities
- ___ payment/filing of taxes
- ___ payment of fine (e.g., parking ticket)
- ___ application for license/permit (e.g., business, construction, etc.)
- ___ registration for _____
- ___ other (please describe) _____

The following statements are designed to describe your attitude toward city government websites (e-government). Please read each statement and indicate how well it represents your thoughts and feelings by circling the appropriate letters.

SA = Strongly agree, **A** = Agree, **N** = Neither Agree nor Disagree, **D** = Disagree, **SD** = Strongly Disagree

3.3 Using the city government website was *beneficial* because it:

- allowed me to avoid personal interaction with government staff
SA A N D SD
- allowed me to exert more control over the delivery of the service
SA A N D SD
- allowed me to receive the service when I wanted it
SA A N D SD
- was less expensive than a personal interaction with government staff
SA A N D SD
- allowed me to tailor the delivery of the service to my needs
SA A N D SD
- was less time consuming than a personal interaction with a staff member
SA A N D SD

3.4 Based on my experience with the city government website:

- a. The website was easy to use
SA A N D SD
- b. I was satisfied with my online transaction
SA A N D SD
- c. I will use the website again in the future
SA A N D SD
- d. I will tell family and friends to use the website
SA A N D SD
- e. Using the website improved my confidence in city government
SA A N D SD
- f. Using the website improved my trust in city government
SA A N D SD

3.5 On a scale of 1-10, please indicate the extent to which you believe your experience with the city government website was beneficial. (1 = not at all beneficial ... 10 = extremely beneficial).

1.....2.....3.....4.....5.....6.....7.....8.....9.....10

3.6 I did not utilise the city government website because:

- a. I was unaware the city government had a website for services
SA A N D SD
- b. I was concerned my personal data might be shared with others
SA A N D SD
- c. Using the website required too much effort
SA A N D SD
- d. Using websites is not an enjoyable experience
SA A N D SD
- e. I did not feel the website would provide the service I need
SA A N D SD
- f. I did not feel the website was safe for my financial information
SA A N D SD
- g. The website looked confusing and intimidating
SA A N D SD

Usage of county government websites

4.0 In the past twelve (12) months, have you utilised any county government website for services (e.g., pay utility bill, register to vote, obtain information, etc.)?

- ___ Yes
- ___ No

4.1 If you answered 'No', please go directly to Question 4.6

4.2 If you answered 'Yes':

What type of service did you utilise in the past 12 (twelve) months at this county government website?

- ___ information search (e.g., economic data, public records, etc.)
- ___ obtain county government forms
- ___ communication with a county agency/official
- ___ application for employment
- ___ register to vote
- ___ registration of vehicle/tag
- ___ payment/filing of taxes
- ___ payment of fine
- ___ application for license/permit (e.g., business, construction, etc.)
- ___ registration for _____
- ___ other (please describe) _____

The following statements are designed to describe your attitude toward county government websites (e-government). Please read each statement and indicate how well it represents your thoughts and feelings by circling the appropriate letters.

SA = Strongly agree, **A** = Agree, **N** = Neither Agree nor Disagree, **D** = Disagree, **SD** = Strongly Disagree.

4.3 Using the county government website was *beneficial* because it:

- a. allowed me to avoid personal interaction with government staff
SA A N D SD
- b. allowed me to exert more control over the delivery of the service
SA A N D SD
- c. allowed me to receive the service when I wanted it
SA A N D SD
- d. was less expensive than a personal interaction with government staff
SA A N D SD
- e. allowed me to tailor the delivery of the service to my needs
SA A N D SD
- f. was less time consuming than a personal interaction with a staff member
SA A N D SD

4.4 Based on my experience with the county government website:

- a. The website was easy to use
SA A N D SD
- b. I was satisfied with my online transaction
SA A N D SD
- c. I will use the website again in the future
SA A N D SD
- d. I will tell family and friends to use the website
SA A N D SD
- e. Using the website improved my confidence in county government
SA A N D SD
- f. Using the website improved my trust in county government
SA A N D SD

4.5 On a scale of 1-10, please indicate the extent to which you believe your experience with the county government website was beneficial. (1 = not at all beneficial ... 10 = extremely beneficial).

1.....2.....3.....4.....5.....6.....7.....8.....9.....10

4.6 I did not utilise the county government website because:

- a. I was unaware the county government had a website for services
SA A N D SD
- b. I was concerned my personal data might be shared with others
SA A N D SD
- c. Using the website required too much effort
SA A N D SD
- d. Using websites is not an enjoyable experience
SA A N D SD
- e. I did not feel the website would provide the service I need
SA A N D SD
- f. I did not feel the website was safe for my financial information
SA A N D SD
- g. The website looked confusing and intimidating
SA A N D SD

Usage of state government websites

5.0 In the past twelve (12) months, have you utilised any state government website for services (e.g., filing taxes, making a tax payment, register to vote, obtain information, etc.)?

- ___ Yes
- ___ No

5.1 If you answered 'No', please go directly to Question 5.6

5.2 If you answered 'Yes':

What type of service did you utilise in the past 12 (twelve) months at this state government website?

- ___ information search (e.g., economic data, public records, etc.)
- ___ obtain state government forms
- ___ communication with a state agency/official
- ___ application for benefits
- ___ application for employment
- ___ payment/filing of taxes
- ___ payment of fine
- ___ application for license/permit (e.g., business, hunting, etc.)
- ___ registration for _____
- ___ other (please describe) _____

The following statements are designed to describe your attitude toward state government websites (e-government). Please read each statement and indicate how well it represents your thoughts and feelings by circling the appropriate letters.

SA = Strongly agree, **A** = Agree, **N** = Neither Agree nor Disagree, **D** = Disagree, **SD** = Strongly Disagree.

5.3 Using the state government website was *beneficial* because it:

- allowed me to avoid personal interaction with government staff
SA A N D SD
- allowed me to exert more control over the delivery of the service
SA A N D SD
- allowed me to receive the service when I wanted it
SA A N D SD
- was less expensive than a personal interaction with government staff
SA A N D SD
- allowed me to tailor the delivery of the service to my needs
SA A N D SD
- was less time consuming than a personal interaction with a staff member
SA A N D SD

5.4 Based on my experience with the state government website:

- a. The website was easy to use
SA A N D SD
- b. I was satisfied with my online transaction
SA A N D SD
- c. I will use the website again in the future
SA A N D SD
- d. I will tell family and friends to use the website
SA A N D SD
- e. Using the website improved my confidence in state government
SA A N D SD
- f. Using the website improved my trust in state government
SA A N D SD

5.5 On a scale of 1-10, please indicate the extent to which you believe your experience with the state government website was beneficial. (1 = not at all beneficial ... 10 = extremely beneficial).

1.....2.....3.....4.....5.....6.....7.....8.....9.....10

5.6 I did not utilise the state government website because:

- a. I was unaware the state government had a website for services
SA A N D SD
- b. I was concerned my personal data might be shared with others
SA A N D SD
- c. Using the website required too much effort
SA A N D SD
- d. Using websites is not an enjoyable experience
SA A N D SD
- e. I did not feel the website would provide the service I need
SA A N D SD
- f. I did not feel the website was safe for my financial information
SA A N D SD
- g. The website looked confusing and intimidating
SA A N D SD

Usage of federal government websites

6.0 In the past twelve (12) months, have you utilised any federal government website for services (e.g., find answers to tax questions, look up economic data, obtain information, print copies of forms, etc.)?

- ___ Yes
- ___ No

6.1 If you answered 'No', please go directly to Question 6.6

6.2 If you answered 'Yes':

What type of service did you utilise in the past 12 (twelve) months at this federal government website?

- ___ information search (e.g., economic data, public records, etc.)
- ___ obtain federal government forms
- ___ communication with a federal agency/official
- ___ application for employment
- ___ application for passport
- ___ payment/filing of taxes
- ___ application for license/permit (e.g., export, patent, etc.)
- ___ registration for _____
- ___ other (please describe) _____

The following statements are designed to describe your attitude toward federal government websites (e-government). Please read each statement and indicate how well it represents your thoughts and feelings by circling the appropriate letters.

SA = Strongly agree, **A** = Agree, **N** = Neither Agree nor Disagree, **D** = Disagree, **SD** = Strongly Disagree.

6.3 Using the federal government website was *beneficial* because it:

- a. allowed me to avoid personal interaction with government staff
SA A N D SD
- b. allowed me to exert more control over the delivery of the service
SA A N D SD
- c. allowed me to receive the service when I wanted it
SA A N D SD
- d. was less expensive than a personal interaction with government staff
SA A N D SD
- e. allowed me to tailor the delivery of the service to my needs
SA A N D SD
- f. was less time consuming than a personal interaction with a staff member
SA A N D SD

6.4 Based on my experience with the federal government website:

- a. The website was easy to use
SA A N D SD
- b. I was satisfied with my online transaction
SA A N D SD
- c. I will use the website again in the future
SA A N D SD
- d. I will tell family and friends to use the website
SA A N D SD
- e. Using the website improved my confidence in federal government
SA A N D SD
- f. Using the website improved my trust in federal government
SA A N D SD

6.5 On a scale of 1-10, please indicate the extent to which you believe your experience with the federal government website was beneficial. (1 = not at all beneficial ... 10 = extremely beneficial).

1.....2.....3.....4.....5.....6.....7.....8.....9.....10

6.6 I did not utilise the federal government website because:

- a. I was unaware the federal government had a website for services
SA A N D SD
- b. I was concerned my personal data might be shared with others
SA A N D SD
- c. Using the website required too much effort
SA A N D SD
- d. Using websites is not an enjoyable experience
SA A N D SD
- e. I did not feel the website would provide the service I need
SA A N D SD
- f. I did not feel the website was safe for my financial information
SA A N D SD
- g. The website looked confusing and intimidating
SA A N D SD

Usage of commercial websites

7.0 In the past twelve (12) months, have you utilised a commercial website (e.g., cable TV, bank, cell phone, Amazon.com, etc.) for services (e.g., obtain information on your account, transfer funds, make a purchase, etc.)?

- ___ Yes
- ___ No

7.1 If you answered 'No', please go directly to Question 7.6

7.2 If you answered 'Yes':

What type of service did you utilise in the past 12 (twelve) months at this *commercial* website?

- ___ information search
- ___ communication with the commercial firm
- ___ make a purchase
- ___ make a payment
- ___ management of my account
- ___ other (please describe) _____

The following statements are designed to describe your attitude toward commercial websites (e-commerce). Please read each statement and indicate how well it represents your thoughts and feelings by circling the appropriate letters.

SA = Strongly agree, **A** = Agree, **N** = Neither Agree nor Disagree, **D** = Disagree, **SD** = Strongly Disagree.

7.3 Using the *commercial* website was *beneficial* because it:

- a. allowed me to avoid personal interaction with company staff
SA A N D SD
- b. allowed me to exert more control over the delivery of the service
SA A N D SD
- c. allowed me to receive the service when I wanted it
SA A N D SD
- d. was less expensive than a personal interaction with company staff
SA A N D SD
- e. allowed me to tailor the delivery of the service to my needs
SA A N D SD
- f. was less time consuming than a personal interaction with a staff member
SA A N D SD

7.4 Based on my experience with the *commercial* website:

- a. The website was easy to use
SA A N D SD
- b. I was satisfied with my online transaction
SA A N D SD

- c. I will use the website again in the future
SA A N D SD
- d. I will tell family and friends to use the website
SA A N D SD
- e. Using the website improved my confidence in e-commerce
SA A N D SD
- f. Using the website improved my trust in e-commerce
SA A N D SD

7.5 On a scale of 1-10, please indicate the extent to which you believe your experience with the commercial website was beneficial. (1 = not at all beneficial ... 10 = extremely beneficial).

1.....2.....3.....4.....5.....6.....7.....8.....9.....10

7.6 I did not utilise the commercial website because:

- a. I was unaware such commercial websites existed
SA A N D SD
- b. I was concerned my personal data might be shared with others
SA A N D SD
- c. Using the website required too much effort
SA A N D SD
- d. Using websites is not an enjoyable experience
SA A N D SD
- e. I did not feel the website would provide the service I need
SA A N D SD
- f. I did not feel the website was safe for my financial information
SA A N D SD
- g. The website looked confusing and intimidating
SA A N D SD

Thank you for your participation!