Government employees and their use of Digital Government

Completed Research

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Abstract

Information systems literature has been mostly silent on what truly contributes to the success of e-government Web sites in the United States in general, and particularly in Central Virginia. This study empirically analyzes the results of 224 responses of Government employees about their use of e-government websites to examine the role of trust in e-government success using the updated DeLone and McLean IS success model as the theoretical framework. Structural model analysis showed that most of the proposed hypotheses were supported. The study concluded that trusting beliefs and the quality variables of the IS Success model do play an integral role in citizens' intention to continue using e-government Web sites. The findings of this study could be used to develop effective policies by government officials when designing and implementing e-government Web sites. Implications and limitations are discussed.

Keywords

E-government, Digital Government, IS Success Model, Public Governance, IS Quality, Trust.

Introduction

E-government, which can be broadly defined as the use of information and communication technologies (ICTs) and the Internet to enhance the access to and delivery of all facets of government services and operations for the benefit of the citizens, businesses, employees, and other stakeholders, is continuously transforming public service delivery systems (Srivastava & Teo, 2005; Lee, Kim & Ahn, 2011) increasing effectiveness, efficiency (Cegarra-Navarro, Pachón & Cegarra, 2012), and convenience (Shareef et al., 2011). The problem is how do government agencies tasked with maintaining e-government Web sites, encourage trust from its users, namely trust in the Internet, and trust in the government, to understand their role in e-government success. This study proposes these two dimensions of trust in e-government using the updated DeLone and McLean IS success model (1992; 2003) as the theoretical framework to expand and add to the extant knowledge on this particular paradigm. Another motivation for this study is to address the potential mediating roles of the quality attributes (information quality, system quality, and service quality) as they link trusting behaviors towards the intention to continue using the e-government services because of a gap in the research stream. The current study attempts to answer this question by integrating the literature on online trust, and DeLone and McLean's (2003) IS success model (henceforth referred to as the D&M model). There are three primary contributions of this research initially reported in a doctoral dissertation (Pritchard, 2017).

First, in light of the increase of security breaches, this study explores the important role of online trust for e-government Web site success by facilitating their continued usage and greatly assists governmental agencies that are providing or planning to provide online service delivery. By integrating the literature on online trust and the D&M model, this study provides a comprehensive, yet parsimonious, understanding of

Web site success in general and e-government Web sites in particular. To the best of our knowledge, this is the first attempt to integrate these two research streams, as well as examining the potential mediating roles of the quality attributes to link trusting behaviors and intention to continue using these Web sites in the United States. A somewhat similar study was conducted by Teo, Srivastava and Jiang (2009) in Singapore; however, they didn't focus on the mediating roles of the quality attributes in assessing Web site success, and their findings may have cultural implications because Singaporean citizens have a general trust in their government officials which may not be generalizable to the United States or other developed countries. Concerns with declining public trust in government have become a permanent element of the contemporary political discourse (Van de Walle, Van Roosbroek & Bouckaert, 2008). This concern also extends to levels of citizens' trust in the public administration and public service (Van de Walle et al., 2008). The most common explanation for the perceived decline in public trust in government and in the public sector is that the government and public sector fail to perform (Van de Walle et al., 2008). For these reasons, this research posits that US citizens largely distrust their public servants, and this distrust may carry over to the services in which these public officials are responsible for providing, so these reasons necessitate the need for this study.

Second, this study extends the multidimensional concept of IS success by addressing citizens' intention to continue using e-government Web sites (DeLone & McLean, 1992; 2003). While initial acceptance of IS is an important preliminary step toward realizing IS success, user's continued use of IS will account for its eventual success (Bhattacherjee, 2001). Hence, in the context of e-government, citizen's continued use of e-government Web sites will account for e-government's eventual success. Examining such relationships along the IS success will not only strengthen the theoretical foundations of the proposed research model in measuring the demand side perspective of continued use but also allow policy makers to understand the extended facets of the mediating roles of the quality attributes linking trusting behaviors to continued usage of e-government Web site services being facilitated by the US government.

Lastly, this research facilitates our understanding of Web site usage in the public sector (Teo et al., 2009). Although developing e-government Web sites has currently become a global trend, the ways how quality beliefs and trusting beliefs affect citizen's long-term usage of e-government Web sites remains largely unclear and warrants the need for this research. Previous studies in the field have indicated and recommended that future research could explore the importance of trust in e-government for different levels of government (federal, state, local) in a different country, thus the importance of this study at this time. In addition, there have been many significant changes in the e-government domain since Teo et al.'s (2009) study, such as improved and more efficient operating systems, more secure encryption being used by agencies, more efficient and effective services being created, the use of more portable devices such as IPads and IPhones, and improved customer service techniques, to name a few which further necessitates the need for this study. This study seeks to examine the following research questions:

RQ1: How are 'trust in the Internet' and 'trust in the government' related to trust in e-government Web sites?

RQ2: How does trust influence the continued usage of e-government Web sites as it relates to the DeLone & McLean's framework of information systems (IS) success model in central Virginia?

RQ3: Are there any mediating roles between trust and the quality attributes which influences the continued usage of e-government Web sites?

LITERATURE REVIEW

Previous research on e-government, especially in the government-to-citizen (G2C) context, has identified factors facilitating citizen's adoption of e-government Web sites and also their consequent impact (Warkentin et al., 2002; Chang, Li, Hung & Hwang, 2005). For example, Warkentin et al. (2002) suggested that citizen's intention to engage in e-government is affected by factors such as trust in e-government, perceived usefulness (PU), and perceived ease of use (PEOU). Chang et al. (2005) found that citizen's adoption intention of online tax filing is affected by PU and PEOU. In turn, PU and PEOU are determined by information quality (IQ), system quality (SQ), and perceived creditability of the Web site (Chang et al., 2005). In another study, Cohen (2006) found that citizen's satisfaction with contacting government on the Internet is affected by citizen's characteristics, a reason to contact, the level of government, and the processes and outcomes of the experience.

Similarly, previous research has also emphasized the role of trust in Web site success in terms of adoption, satisfaction and intention to use or reuse the Web site (Gefen et al., 2003; Pavlou, 2003; Balasubramanian, Konana, & Menon, 2003). In general, online trust has been found to be related to three success variables – trust-related behavioral intention, satisfaction, and perception of Web site IT attributes (Teo et al., 2009). Trust is a significant antecedent of participation in online interactions and transactions because it serves as a central mechanism to reduce the perception of uncertainty and risk (Teo et al., 2009).

A few studies on online trust treat behavioral intentions as the final dependent variable (Gefen et al., 2003; Pavlou, 2003). Fewer studies have discussed the relationship between trust and satisfaction (Teo et al., 2009). Satisfaction reflects the affected status, which is shaped by the user's previous experience with the Web site, and trust shapes the user's expectation of the future behavior of the trustee (Mayer, Davis & Schoorman, 1995). Thus, satisfaction is sometimes regarded as an antecedent of trust (Teo et al., 2009). On the other hand, satisfaction has also been described as an outcome of trust. For example, Balasubramanian et al. (2003) found that perceived trustworthiness of an online broker is directly related to the online investor's satisfaction.

Previous research on online trust also finds a positive relationship between trust and user's perception of Web site attributes. Based on the theory of reasoned action (TRA) (Azjen & Fishbein, 1980), a few studies have linked trust to technology acceptance model (TAM) variables – that is, PU and PEOU of a Web site (Gefen et al., 2003; Pavlou, 2003). However, most studies on online trust have been conducted in the context of e-commerce, and we still know very little about the role of online trust in the public sector delivery of e-services, namely, e-government Web sites (Teo et al., 2009). This study explores this vital aspect of online trust using the D&M model as the theoretical framework.

Disposition to Trust

This study builds on the integrative model proposed by McKnight, Cummings & Chervany (1998), because it includes an institution-based trust as well as the more common trust types-trusting intentions, trusting beliefs, and disposition to trust. Following McKnight et al. (1998), the researcher will integrate the Disposition to Trust construct within the broad framework of the Theory of Reasoned Action (TRA) (Fishbein & Azjen, 1975). TRA posits that beliefs lead to attitudes, which lead to behavioral intentions, which lead to the behavior itself. Davis, Bagozzi, & Warshaw (1989) found that attitudes fell out of the model empirically, making their model more parsimonious. Applying this more parsimonious version of TRA, the researcher posits that disposition to trust is an antecedent to trusting beliefs/intentions. Disposition to trust is defined as one's general propensity to trust others, which can also influence on individual's beliefs and intentions towards a Web-based vendor and is, therefore, important to include in the model (Bélanger & Carter, 2008). It is composed of two concepts: faith in humanity and trusting stance (Bélanger & Carter, 2008). Disposition to trust is sometimes referred to as personality-based trust because it refers to one's general tendency to believe or not to believe on others (Gefen et al., 2003; Mayer et al., 1995). This disposition is especially important in the initial phases of a relationship, and citizens are just beginning to acquire more meaningful information about the benefits and consequences of completing transactions with the government online, hence one's general propensity to trust will have an impact on e-government adoption through its influence on trust of the Internet and trust of the government (Bélanger & Carter, 2008). It follows that:

Hypothesis 1: Disposition to Trust (DT) is positively associated to trust in the Internet (TII).

Hypothesis 2: Disposition to Trust (DT) is positively associated to trust in the government (TIG).

Trust of the Internet and Trust of the Government

Trust of the government arises if citizens have confidence in the government (Reddick & Roy, 2013), reinforcing perceptions of integrity and reliability (Belanger & Carter, 2008; Lee et al., 2011). Trust building is an evolutionary process (Srivastava & Teo, 2009), suggesting that trust of the government can quickly change depending on how the government works (Karkin & Janssen, 2013). But few studies explored trust in the context of e-government (Beldad et al., 2012; Lee et al., 2011). Some studies considered trust in technology as a significant factor in the context of e-government, but few studies included a trust of the government as a significant antecedent (Belanger & Carter, 2008). Trust in e-government websites will

exist if the citizens have trust of their government (Belanger & Carter, 2008; Lee et al., 2011) leading to trusting government programs (Lee et al., 2011; Srivastava & Teo, 2009). In other words, trust in e-government is therefore composed of the traditional view of trust in a specific entity (trust of the government) as well as trust in the reliability of the enabling technology (trust of the Internet) (Beldad et al. 2012; Lee et al., 2011; Reddick & Roy, 2013; Pavlou, 2003).

It has been suggested that there are two targets of trust: the entity providing the service (party trust) and the mechanism through which it is provided (control trust) (Tan and Theon, 2001). Thus, users should consider both the characteristics of the Web vendor and characteristics of the supporting technological infrastructure before using an electronic-service (Pavlou, 2003). Trust of the Internet is consistently identified as a key predictor of e-service adoption, especially considering ongoing security and privacy concerns that hinder e-government use (Bélanger & Carter, 2008; Lee et al., 2011). This type of trust is frequently labeled institution-based trust which refers to an individual's perceptions of the institutional environment, including the structures and regulations that make an environment feel safe (McKnight et al., 2002). According to Shapiro (1987) institution-based trust is trust in the Internet: trust in the security measures, safety nets and performance structures of this electronic channel. E-government adoption is contingent upon citizens' belief that the Internet is a dependable medium capable of providing accurate information and secure transactions (Bélanger & Carter, 2008; Lee et al., 2011).

Citizen confidence in the ability of an agency to provide online services is imperative for the widespread adoption of e-government initiatives (Bélanger & Carter, 2008; Lee et al., 2011). Before endorsing e-government initiatives, citizens must believe government agencies possess the astuteness and technical resources necessary to implement and secure these systems (Bélanger & Carter, 2008; Lee et al., 2011). Candid, non-fraudulent interaction with the e-government service providers will enhance citizen trust and acceptance of e-government services (Bélanger & Carter, 2008). On the contrary, unfulfilled promises and dishonesty from government officials and employees will decrease trust and increase opposition to these initiatives (Bélanger & Carter, 2008). It follows that:

Hypothesis 3: Trust in the Internet (TII) is positively associated with trust in an e-government Web site (TEG).

Hypothesis 4: Trust in the Government (TIG) is positively associated with trust in an e-government Web site (TEG).

Trust and Information Quality

The relationship between trust and information quality is crucial since in all contexts of online exchanges; users are not in the appropriate position to touch, feel, and physically experience the object of the exchange (Cheng, Jubilado, Capistrano & Yen, 2015). This requires them to rely on detailed and clear information to decide what to do during the online exchange (Beldad et al., 2012). They need to trust the organization providing them with information before they can make evaluations on the provided information itself. In this sense, trust toward e-government website is significantly associated with information quality because the evaluation of how timely, valid, and accurate information on a website can depend on the level of trustworthiness towards the website (Khayun et al., 2011). To this end, citizens' perceived information quality depends on their level of trust on the e-government website (Khayun et al., 2011; Teo et al., 2009). This is because trust fuels expectations, as higher trust leads to more favorable perceptions of quality dimensions, in this case, information quality (Beldad et al., 2012). The more citizens trust the e-government website, the better they can discern the quality of the information being provided for them by that said website (Cheng et al., 2015).

Information quality denotes citizen's assessment of whether the information on the Web site is accurate, valid, and timely (Teo et al., 2009). A lack of trust in an e-government Web site will cause the citizen to have concerns with whether the government agency is publishing accurate and timely information on its policies and programs, and whether these policies and programs are themselves trustworthy, or is there some hidden political purpose other than for the best interests of the citizens (Teo et al., 2009). Past research in other contexts has consistently highlighted the positive impact of trust between partners on the perceived accuracy of information (Roberts & O'Reilly, 1974). Therefore, perceived information quality in an e-government Web site should vary based on the level of citizen trust.

Hypothesis 5A: Trust in an e-government Web site (TEG) is positively associated with the information quality (IQ) of that Web site.

Trust and System Quality

Trust will affect the perceived system quality of an e-government Web site (Teo et al., 2009). Citizens' beliefs that the government is managing the website capably will improve the e-government website's quality perceptions (Teo et al., 2009), especially regarding providing efficient processes (Khayun et al., 2011). Furthermore, the better the trust, the better the perceptions of system quality towards the e-government website will be (Khayun et al., 2011; Teo et al., 2009).

Hypothesis 5B: Trust in an e-government Web site (TEG) is positively associated with the system quality (SQ) of that Web site.

Trust and Service Quality

Trust in e-government will also affect perceived service quality of an e-government Web site (Teo et al., 2009). In studying trust in virtual teams, Jarvenpaa et al. (2004) argued that if trust exists among team members, then errors are more likely to be attributed to external factors. In the context of e-government, service quality perceptions involve interactions between citizens and government officials (Teo et al., 2009; Cheng et al., 2015). If trust in e-government is high, citizens are likely to be more tolerant and less demanding, and thus attribute negative experiences such as transaction delay or prolonged application processing time to reasons other than poor service. It follows that:

Hypothesis 5C: Trust in an e-government Web site (TEG) is positively associated with the service quality (SVQ) of that Web site.

Quality Perceptions, Satisfaction, and Intention to Continue

This study posits that citizen's perceptions of Web site attributes, that is information quality, system quality, and service quality, are related to satisfaction and intention to continue using the Web site. In this context, quality factors based on the IS Success Model (DeLone & McLean, 1992, 2003) and the nature of the e-government website (Aladwani, 2013; Floropoulos et al., 2010; Teo et al., 2009).

Information Quality and Satisfaction

Information quality of a government Web site is the quality of the content provided on the Web site (Teo et al., 2009). The better the content, the more favorable perceptions towards the website become (Aldawani, 2013). The dissemination of online information is the primary function of e-government (Schaupp et al., 2010), especially because citizens cannot physically observe and experience the transaction taking place (Beldad et al., 2011). A previous U.S. survey showed that looking for information accounts for 63 percent of total online activities with e-government Web sites (Anonymous, 2015). This suggests that searching for information is the most common reason for citizens to visit e-government Web sites (Schaupp et al., 2010). It follows that:

Hypothesis 6A: Information quality (IQ) is positively associated with satisfaction (SAT) toward that Web site.

System Quality and Satisfaction

While information quality denotes citizen's perception of the quality of Web content presented on an e-government Web site, system quality is defined as the degree in which the functionalities of the system can best address customer needs, with as much ease and as minimal problems encountered as possible (Chang et al., 2005).

System quality is an important determinant of Web site users' satisfaction (McKinney et al., 2002) and intention to continue using (Schaupp et al., 2010). In the context of e-government, system quality of an e-government Web site can is influenced by flexibility (Floropoulos et al., 2010), delivery, processing speed, and response speed (Chen, 2010), reflecting its efficiency and effectiveness (Cegarra-Navarro et al., 2012;

Hsieh et al., 2013; Venkatesh et al., 2012). A citizen is unlikely to be satisfied if they have experienced problems in navigation or has to wait a long time for loading of Web pages. It follows that:

Hypothesis 6B: System quality (SQ) is positively associated with satisfaction (SAT) toward that Web site.

Service Quality and Satisfaction

E-government should not only be regarded as mere automation of the existing services provided by the government, but it is also about transforming the current service delivery and reengineering processes within the government (Weerakkody et al., 2013; Srivastava & Teo, 2005). Thus, an e-government Web site can be analogically compared to a service agency with an IT interface that delivers services online. These services can include payment services, tax filing, passport application, filing claims with the Veterans Administration to name a few. The government officials behind the e-government Web sites are involved in delivering these services, including updating relevant information, fielding and responding to questions, and handling applications.

Service quality is an important factor because the timeliness, accuracy, and reliability of the responses to service requests, willingness to provide service, and the personal attention focused on the users' influence their satisfaction (Chen, 2010; Venkatesh et al., 2012). Service quality is a determinant of satisfaction because websites are expected to provide improved and simplified services to handle user problems (Floropoulos et al., 2010; Hsieh et al., 2013; Venkatesh et al., 2012). Therefore, service quality of an e-government Web site should include the overall service delivered by the government agency through the Web site (Teo et al., 2009). It follows that:

Hypothesis 6C: Service quality (SVQ) is positively associated with satisfaction (SAT) toward that Web site.

Quality Perceptions and Intention to Continue

Given that quality perceptions have been found to have a positive relationship with behavioral intention to use an IS (DeLone & McLean, 2003), the relationship is likely to hold true in the continuance context as well. Since the quality perceptions are largely formed through previous experiences with the Web sites, in the post-adoption stage, quality perceptions can have a direct impact on users' future intention to use the Web site or not (Teo et al., 2009). This will be especially true where citizens have the option of switching back to alternative means of accessing government services (offline channels) (Teo et al., 2009). Quality perceptions (information quality, system quality, and service quality) should have a direct influence on users' intention to continue using e-government services. It follows that:

Hypothesis 7A: Information quality (IQ) of an e-government Web site is positively associated with intention to continue (CONT) to use that Web site.

Hypothesis 7B: System quality (SQ) of an e-government Web site is positively associated with intention to continue (CONT) to use that Web site.

Hypothesis 7C: Service quality (SVQ) of an e-government Web site is positively associated with intention to continue (CONT) to use that that Web site.

Satisfaction and Intention to Continue

The purpose of an e-government Web site is to provide quality public services, and value-added information to citizens (Lee et al., 2005). Hence, the success of an e-government Web site is contingent on the citizen's satisfaction and continued usage of the e-government Web site (Wang & Liao, 2008). DeLone and McLean (1992) used satisfaction to capture an IS user's cumulative satisfaction with the experience of using IS over time, which implies that satisfaction is regarded more as a long-term factor. Seddon (1997) defined satisfaction in the D&M model as a subjective evaluation of the various consequences evaluated on a pleasant-unpleasant continuum. Applied to the context of e-government, to satisfy citizens, their needs and values on e-governance have to be prioritized when deciding on the system's designs and functions (Reddick & Roy, 2013). If a citizen has had a pleasant and easy experience of finding the information needed from an e-government Web site, they are more likely to use the Web site the next time they need similar information (Teo et al., 2009). This leads to the following hypothesis:

Hypothesis 8: The level of satisfaction (SAT) with an e-government Web site is positively associated with intention to continue (CONT) using that Web site.
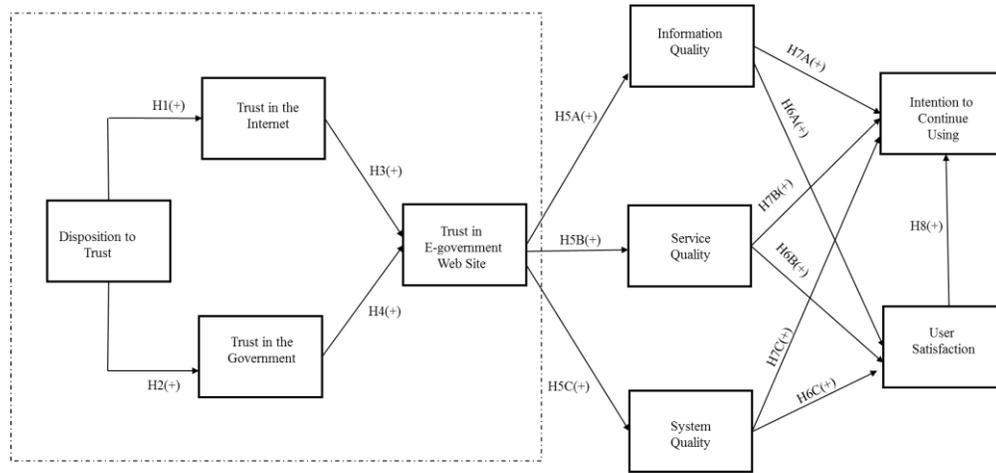

Figure 1: Research Model and Hypotheses

Methodology

This study was conducted at a military installation in the United States. This study gathered a total sample size of 243 individuals in a two-week period during 2017 (Pritchard, 2017). A convenience sample of the study was taken of individuals who were continued users of e-government Web sites. The respondents were comprised of individual citizens who are federal employees, military members and contractors. The online survey was distributed using SurveyMonkey.com which was explicit in their instructions that for anonymity's purpose, they would not track each of the respondents based on their IP address of the computer they used. All participants freely chose to participate in the study. In the consent portion of the survey, the participants were further screened to ensure that they were continued users rather than first-time users of e-government Web sites before they were allowed to participate in the study. Table 1 lists the Government websites that the participants visited.

Website they visit	Reason for the visit	Role of the user	Role of the Website
www.irs.gov	To retrieve information, e-file, and e-payment via Internet banking.	Interact with the system	Information retrieval, and capture tax information
www.opm.gov	To retrieve information and fill out security clearance forms.	Interact with the system	Information retrieval, and capture security clearance information
www.benefits.va.gov	To retrieve information, to file claims and check on status updates.	Interact with the system	Information retrieval, and capture information for claims

Table 1. Government websites visited by the study participants

Reliability and Validity

The measurement items suggested in this research study were selected from previous research studies and adapted for the context of this study. To test the reliability and validity of the questionnaire, convergent validity, discriminant validity and internal consistency of the constructs were examined. Eight times were removed due to low factor loadings. After removing the eight items, the final remaining indicators and their outer loadings are shown were identified. All outer loadings were higher than 0.708 in accordance with Hair et al., 2013. All composite reliability values were greater than 0.70, all average variance extracted (AVE) values were greater than 0.5, and √AVE values were found to be greater than 0.50 and the AVE value for that particular latent construct, which is consistent with Bagozzi & Yi (1988), Hair et al. (2010), and Fornell & Larcker (1981). So reliability, convergent validity, and discriminant validity have been achieved.

Analysis and Results

The Partial Least Squares (PLS) method for Structural Equation Modeling (SEM) was used to examine the hypotheses, as it is recommended for complex models or nomological networks (Wold, 1985) focusing on prediction. PLS was selected for three reasons: (1) because of its prediction and modeling capabilities, (2) due to the exploratory nature of the study, and (3) to perform multivariate analyses for this study. Bootstrap samples were used to test the significance of the PLS path model coefficients. The values used for bootstrapping were 5000 samples and 224 cases. Based on the analysis, we found that most of the path coefficients were significant except the paths between SQ->SAT, and SVQ-> CONT.

The results of this study provide answers to the following research questions:

RQ1: How are 'Trust in the Internet' and 'Trust in the Government' related to trust in E-government Web sites?

This study showed that there is a mild but lower positive relationship between 'Trust in the Internet' and 'Trust in an E-government Web site' that is statistically significant. There is also a moderate positive relationship between 'Trust in the Government' and 'Trust in an E-government Web site' that is statistically significant. The results are consistent with the predictions of the original hypotheses. This supports the work of Reddick & Roy (2013), Belanger & Carter (2008), and Lee et al. (2011) in which they point out that trust of the government arises if citizens have confidence in government reinforcing perceptions of integrity and reliability.

RQ2: How does trust influence the continued usage of E-government Web sites as it relates to the DeLone & McLean's framework of information systems (IS) success model in central Virginia?

This study showed that there are moderate to strong positive relationships between 'Trust in an E-government Web site' and all three 'Quality' variables which are statistically significant. There are also moderate positive relationships between both the 'Information Quality' and 'System Quality' variables and the 'Intention to Continue Using' variable which is statistically significant. However, there is no significant relationship between the 'Service Quality' variable and the 'Intention to Continue Using' variable. In other words, trust does influence the quality variables, and two of the three 'quality variables'' relationship positively influences the 'Intention to Continue Using' variable.

RQ3: Are there any mediating roles between trust and the quality attributes which influences the continued usage of e-government Web sites?

As previously stated, this study showed that there are moderate to strong positive relationships between 'Trust in an E-government Web site' and all three 'Quality' variables which are statistically significant. There are also moderate positive relationships between both the 'Information Quality' and 'System Quality' variables and the 'Intention to Continue Using' variable which is statistically significant. However, there is no significant relationship between the 'Service Quality' variable and the 'Intention to Continue Using' variable. In other words, trust does influence the quality variables, and two of the three 'quality variables'' relationship positively influences the 'Intention to Continue Using' variable.

After controlling for two specific demographic variables and testing for differences, the researcher tested to determine if there were any mediating roles between trust and the quality attributes which influences the continued usage of E-government Web sites. It was determined that there was partial mediation of the quality variables between 'Trust' and 'Intention to Continue Using' variable. Again, all predictions are consistent with the original hypotheses except the relationship between 'Service Quality' and "Intention to Continue Using' variable. This supports the work of Kelley (1973), Lee et al. (2011), and Teo et al. (2009).

This study further extends the work of Teo et al. (2009) with somewhat more favorable results though. Disposition to Trust, Trust in the Internet, and Trust in the Government is significantly related to Trust in the E-government Web sites very positively, and rather strongly. This suggests that governments need to build trust in users by addressing users' needs as well as by establishing a sound legal environment or setting up institutional trusting services for building trust (Srivastava & Teo, 2005). This was indicative by the overwhelming support of nearly 74% of respondents, who said that for them to trust an E-government Web site, it needs to be more secure or encrypted to protect their personally identifiable information. Also, over 88% of respondents stated that loss of personally identifiable information due to hacking would cause them not to trust the E-government Web site.

Limitations

This study has three limitations. First, this study was conducted on a United States base, in which most, if not all, of the employees, are federal civil servants, military members, and contractors. This research analyzes the data from people who interact and deal with the government on a regular basis to see how their perceptions of trust affect E-government success. Future research could explore the importance of trust in e-government to citizens who have had little to no interaction with E-government Web sites to identify any differences between the two groups.

Second, this research focuses on the direct effects of trust on IS success variables in the D&M model. However, the interaction effect of trust with other variables may provide further insights (Dirks & Ferrin, 2001; Jarvenpaa, Shaw & Staples, 2004), and future research could examine those effects as well as mediation or moderation roles of the other variables involved in the new model.

Lastly, because this research is conducted on a small United States Army base in central Virginia, there could be cultural issues at play as it pertains to trust and e-government success. Future research could look at cultural issues with citizens from other countries to see how that relationship either impedes or fosters trust in e-government usage.

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