

The Influence of Determinants of Citizen Relationship Quality in E-Government Adoption

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Abstract

This article aims to conduct empirical research on the relationship between determinants of citizen relationship quality and e-Government adoption. Using primary data from a cross-sectional field survey, 11 cities, towns, and districts in Tien Giang Province, Vietnam were analyzed. Statistical descriptive analysis was performed on the responses received from 529 respondents by using SmartPLS4 to evaluate the measurement and structural models. This research investigated four attributes such as perceived accountability, security, responsiveness, and transparency are some of the features studied along with their respective influences on the quality of relationships with citizens, which are drivers of e-Government adoption. Evidence from this study shows that when people have positive impressions of their government regarding security, responsiveness, and transparency, they are more likely to trust and satisfy their government and use e-Government services. However, there is no correlation between citizens' sense of responsibility and the quality of their interpersonal relationships. Additionally, there is a favorable correlation between relationship quality and the use of e-Government. The results provide new insight into the relationship between trust and satisfaction and the likelihood of using e-Government services. This research contributes to our understanding of what makes relationships flourish by delving into the dynamics between four factors: responsibility, security, responsiveness, and transparency. The findings aid practitioners like government agencies in better-comprehending e-service delivery, which in turn promotes more widespread use of e-Government.

Keywords

e-Government adoption, citizen relationship quality, perceived accountability and transparency, perceived responsiveness, perceived security

Introduction

Beginning in the early 1990s, e-Government initiatives were launched worldwide. Compared to more traditional means, e-Government can significantly save expenses while increasing the quality of service provided to citizens. The subject of how governments might boost citizen adoption and utilization of their online government services arises in light of the increased interest in e-Government. In addition, e-Government was associated favorably with raising public confidence in government transparency and accountability (Ahn and Bretschneider 2011), improving transparency to reduce corruption (Park and Blenkinsopp 2011). E-Government services aim to improve the quality of relationships between the government and its citizens and the use of e-Government improves the perception of government openness, efficiency, accessibility, and responsiveness among the general public (Tolbert and Mossberger

2006).

The potential of information and communication technologies to help governments better serve their constituents has led to the rise of e-Government. Despite governments' best efforts, citizens in underdeveloped nations are slow to embrace e-Government services. Examples of ongoing difficulties that these nations must deal with include low levels of public knowledge and confidence in government and the Internet (Ovais et al. 2013). Besides, the government of Vietnam also sees digital transformation as a key driver of progress and the surest path to regaining ground in industrialized countries (Nguyen and Tran 2022). Due to the worldwide spread of COVID-19, numerous countries imposed quarantine, self-isolation, and social separation. Therefore, technological applications are a good option for running, controlling, and maintaining business as usual. As a result, it raised awareness of the nation's e-Government expansion. Numerous works have been written on citizens' adoption of e-Government (Alzahrani et al. 2017; Al Athmay et al. 2016; Colesca and Dobrica 2008). So far, there needs to be more investigation into what influences the spread of e-Government in Vietnam. Hence, this research will prove its usefulness by filling a vacuum in the existing literature on e-Government adoption.

In this study, we propose the conceptual framework of determinants of relationship quality (trust and satisfaction), including four key determinants: perceived security, responsiveness, accountability and transparency one-Government adoption.

Therefore, the purpose of the research was to respond to two major research issues:

How do perceived security, perceived responsiveness, perceived accountability and perceived transparency affect citizen relationship quality in e-Government services?

How does citizen relationship quality affect e-Government adoption?

Primary data from 11 localities in Vietnam's Tien Giang Province were used to inform this study. SmartPLS4 was used to analyze the final dataset and assess the measurement and structural models.

This section of the paper will continue as follows. Our hypothesis and a summary of the relevant literature are presented in section 2. In section 3, we detail our data and methodology. The empirical findings are presented in section 4. In section 5, the results are discussed. The investigation culminates in section 6. The study's significance is discussed in section 7. In section 8, we recap our findings and provide some directions for further research.

Literature Review and Hypothesis Development

2.1 Socio Citizen Theory

Socio Citizen theory discusses government-citizen social media interactions. Uncertainty reduction theory, social information processing theory, and principal-agent theory hypothesize the relationship between three Socio Citizen constructs: quality anticipation, trust configuration, and authorized adaptation.

According to uncertainty reduction theory (Lind and van den Bos 2002), Uncertainty is unpleasant because it reduces predictability and manageability, threatening control (Tangirala and Alge 2006). According to uncertainty reduction theory, early communication length and depth may decrease uncertainty and increase trust (Sunnaf Frank 1986). Information quality influences consumers' trust and accuracy. Long-term interactions with an uncertain rise in social environment knowledge acquisition in this social context. These beliefs stress active social participation and self-understanding via various methods. Engaging may also fulfill internal needs. Satisfied information needs should increase clarity and social interaction. This hypothesis emerged. A government's social media content's meaningfulness and interactivity are anticipated qualities.

This social information processing theory explores how individuals shape their attitudes, behaviors, and perceptions, which rely on the social information available in their environments, often focusing on the workplace. For example, some unfriendly social information signals of leaders make team members face low psychological safety. According to the social information processing model (Fulk et al. 1987), understanding situated or socialized media use is critical

for productive human interactions. According to this hypothesis, configured trust is a person's assessment of the degree to which their trust requirements are met by the content and interaction qualities of government social media sites.

Principal-agent theory (Jensen and Meckling 1976) addresses situations in which the relationship between two parties, namely the principal and the agent, is cooperative and asymmetrical. Under principal-agent theory, steering and monitoring are key governance mechanisms that can encourage agents to act in the principals' interest (Fama and Jensen 1983). An important mechanism in cultivating relationships between principal and agent entities involves reducing information uncertainty, which can be governed through trust building and information quality improvement (Pavlou et al. 2007). Finally, approved adaptation is defined as interacting with social media services to improve knowledge of governmental operations and communicate with the government.

2.2 Perceived accountability and relationship quality

Common beliefs about the likelihood of explaining one's actions or ideas on an organizational issue to a constituency for reasons including social desirability concerns form the basis of the notion of accountability (Ammeter et al. 2004). Many governments have lost support because of a lack of accountability. One of the most crucial roles of government accountability is fostering public trust (Gordon 2000; Yousaf et al. 2016). Accountability in government decision-making and action-taking increases public confidence that their government has their back (Beshi and Kaur 2020). The government must take into consideration people's perceptions of accountability to earn their confidence (Rahaman 2008). People are more likely to trust their governments if they are well-informed about their leaders' decisions and have easy access to information about how their tax dollars are being spent and who is in charge (Porumbescu 2017). Previous research indicated that a higher level of accountability to people was associated with a higher level of satisfaction. It also asserted that accountability forces function in interpersonal relationships because it is part of a complex, subjectively judged relationship between two parties (Thoms et al. 2002). Based on the above ideas, the hypothesis is proposed:

H1. Perceived accountability has a positive relationship with citizen relationship quality.

2.3 Perceived responsiveness and relationship quality

Some researchers define responsiveness as interactivity, which is a service's capacity to adapt to its users' demands and preferences (Welch et al. 2005). What individuals think their government does in response to their concerns is known as perceived responsiveness (Anderson 2010). When a government is responsive, it provides individuals with information in response to their requests and addresses their concerns. Responsiveness is one of the variables of e-service quality substantially connected to citizen satisfaction (Saha et al. 2010). Satisfaction with government responsiveness boosts perceived government transparency and is linked with citizens' trust in the e-Government (Kim and Lee 2012). Additionally, customers' trust in a mobile commerce provider may be bolstered quickly if they get prompt responses to their inquiries (Corritore et al. 2003). A prompt response to customers' inquiries is likely to boost perceived convenience while decreasing uncertainty (Gummerus et al. 2004). Responsiveness is one of the factors regarded as one of the sources of customer satisfaction (Lee and Lin 2005). According to all these arguments, we propose the following hypothesis:

H2. Perceived responsiveness has a positive relationship with citizen relationship quality.

2.4 Perceived security and relationship quality

The Internet is the best and most efficient tool for citizens to contact their government at any time from any location. Despite these benefits, there are significant security dangers associated with internet use (Anwer et al. 2016). The main challenge for e-Government is security. Since the advent of information technology, there has been a surge in privacy concerns due to its widespread use in data collecting, storage, application, and interchange (Dixit and K. 2010). Citizens hesitate to use e-Government services because of worries about online transaction security and a lack of expertise. Trust was shown to be significantly influenced by individuals' perceptions of security (Alharbi et al. 2017).

Numerous studies have been conducted on the topic of online privacy and security. When first implementing a new piece of technology, it's crucial to think about issues of security (Centeno 2004; Tan and Teo 2000). Researchers found that both security and privacy had a positive and significant impact on users' trust in online services, with security's impact being more pronounced than privacy's (Hu et al. 2010; Kim et al. 2008), yet other research has shown that security measures have little impact on users' faith in online services (Bart et al. 2005; Belanger et al. 2002). Increasing trust in the government through improving citizens' impressions of the safety of governmental e-services is essential.

High levels of perceived security significantly impact how valuable an online service is, which in turn has a moderate impact on users' overall levels of satisfaction with and trust in government institutions (Wang 2014). Furthermore, citizens' trust in their government might benefit from the government's increasing efforts to build a secure exchange system with them (Welch et al. 2005). According to all these arguments, we propose the following hypothesis:

H3. Perceived security has a positive relationship with citizen relationship quality.

2.5 Perceived transparency and relationship quality

Transparency is the foundation of trustworthiness. As a result, the public's trust in the government may be bolstered by making the government and its administration more available and transparent via the use of publicly available information (Gordon 2000). One long-term and anticipated advantage of e-Government is increased transparency in the government's external ties and interactions (Basu 2004). Previous research indicated that e-Government transparency directly affects e-Government satisfaction and indirectly affects trust (Welch et al. 2005). In addition, citizen perspectives of government transparency, efficiency, accessibility, and responsiveness all increase with the adoption of e-Government (Tolbert and Mossberger 2006). Enhancing administrative transparency is often praised as the key to restoring public trust in government (da Cruz et al. 2016; Grimmelikhuijsen 2012; Welch et al. 2005). Generally, public trust in the government would increase if it were more transparent about its acts and inactions (Bannister and Connolly 2011). Hence, government transparency practices may greatly improve trust in local government. To bring people closer to their governments, transparency and accountability in public administrations are essential (Pina et al. 2010). Also, increased satisfaction with e-Government transparency and accountability leads to higher levels of trust in government (Welch et al. 2005). According to all these arguments, we propose the following hypothesis:

H4. Perceived transparency has a positive relationship with citizen relationship quality.

2.6 Citizen relationship quality and e-Government Adoption

Trust is faith in the dependability and integrity of the exchange partner (Morgan and Hunt 1994). Trust is essential in partnerships because it fosters commitment on both sides (Hrebiniak 1974). Lack of trust is the root of all relationship problems, and the commitment and trust between partners are the catalysts for productive collaboration (Morgan and Hunt 1994). A previous study discovered that trust boosted citizen satisfaction, and satisfaction also increased trust (Vigoda-Gadot and Yuval 2003). Partners are more likely to put time and effort into a relationship if trust exists among them (Naudé and Buttle 2000). Trust has been highlighted as a vital factor in encouraging citizens engagement and developing connections between the government and the public on social media (Cheng et al. 2017).

Satisfaction describes a buyer's or user's emotional and mental well-being after making a purchase or using a service (McKnight et al. 2002). Satisfaction is people's psychological emotion toward a variety of factors affected by a given situation (Wixom and Todd 2005). Satisfaction is proven to create a strong relationship, leading to relationship longevity (Storbacka et al. 1994). Satisfaction is important for relationship quality because it can increase cooperation between relationship partners, enhancing the relationship's strength and quality (Clark et al. 2017).

The relationship quality concept is derived from the theory of relationship marketing (Crosby et al. 1990). Relationship quality is measured by how well it satisfies the demands of the client in that relationship (Hennig-Thurau and Klee 1997). The quality of a relationship may be thought of as an overarching assessment of how healthy a connection is (Crosby et al. 1990). Relationship quality has three primary features: relationship commitment, relationship satisfaction, and trust (De Wulf et al. 2001). Multiple studies have used trust and satisfaction as benchmarks for measuring relationship quality, and their importance has been consistently affirmed (De Cannière et al. 2009; Naudé and Buttle 2000; Wilson and Jantrania 1994).

Satisfaction and trust were two indicators that researchers have widely used to confirm the effect on the influence of intention to use. Trust was hypothesized to significantly influence citizens' intention to participate in social media for e-Government services. Higher the amount of citizens' trust, the higher their intention to use social media for e-Government services (Khan et al. 2021). This result is consistent with the previous finding, which discovered that individuals' faith in e-Government services significantly affected their utilization (Abu-Shanab 2014). Perceived trust is a statistically significant factor influencing users' decision to adopt and use e-Government (Colesca and Dobrica 2008). Similarly, the adoption of e-Government services has been aided by an increase in trust (Abu-Shanab 2014; Fakhoury and Aubert 2015). A reliable service leads to a stronger perception of the long-term usefulness of using e-

Government services (Liu et al. 2014). Hence, people's willingness to engage with e-Government depends crucially on their level of trust in it.

Besides, citizens' satisfaction and desire to utilize e-Government services are important factors in the adoption of e-Government (Alzahrani et al. 2017; Al Athmay et al. 2016). When looking at the importance of trust in the effectiveness of e-Government, another research indicated that it greatly affects both continuation intention and satisfaction (Teo et al. 2008). Previous findings confirmed that citizen satisfaction can increase significantly their intention (Pereira et al. 2015). When evaluating the success or failure of an e-Government initiative, satisfaction was shown to be a crucial component (Hariguna et al. 2017). Apart from service accessibility and transparency, citizens' perceptions of active electronic communication are linked to their satisfaction with e-Government services (Welch et al. 2005). Also, higher levels of satisfaction and interactivity contribute to higher levels of trust in the government.

Some studies also explained that relationship quality affected the intention of information technology. Relationship quality can be a successful instrument or marketing mechanism, including using e-Government (Berlilana et al. 2018). The uncertainty reduction theory explains the relationship between citizen relationship quality and e-Government adoption. The following is the hypothesis:

H5. Citizen relationship quality has a positive relationship with e-Government adoption.

Figure 1 depicts the research model comprising the five hypotheses incorporating perceived security, responsiveness, accountability, and transparency that affect citizen relationship quality in a framework.

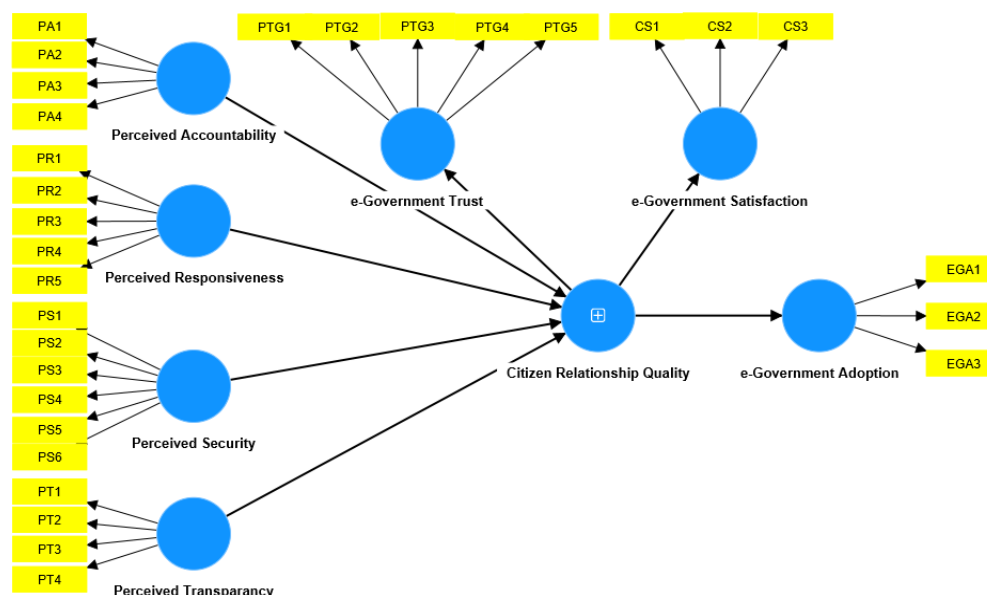


Figure 1. Research model

Methodology

3.1. Measurement

The questionnaires used in this study are part of a quantitative, cross-sectional data collection strategy. Perceived safety, responsiveness, accountability, transparency, quality of government-citizen interactions, and e-Government usage were the six factors we examined. E-Government trust and e-Government satisfaction were chosen to measure the quality of relationships with people. All items were scored between 1 (strongly disagree) and 5 (strongly agree) on a Likert scale. Table 5 has a comprehensive report on all aspects. Perceived accountability is mainly derived from 4-item scales developed by (Said et al. 2015). Perceived security was assessed with 6-item scales developed by (Khan et al. 2021). Perceived responsiveness was assessed with 5-item scales developed by (Beshi and Kaur 2020). To measure perceived transparency, a 4-item scale was adopted by (Beshi and Kaur 2020). Citizen relationship quality

was measured through e-Government trust and e-Government satisfaction. E-Government satisfaction was assessed with 3-items scales developed by (Alkraiiji 2021). Besides, e-Government trust was assessed with 5-item scales developed (Grimmelikhuijsen et al. 2013). Finally, e-Government adoption was assessed with 3-items scales developed by (Li 2021).

3.2 Data collection

A survey was undertaken in Tien Giang Province in Vietnam. Instead of counting how many people lived in each district, the survey was sent to as many houses as possible. Randomly chosen households who made use of e-Government services, each household received a single survey questionnaire. A total of 529 questionnaires were returned for a response rate of 70.53 percent over 11 areas, which includes eight districts, one city, and 2 towns.

Results

4.1 Reliability and validity evaluation

Table 1 presents the assessment of the measurement model. The internal consistency of the measurement scales was determined using Cronbach's alpha (α) as part of the reliability investigation (Hair et al. 1998). The value of α is above the acceptable value of 0.6, representing reasonable scale reliability. In addition, composite reliability (CR) values were higher than the threshold of 0.70, which meant the measurement model was trustworthy and consistent.

Dimensionality analysis based on the factor loading score is performed using the EFA method. Each item's factor loading score has to be at least 0.5 for satisfactory convergence (Hair et al. 1998). To provide discriminant validity evidence, the average extracted variance (AVE) between any two items must be larger than the squared correlation estimates between those constructs (Hair et al. 1998). The AVE values were used to verify the factor loading at the threshold of 0.5 (Hair et al. 1998). As can be seen from Table 1, convergent validity is met since all values are inside the criteria.

Table 1. Assessment of the Measurement Model

Constructs		Indicators	Loadings	α	CR	AVE
Perceived accountability (PA)		PA1	0.922	0.930	0.950	0.826
		PA2	0.875			
		PA3	0.920			
		PA4	0.918			
Perceived responsiveness (PR)		PR1	0.713	0.892	0.921	0.702
		PR2	0.870			
		PR3	0.847			
		PR4	0.883			
		PR5	0.864			
Perceived security (PS)		PS1	0.902	0.935	0.949	0.757
		PS2	0.911			
		PS3	0.869			
		PS4	0.808			
		PS5	0.894			
		PS6	0.830			
Perceived transparency (PT)		PT1	0.864	0.933	0.953	0.834
		PT2	0.934			
		PT3	0.932			
		PT4	0.921			
Citizen relationship quality (CRQ)	E-Government trust (e-GT)	PTG1	0.906	0.959	0.966	0.778
		PTG2	0.869			
		PTG3	0.884			
		PTG4	0.834			
		PTG5	0.905			
	E-Government satisfaction	CS1	0.920			
		CS2	0.901			

	(e-GS)	CS3	0.834			
E-Government adoption		EAG1	0.946	0.937	0.960	0.888
(e-GA)		EAG2	0.933			
		EAG3	0.948			

4.2 Results of the structural model

The heterotrait-monotrait (HTMT) ratio, has been evaluated to determine discriminant validity. When the HTMT is less than 1, discriminant validity is often validated in PLS-SEM (Henseler et al. 2016). All values are within the allowed ranges, as indicated in Table 2, demonstrating discriminant validity. In conclusion, the reflecting measurement model's convergent and discriminant validity were both established.

Table 2. Heterotrait–Monotrait ratio (HTMT)

Citizen Relationship Quality (CRQ)					
Perceived Accountability (PA)	0.818				
Perceived Responsiveness (PR)	0.957	0.942			
Perceived Security (PS)	0.962	0.844	0.984		
Perceived Transparency (PT)	0.844	0.999	0.930	0.870	
e-Government Adoption (e-GA)	0.790	0.827	0.800	0.772	0.811

4.2.1 Direct effect

Table 3 presents the results of the hypothesis testing. Perceived accountability ($\beta = -0.071$, $p=0.190$) was not significantly related to citizen relationship quality. Therefore, H1 was not supported. In contrast, perceived responsiveness ($\beta = 0.313$, $p=0.000$), perceived security ($\beta = 0.584$, $p=0.000$), and perceived transparency ($\beta = 0.126$, $p=0.036$) were all significantly positively related to citizen relationship quality, supporting H2, H3, and H4. Similarly, citizen relationship quality ($\beta = 0.750$, $p=0.000$) was positively related to e-Government adoption, consistent with H5.

Table 3. Total direct effects

Hypothesis	β	Mean	St.Dev	t-Value	p-Value	Results
H1. PA $\rightarrow$ CRQ	-0.071	-0.071	0.055	1.310	0.190	Not support
H2. PR $\rightarrow$ CRQ	0.313	0.314	0.048	6.482	0.000	Support
H3. PS $\rightarrow$ CRQ	0.584	0.584	0.048	12.224	0.000	Support
H4. PT $\rightarrow$ CRQ	0.126	0.126	0.060	2.096	0.036	Support
H5. CRQ $\rightarrow$ e-GA	0.750	0.749	0.027	27.850	0.000	Support

4.2.2 Indirect effect

Table 4 present the results of the indirect effect. The indirect effect of perceived security ($\beta = 0.438$, $p=0.000$), perceived transparency ($\beta = 0.095$, $p=0.035$) and perceived responsiveness ($\beta = 0.235$, $p=0.000$) on e-Government adoption through citizen relationship quality significantly positive relation. In contrast, the indirect effect of perceived accountability ($\beta = -0.054$, $p=0.187$) on e-Government adoption through citizen relationship quality has not a significant relation.

Table 4. Total indirect effects

Hypothesis	β	Mean	St.Dev	t-Value	p-Value	Results
PS $\rightarrow$ CRQ $\rightarrow$ e-GA	0.438	0.437	0.040	10.848	0.000	Support

PT → CRQ → e-GA	0.095	0.094	0.045	2.107	0.035	Support
PA → CRQ → e-GA	-0.054	-0.053	0.041	1.319	0.187	Not support
PR → CRQ → e-GA	0.235	0.235	0.037	6.397	0.000	Support

Discussion

This study contributes to the existing literature on e-Government by developing a novel model for boosting e-Government adoption through improved citizen connections. Findings from this study highlight the significance of government accountability, security, openness, and responsiveness to the success of e-Government adoption. Public organizations, e-Government strategists, and developers in Vietnam may utilize this research's findings to better provide e-Government services.

Perceived accountability is not associated with citizen relationships. It shows the opposite finding with previous research quality (Beshi and Kaur 2020; Gordon 2000; Yousaf et al. 2016). The Vietnamese government needs to do a better job of keeping its people informed. If the government provides its citizens with up-to-date information through Internet services, they will be more happy and trust the government. Therefore, the government should prioritize expanding its online services to foster better interactions with its constituents.

In contrast, the results show that all perceived responsiveness is significantly associated with their citizen relationship quality, which is consistent with previous findings (Corritore et al. 2003; Gummerus et al. 2004; Lee and Lin 2005; Saha et al. 2010). Improving the quality of citizen relationships requires understanding customer needs and developing the service based on input, such as adding new discussion groups on request and the rapid response to consumer comments.

The findings also show that perceived transparency is significant with their citizen relationship quality, in line with prior results (Basu 2004; da Cruz et al. 2016; Grimmelikhuijsen 2012; Tolbert and Mossberger 2006; Welch et al. 2005). Citizens believe that for e-Government to gain their confidence, it must address transaction, transparency, and interaction difficulties.

Similar to previous findings, perceived security also has a positive relationship with citizen relationship quality (Hu et al. 2010; Kim et al. 2008; Wang 2014; Welch et al. 2005). Vietnamese citizens seem to place a high value on privacy protection when it comes to using social media to access e-Government services. While people are assured a better degree of privacy when utilizing social media for e-Government services, they are more likely to make public information about themselves in order to engage with government agencies.

Finally, the results show citizen relationship quality is significantly associated with e-Government adoption, which is consistent with previous findings (Abu-Shanab 2014; Alzahrani et al. 2017; Al Athmay et al. 2016; Berlilana et al. 2018; Colesca and Dobrica 2008; Khan et al. 2021; Liu et al. 2014). The user's behavior may be influenced for the better through the chain of belief satisfaction. Moreover, the findings suggest that it's crucial to comprehend all of the contextual factors involved in e-Government adoption.

Implications

6.1 Theoretical Contributions

Theoretical development may benefit from this work in several ways. This study proposes a theoretical model for investigating the uptake of e-Government from the advantage point of the people of Vietnam. The results of this study provide useful recommendations for advancing the implementation of government in Vietnamese government and public institutions. Therefore, our research adds to what is already known about how citizen relationship quality influences their propensity to use e-Government services through perceived accountability, security, responsiveness, and transparency.

6.2 Practical Contributions

The use of the internet and social media is infancy in a developing nation. Vietnam's government agencies must thus work to improve their perceived security, responsiveness, and transparency. These kinds of initiatives may encourage people to have a deeper familiarity with, confidence in, and enjoyment of using e-Government services.

The Vietnamese government should have a policy of adopting technologies that improve the efficiency, openness, and safety of e-Government networks. The result points to the need for public institutions to increase e-Government adoption by increasing the transparency of public decision-making. Putting these results into action may result in improved plans and policies for e-Government expansion in Vietnam. Besides, responsiveness also plays an important role because the people need accurate information to evaluate their government's performance or make informed plans. The government, in particular, is only useful to the public if its actions are explained to the people. Hence, the government should allow citizens to access government-related information such as budgets, legislation, policies, public service processes, regulations, tenders, and staff contact information in a time- and effort-saving way. Furthermore, as internet technologies advance and websites can give more focused information, the desire for customization keeps rising (Gurau et al. 2003). The Government must ensure that citizens receive relevant information while simultaneously protecting their privacy because personalization should not be intrusive. As a result, public agencies should make an effort to educate the public about the policies, security measures, and dependability of their e-Government infrastructure and social media channels. This research also demonstrated the importance of local government's responsiveness to residents' needs in fostering public trust in such administrations. To maintain its credibility and competitiveness and, most importantly, to preserve public trust, the government must do its part in efficiently managing citizen expectations.

Knowing what variables contribute to the future preservation of the quality of the interaction between people and e-Government services is crucial for the practitioner, such as government entities participating in the delivery of e-services. The findings will also inform policymakers about the factors that most affect people's need for and satisfaction with this service. The results emphasize the significance of citizens' trust and satisfaction as a crucial part of their behavior to utilize e-Government services and the necessity for government entities to recognize this. Citizens' confidence in these types of e-Government services might encourage policymakers and government agencies to reevaluate their practices and develop more effective methods of governing.

Conclusion

This research stresses fresh discoveries on the function of citizen connection quality and its effect on the choice of people to embrace e-Government, which has not been completely studied in the prior literature. Additionally, this research highlights the impact of citizen relationship quality and e-Government adoption on the drivers of traits such as perceived accountability, perceived security, perceived responsiveness, and perceived transparency. The results confirm that citizens' perceptions of the government's security, responsiveness, and transparency have a beneficial effect on both the quality of their relationships with the government and relationship quality enhances their willingness to utilize e-Government services.

Limitations and future research

While this study has certain limitations, they are all accessible for further research. Firstly, the respondents were randomly picked from rural areas where residents need help to adopt e-Government services due to their conditions. As a result, it is possible that the sample data does not accurately reflect the community as a whole and may reflect general biases. As a consequence, this study's findings may be skewed. Secondly, since this study's findings have only been verified in Vietnam, its applicability is limited to the Vietnamese cultural setting. Future research might be conducted in several nations, allowing for valid cross-national comparisons. The potential generalizability of the study results might be realized by replication of the research in other nations. Finally, the present research used a quantitative methodology to verify the model's inter-construct connections. In the future, a qualitative or hybrid method may be used to uncover even more components and additional correlations, which would support the current results even more. By doing so, we may learn more about the factors influencing individuals' willingness to utilize social media for e-Government services.

Acknowledgment: This research is funded by International University, Vietnam National University NU-HCM under grant number SV2022-PM-02

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Appendix A

Table 5. Comprehensive report on perceived factors responsible ,measure

Constructs	Items	Measures
Perceived accountability	PA1	The program's efficiency in attaining its goals will be tracked and reported on regularly by the local government.
	PA2	Local authorities are aware of their duties to the citizenry.
	PA3	Local government strictly adheres to the guidelines set out by the Treasury.

Perceived responsiveness		PA4	Expenses are controlled in a lawful and effective way by the local government.
		PR1	The local government cares about public opinion.
		PR2	The local government is good at responding to citizen concerns.
		PR3	Local government is making strong efforts to help those in need.
		PR4	The local government effectively meets the demands of its citizens by delivering high-quality services.
Perceived security		PR5	Concerns voiced by citizens are listened and addressed in a timely manner.
		PS1	The government was informed of my personal details through a secure online application.
		PS2	My online application data will not be sold to third parties and will only be used by the relevant government agencies.
		PS3	Without my consent, government agencies will not disclose any information I provide in the online application.
		PS4	Security-enhanced social media platforms are being used by government agencies to prevent unauthorized access to citizens' personal information.
Perceived transparency		PS5	Local government media played a key role in preventing unauthorized data access.
		PS6	Media has the capacity to resolve security challenges when used in public service.
		PT1	The city is open and honest in how it handles public works projects.
		PT2	Detailed information on how the government completes its public works projects is made available to the public.
		PT3	The progress and current state of public works projects may be easily seen by locals.
Citizen relationship quality	E- Government trust	PT4	Local residents may be able to instantly see the development and status of public works projects.
		PTG1	E-Government services are serving the public interest.
		PTG2	E-Government services are effective.
		PTG3	E-Government services provide great public services.
		PTG4	E-Government services are sincere
	E- Government satisfaction	PTG5	E-Government services are trustworthy
		CS1	I have used SmartID with great pleasure. Consequences of my continued usage of SmartID for government services range from extremely negative to extremely positive.
		CS2	My experience with using SmartID for government services so far has ranged from terrible to excellent.
		CS3	Consequences of my continued usage of SmartID for government services range from very undesirable to highly beneficial.
		EAG1	I am open to making an enquiry using e-Government portals.
E-Government adoption		EAG2	I am open to using digital services including digital tax filing, digital approval, and digital certificate application.
		EAG3	I'm glad to provide my thoughts through e-Government websites..

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