
Measuring citizen's satisfaction when using E-Government online public services: Lessons from Vietnam

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Abstracts:

This study aims to evaluate the factors affecting the satisfaction of citizen when using online public services through data collected from direct surveys of people. Research results show that Quality of online public services, Citizen's awareness, Privacy and security, Trust and accessibility affect citizen's satisfaction when using online public services. Based on these results, the study also gives some discussion and governance implications for researchers as well as policy-makers in improving citizen's satisfaction as well as attracting more users for online public services in Vietnam context.

Keywords: Online public service quality, Awareness, Security and privacy, Trust, Accessibility, E-satisfaction.

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1. INTRODUCTION

E-government is a model of information and communication technology application to serve internal activities to provide public services to people and businesses. Since the early 90s of the last century, most of the leading industrialized countries in the world have implemented the program of building and developing e-Government, in order to respond in the best way. the society's growing needs, improve capacity and adaptability, and reduce the operational costs of the Government.

Many countries around the world have successfully deployed e-Government such as the United States, Singapore, Egypt, Korea, Japan ... In Vietnam, e-government is generally still new, implemented since five years ago. 2003, however, until 2010, it has only started to develop strongly.

Facing the requirements of the 4.0 revolution, the Government of Vietnam is intensifying the administrative reform, especially online public services to improve the efficiency and effectiveness of state management, in the Resolution 36 of the Ministry. Politics has stated until 2020: “Effectively implement the administrative reform program, closely linked with the development of e-government and the provision of online public services at a high level into many areas. field”.

Up to now, Vietnam has set up a number of fundamental databases, such as the National Business Registration Database, the National Insurance Database, and the National Database. about population. The national land database is being built and has all components put into operation. In particular, it is impossible not to mention that state agencies have provided many essential online public services for businesses and people such as: business registration, tax declaration, tax payment, electronic customs, social insurance ... Some ministries and branches have handled work dossiers in the online environment. In some localities, the electronic one-door information system has been put into operation, gradually improving the transparency and responsibility of the civil servants.

Compared with the traditional public administration, the use of online public services has the following benefits: Online provision of public services is an important part of the PAR process. E-government. That not only creates conditions for people and businesses but also reduces the pressure on working papers on state management agencies. With the development of information technology, it is possible to provide information about the current state of the process. With the above advantages, it proves that the provision of online public services is considered an important step in the process of administrative reform (PAR) and e-Government implementation. Using online public services helps reduce the time to send and receive documents, reduce effort, and increase economic efficiency.

Currently, the quality of public administrative service delivery is necessary to narrow the gap between service delivery quality and the expectations of organizations and citizens when using administrative services. The quality of service delivery is good when the services meet or exceed the expectations of the organizations and citizens. However, in order to be able to compare and determine that distance, it is necessary to have specific evaluation criteria, how to collect information and measure the results in a scientific and reasonable way. Through the collection and synthesis of the organization's perceptions and assessments, citizens have directly used the service and supported research work through providing data and objective information about the public service delivery and limited public administrative service delivery can be used to improve the quality of public service delivery effectively.

Stemming from the above reasons, the authors decided to carry out this study with the following contents: after the first part introduces the reason for the formation of the study, followed by part 2 presenting the theoretical basis and research model, part 3 research methods, part 4 data analysis results and part 5 implications of future management, limitations and research directions

2. RESEARCH MODEL AND THEORIES

2.1 Theories

2.1.1 Service quality

Lehtinen & Lehtinen (1982) argued that service quality must be assessed on two aspects, (1) service delivery process and (2) service results. Gronroos (1984) also suggested two components of service quality, namely (1) technical quality, that is what the customer receives and (2) functional quality, interpretation of service provided. level like. However, when it comes to service quality, we cannot help but mention the great contribution of Parasuraman & CTG (1988, 1991). Parasuraman et al (1988, p. 17) define service quality as "the degree of difference between the consumer's expectations of the service and their perception of the results of the service". These authors have initiated and used qualitative and quantitative research to build and test the scales of components of service quality (called SERVQUAL). The SERVQUAL scale is adjusted and tested in many different types of services, including 22 variables to measure the five components of service quality, namely: reliability, responsiveness, assurance, tangibles and empathy. Parasuraman & CTG (1991) affirms that SERVQUAL is a complete scale of service quality, value and reliability, and can be applied to all types of services.

2.1.2 Public administrative services

The term public service has been widely used in developed countries since the 1980s, but has only been used in Vietnam in recent years. There are many different views on public services, but it can be understood that "Public service is an activity that serves essential common needs, basic rights and obligations of citizens, performed by state agencies or mandate for non-state organizations".

In this study, public administrative services are activities that serve the common interests, essential or facilitate the exercise of rights and obligations of individuals and organizations, which are performed by state administrative agencies. into the administrative - legal authority of the state on the principle of equality, not for profit on the basis of the needs of individuals and organizations to establish, maintain and protect the administrative management order of the house. country.

2.1.2 Quality of online public services

2.1.2.1 Online public services

Online public services are specified in Decree No. 43/2011 / ND-CP dated June 13, 2011 on the promulgation of Regulations on the provision of online public services on websites or web portals. State agencies' information is as follows: "Is public administrative services and other services of state agencies provided to organizations and individuals in the network environment".

In Article 3, Circular No. 26/2009 / TT-BTTTT dated July 31, 2009 of the Ministry of Information and Communications, clearly states regulations on the levels of online public services in Vietnam by public administrations. includes 4 levels to provide organizations and individuals in the network environment:

Online public service level 1: Information about processes, records, procedures, deadlines, service fees is fully provided at online public service level 1.

Online public service level 2: includes online public service level 1 and allows users to download declarations, text templates to complete documents on request. After completing the dossier, the user will send it back to the agency providing the customs clearance service in two ways: directly or by post.

Online public service level 3: includes online public service level 2 and allows users to declare information and send completed documents online to organizations and state agencies. service. All transaction processing records are done on the network environment. The last step is to pay the fee (if any), users need to go directly to the organization or the service provider to complete and receive the results.

Level 4 online public services: include level 3 online public services. Level 4 online public services will allow users to pay fees (if any) directly on the internet. Users can get back the results in 3 forms: send by post, send in person or send online.

2.1.1.1 Quality of online public services

Coordinating from the advent of the Internet and previous studies on traditional service quality, the concept of online service quality (DVTT - E-SERVQUAL) was born. But the question of the availability of the traditional service quality scale in the private service has caused controversy among academic researchers.

Parasuraman et al (2005) think that the quality of service can be based on the theoretical basis of traditional service quality on the basis of definition, conceptualization and measurement. SERVQUAL's traditional quality of service is conceptualized as reliability, responsiveness, assurance, empathy, and tangibility. However, Parasuraman et al. (2005) also argued that traditional service quality relies heavily on service delivery with service provider interaction and employee interaction. Meanwhile, the service provider considers the interaction between the customer and the technology used by the service provider. Therefore, the development of a scale of the quality of service services has been focused on by academic researchers.

The quality of the service service is conceptualized (Conceptualization) very differently. According to Zeithaml et al (2002), the quality of service services (E-SQ) is "the extent to which the Website promotes the effective shopping". A pioneer in the research on service quality, Zeithaml et al. (2002) viewed service quality on the Internet as the extent to which the Website facilitates efficient shopping and delivery. Research by Zeithaml et al (2002) focuses on customer interaction with Website. Lociacono et al (2000) built a WebQUAL scale consisting of 12 components: matching information with work, interaction, trust, response time, attraction of emotional flow, information integration, business process, substitution, design, intuition, creativity, and visual appeal.

The purpose of this scale is to collect information for Website designers rather than measure service quality. Yoo & Donthu (2001) developed the SITEQUAL scale to measure service quality with four components: ease of use, aesthetic design, processing speed, and security. The Yoo & Donthu (2001) scale is simpler than the Lociacono et al (2000) scale, but the scale does not contain all aspects of the online buying process. Wolfinbarger & Gilly (2003) constructs the ETailQ scale. This scale includes four factors: Website design, order fulfillment, security, and customer service. Parasuraman et al (2005) developed the E-SQUAL with four components: efficiency, system availability, order fulfillment, and security.

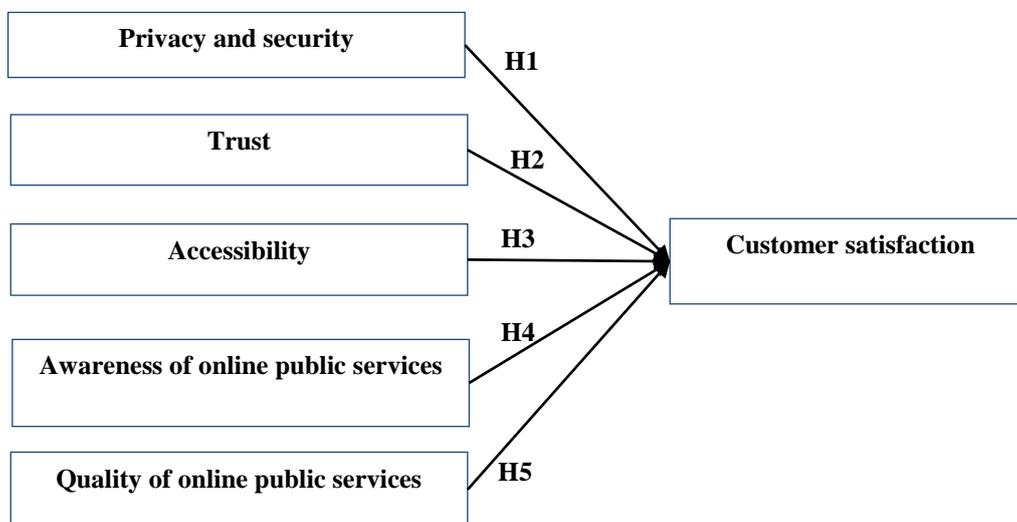
This study uses the Parasuraman et al (2005) scale because this scale is applied in many areas of electronic services such as banking, online shopping and online flight ticket purchase.

2.2 Research model and hypotheses

2.2.1. Proposed research model

Inheriting research in the field of online public administrative services in Jordan by Ali et al. (2013) to evaluate the quality of online public services in Vietnam with the desire to evaluate the effectiveness of translation quality. How has the online public service brought people's satisfaction, met the government's goal or not.

The model pays attention to 5 factors that affect the quality of online public services: safety and privacy, trust, accessibility, awareness of online public services, and quality of online public services.



Hình 1: Proposed research model

2.1.2 Research hypotheses

Security and privacy:

Information security continues to be one of the most important topics in e-commerce. Businesses and consumers continuously send confidential information to customers and suppliers over the internet. As the number of these transactions increases, the number of security attacks including data theft, malicious file corruption and even shutdown of electronic business (Cronin, 1995) believes the problems. Privacy like security, censorship, and eavesdropping will prevent communication. As a result, it is easy to see that security is the foundation for e-business integrity and growth. It is even more important for e-Government, as governments often keep more information about their "customers", ie, citizens, than web providers.

Security in the form of keeping customers safe from an invasion of their privacy, compromising trust and satisfaction. Since security is closely related to trust, breaches of security standards can backfire on client loss and negative word of mouth (Dixit & Datta, 2010).

For the purposes of this study, the security and privacy structure is defined as the citizen's perception of a national e-government portal as a secure foundation without any uncertainty or consequences. disadvantage of using e-Government and the ability to determine when and to what extent information about them is communicated to others to maintain confidentiality.

The following hypothesis is proposed:

H1. Privacy and privacy have a positive effect on people's satisfaction.

Trust:

Trust is an important component to any success of a successful e-Government project, which is a key factor in the successful development of e-Government services (Kim et al., 2009). Customer trust can be defined as a set of beliefs held by an online consumer in relation to some of the electronic vendor's characteristics, as well as possible behavior of the consumer. future electronics supplier (Coulter & Coulter, 2002). Lee and Lin (2005) argue that trust promotes online purchases and influences customer attitudes toward buying from retailers. (Kim et al., 2009) conducted a longitudinal study in the United States and found that online customer trust is closely related to loyalty.

Trust is crucial for any long term business relationship. It is critical wherever risk, uncertainty or interdependence exists, as it is potentially risky. Web providers are interested in building exchange relationships with consumers. An important precursor for continued exchange relationships is consumer confidence and intent in relation to web vendor trust. Such beliefs depend on the level of risk consumers perceive as well as their perceived control over the information they have to communicate with the web provider (Palvia, 2009).

For the purposes of this study, trust building is defined as the willingness of citizens to rely on e-government portals to conduct government transactions based on feelings of confidence or assurance.

The following hypothesis is proposed:

H2. Trust has a positive effect on people's satisfaction.

Accessibility:

As the internet rapidly became the primary source of information and services, a well-designed e-Government website became essential so that citizens could access public information and improve participation. Government websites can serve as a tool for both communications and public relations to the public. Henry (2006) defines web accessibility as getting people to use, understand, understand, navigate and interact with the web. The International Organization for Standardization (ISO) has defined accessibility as "the usability of a product, service, environment or facility of those with the widest range of capabilities". Park and Kim (2003) find that UI quality directly affects customer satisfaction, as it provides physical evidence of service provider's capabilities as well as facilitates conducive to using the service. Therefore

The following hypothesis is proposed:

H3. The accessibility of the e-government portal has a positive effect on the satisfaction level of people.

Awareness of online public services:

Awareness of online public services is awareness of citizens when using services. Perception is an important factor in getting customers to accept and use electronic services. Customers need to feel and realize the benefits of any electronic application, otherwise they will be reluctant and skeptical to use it. Pikkarainen et al. (2004) reported that the amount of information a customer has about any internet application and its benefits can have a significant impact on application adoption.

For the purpose of this study, perceptions about public service development are defined as citizens' perceptions of benefits and information about products and services provided in National Web Portal and degree that people know the portal.

The following hypothesis is proposed:

H4. Perceptions about online public services have a positive effect on the level of satisfaction of people.

Quality of online public services

The perceived quality of a service has two dimensions. Response speed, coupon updates, website performance ..., referring to technical quality (Rust & Lemon, 2009). Interactive communication, personalized communication and service, as well as new forms of customer outreach address the functional aspect of quality.

Product / service quality is defined as the customer's perception of the quality of information about products / services provided by a website (Park & Kim, 2003). The quality of website content has been argued as the premise of online consumer trust (Mcknight et al., 2002). In addition, Park and Kim (2003) found that information quality directly affects customer satisfaction.

The following hypothesis is proposed:

H5. Quality of online public services has a positive effect on the level of satisfaction of people.

3. METHOD OF RESEARCH

Research is conducted through two phases: preliminary research and formal research. Preliminary study with group discussion technique to adjust the scales. Formal research through quantitative methods to test hypotheses based on data collected by survey questionnaires.

The sample is selected by the convenient method. In order to enhance the generalization of the data we collected data through online survey questionnaires and interviewed people directly using the services at the provincial administrative center.

The scale used to measure research concepts is inherited from previous research (Ali et al., 2013), then adjusted to suit the research and cultural context of Vietnamese people. At the same time the authors added a few statements from the qualitative research results.

4. THE RESULTS OF DATA ANALYSIS

4.1 Sample description

After discarding some invalid responses, 375 remaining were eligible for further analysis. The sample used in this study is selected based on 5 criteria: age structure, sex, income,

education level and working age of people using online public administrative services in Lam province. Copper. The descriptive statistical results show that there is a balance in the sex structure of the study sample, men account for a larger but not significant proportion. In terms of age, people in the survey sample from under 30 years old and 31-45 years old make up the majority (accounting for over 78%). In terms of income, people implementing online HCC services have an income of between 5 and 10 million, accounting for the majority (accounting for over 30% of the survey sample), followed by an income of between 10 and 15 million VND, accounting for 24.5% rate in research sample. In terms of education level, people mainly have intermediate education or higher (accounting for 73.3% of the study sample), the number of people with high school education accounts for the lowest percentage of 16.7% of the total. research sample.

Table 1: Results of descriptive statistics

Features		Số lượng	Tỷ lệ
Sex	Male	203	54.1
	Female	172	45.9
Age	< 30 age	136	36.3
	30-45 age	157	41.9
	> 45	82	21.9
Income	<5 min VND	69	18.4
	5-10 min	113	30.1
	10-15 min	92	24.5
	10-25 min	76	20.3
	>25 min	25	6.7
Education	University, Postgraduate	147	39.2
	Colleges	128	34.1
	Highschool	100	26.7
Total		375	100

4.2 Verification of the scale

4.2.1. Verify the reliability of the scale

The results of evaluating the reliability of the scale show that Cronbach's Alpha coefficients ranged from 0.878 to 0.952 and the total variable correlation coefficients of observed variables ranged from 0.633 to 0.986. Therefore, the observed variables met the conditions to continue performing the next analysis, except for NT4 because the total variable correlation coefficient was less than 0.3.

Table 2. Results of testing the reliability of the scale

Scale	Code	No of variables	Coefficient		Cronbach's Alpha
			Min	Max	
Privacy and security	BM	7	0,685	0,864	0,938
Trust	LT	5	0,633	0,762	0,878

Accessibility	KNTC	6	0,795	0,838	0,936
Awareness of online public services	NT	6	0,643	0,824	0,888
Quality	CLDV	9	0,782	0,847	0,952
Satisfaction	YDHV	3	0,836	0,906	0,937

(Source: Author calculation)

4.1.2. Discovery factor analysis

Exploratory factor analysis (EFA) is used to preliminary assess the validity of the scale after evaluating the reliability of the scale by Cronbach's Alpha coefficient.

For the scale of independent factors, the results of EFA analysis with 32 observed variables, KMO coefficient = 0.879 satisfactory is greater than 0.5 and Barlett coefficient has significance level Sig = 0.000 < 0.5 control demonstrate suitable data for factor analysis. The value of the total variance extracted is 72.817%, that is, 32 variables extracted for 5 factors, about 72.817% are explained, the variability of the observed variables, and the multiplier load factor are all greater than 1 should achieve request.

Table 3. Analysis of discovery factors

Variables	Components				
	1	2	3	4	5
CLDV7	0,838				
CLDV6	0,832				
CLDV9	0,825				
CLDV8	0,819				
CLDV5	0,819				
CLDV2	0,810				
CLDV1	0,808				
CLDV4	0,791				
CLDV3	0,775				
BM6		0,858			
BM5		0,850			
BM7		0,827			
BM3		0,809			
BM2		0,784			
BM1		0,765			
BM4		0,737			
KNTC6			0,857		
KNTC2			0,856		
KNTC3			0,848		
KNTC1			0,843		
KNTC5			0,838		
KNTC4			0,826		
NT6				0,895	

NT1				0,849	
NT3				0,840	
NT5				0,804	
NT2				0,763	
LT5					0,839
LT1					0,834
LT4					0,832
LT2					0,775
LT3					0,747

For the scale of the dependent variable is Satisfaction including 3 observed variables. The EFA results also show: KMO index = 0.748 > 0.5, so factor analysis is consistent with the data; Eigenvalues coefficient = 2.667 > 1 and only one factor is drawn and this factor that explains over 72% of the data variation is satisfactory. The factor weights of the scale are satisfactory (> 0.5). Thus, the results of EFA analysis on the scale of the dependent variable are also satisfactory.

The above results show that the scale meets the requirements of reliability and validity, and can be used to test hypotheses by multivariate regression method.

4.3 Verification of research model

Before analyzing multivariate regression to test hypotheses, the authors conducted an analysis of correlation coefficients to evaluate linear relationships between variables in the model. The results show that

Table 4: Correlation analysis

	HL	CLDV	KNTC	LTIN	NT	BM
HL	1	.706**	.504**	.498**	.680**	.571**
CLDV	.706**	1	.505**	.399**	.624**	.471**
KNTC	.504**	.505**	1	.288**	.411**	.347**
LTIN	.498**	.399**	.288**	1	.435**	.388**
NT	.680**	.624**	.411**	.435**	1	.484**
BM	.571**	.471**	.347**	.388**	.484**	1

The results in Table 2 correlation matrix show that at 99% confidence, the correlation between the dependent variable and 5 independent variables: Security and privacy (BM); Trust (LTIN); Accessibility (KNTC); Perception of online public services (NT) and quality of online public services (CLDV) are accepted. Thus, there are no variables excluded from the model to ensure model suitability.

The independent variables have a relatively strong correlation with the dependent variable, the coefficient r is in the range 0.498 to 0.706 in which the factor Quality of service is the variable with the most correlation with the dependent variable.

To evaluate the individual impact of each factor on the satisfaction of people when using online public services, in this study, the author used multiple linear regression analysis model with the method of at once (Enter). The results show the $F = 140.838$ statistic with $\text{sig} = 0.000$ (<0.05) value. Thus, the multiple linear regression model built is suitable for the data

set, the independent variables in the model are related to the dependent variable. At the same time, the coefficient of determination R squared adjusted (Adjusted R square) is 0.652 proving the appropriateness of the model, ie all 5 factors can explain over 65.2% variation of people when using online public services.

For the hypotheses, the value of 5 independent variables Sig is less than 0.05, which means that all hypotheses are accepted. These are: Security and privacy (BM); Trust (LTIN); Accessibility (KNTC); Perceptions of online public services (NT) and quality of online public services (CLDV) both affect people's satisfaction with online public administrative services. Of which, Quality of online public service (CLDV) has the largest standardized beta of 0.333, showing the strongest impact, while the accessibility with the smallest standardized beta coefficient of 0.119 represents the weakest people's satisfaction.

Table 5: Results of regression analysis of groups of factors affecting Satisfaction

Model	Non-standardized regression		Standardized regression	t	Sig.
	B	Error	Beta		
(Constant)	.715	.170		4.198	.000
1 CLDV	.382	.049	.333	7.787	.000
KNTC	.135	.041	.119	3.301	.001
LTIN	.170	.043	.140	3.995	.000
NT	.303	.047	.271	6.503	.000
BM	.226	.045	.187	5.069	.000

a. Dependant variable: HL

(Source: Authors calculation)

4.4 Discussion of research results

According to the results, the quality of online public services has a quite high impact on the satisfaction of people about online public services. The quality of service reflected in the application of online public services will save time, be more convenient and effective in data processing. The use of online public services will make people feel satisfied when these services help people save their time and resources. In the age of information technology development, services are available on the spot, development of online public services is well received. This result is similar to the study of Lee et al. (2008); Islam et al (2010); Chumsobat (2014).

The next factor that has a great influence on the satisfaction of people about online public services is the perception of customers about online public services, which shows that the state agency provides a safe, stable online service, diversified services with good technology greatly affect customer satisfaction when they use this service. This result is similar to the results of Srivastava and Thomson (2005), Belanger and Carter (2008); Segovia et al (2009). Safety and privacy are a factor that receives the attention of many people when using this service. It is clear that the use of online services through the network environment can be affected by cyber / security attacks such as data theft and malicious file distribution;

Individuals are always concerned when their information is unexpectedly exposed. Therefore, this is a factor that greatly affects the satisfaction of people about online public services. Along with the strong development of the information technology system and the gradual transition from traditional administrative mechanisms to online public services, the main concern is the safety and security of the system. This result is similar to the study of Carter et al. (2011); Pinho et al (2007).

5. CONCLUSION AND MANAGEMENT IMPLICATIONS

5.1. Increase the quality of online public services

The quality of online public services is the factor that has the greatest impact on the satisfaction of people with online public services ($\beta = 0.333$). In recent years, the Government has paid attention to, directed and accelerated investment in infrastructure, application of information technology and considered this as an important solution to the implementation of administrative reform. However, updating administrative procedures on the system of national public services in general, the online public service systems of provinces in particular (forms, fees, charges, specialized procedures ...) not exactly, not in accordance with regulations. Interface design software is not really diverse and easy to manipulate. This has made it difficult for people in the transaction process. To solve this problem, the author recommends the following suggestions:

First, supplement, upgrade and integrate the provinces' online public services to the National Public Service Portal. Second, providing a variety of communication channels, helping people and businesses choose the most appropriate form of public service treatment for each audience (online or at HCC service centers, service centers. ...). To step by step determine the Internet will be the main service provider channel to the people. Third, apply new technologies to expand, improve quality and increase the use of online services in the future. In particular, raising safety and security issues in the process of setting standards for providing online public services. Fourthly, strengthening coordination, supporting professional units to review procedures for application towards electronicization.

Continuing to be transparent, publicizing the number of online documents, the rate of dossiers processed on time on the provincial payment service page. Fifth, departments, branches, and people's committees of districts and cities need to promptly provide information, guide and answer questions and proposals of people and businesses related to the implementation of public services. online on mass media and communication channels on the Internet and social networks in Vietnam. Make the most of means to organize meetings, online conferences, exchange via email, text messages, phone calls ... Friday, the companionship between the State and enterprises: Continue to support training creating and improving skills and qualifications in using computers and internet for people; computer support; public Internet access point; Free Wi-Fi network in densely populated areas for people to access the service.

Enhance cooperation with businesses such as Post Offices and banks to support online DVC deployment such as return of results via post, online payment of fees and charges ... Saturday, continue to strengthen to train information technology human resources to improve the

efficiency of online public services. Eighthly, strengthen inspection, supervision, reward and handle responsibility in the provision of online public administrative services. The inspection and examination must be carried out regularly and periodically to detect shortcomings of electronic processes in internal operations or errors in electronic transactions, from which timely solutions.

5.2 Increase people's awareness of online public services

People's awareness of online public services is the next factor that has a great influence on people's satisfaction with the quality of online public services. In order to do this, it is necessary to improve the people's knowledge so that people can realize the importance of using online public services. With the current situation, in order to increase the number of people participating in using this service, the author has some recommendations as follows:

Firstly, continue to increase information dissemination and effectively promote the agency's online public services so that people and businesses have a better understanding of the benefits brought from using online public services. focus on renewing the content and form of propaganda suitable for each beneficiary in many different forms, including focusing on channels like social networks (zalo, Facebook ...). Second, raising awareness of people about the benefits of online public services from changing traditional habits in handling administrative procedures, with specific measures such as: subsidizing fees, reduced fees for those who perform administrative procedures through online public services. Third, providing a variety of communication channels, helping people and businesses choose the form of public service treatment that best suits them. To step by step determine the Internet will be the main service provider channel for citizens.

5.3 Increased security and privacy

Security and privacy are one of the three factors that are assessed as important, having a great influence on customer satisfaction. Although today, with the strong development of IT, people are too familiar with the use of electronic software, however, the public administration service is a new service, directly related. to the interests of the people, so the fear of personal data being hacked is what most customers worry about. Therefore, the author proposes some recommendations to increase the security and privacy of customers when performing this service as follows:

Firstly, to continue building and completing the institution to create a complete and comprehensive legal basis for the development and development of e-Government; create a strong foundation for efficient and sustainable online public services by developing e-Government Laws and guiding documents, ensuring the legal corridor for e-government development based on data open. In addition, legal documents related to electronic payments for online public services should be built to ensure a reliable and secure transaction environment for service fee payments. Second, in the cases of inaccurate information or suspected criminals, frauds or other violations, it is necessary to provide regulations on account blockade, account access lock, service suspension or agency documentation police or taking other deterrent measures. Third, another issue that must be paid attention is the issue of ensuring the safety and confidentiality of personal information of electronic public services.

Therefore, cybersecurity experts and online public service software companies need to choose a harmonious solution that ensures security, but also needs to be simple and convenient for people. Fourth, a public e-signature authentication service provider is an organization that provides e-signature authentication services for agencies, organizations and individuals to use in public activities. Organizations and state agencies that implement electronic transactions in general and online public services in particular should apply digital signatures in the implementation. Fifth, continue to invest in finance and infrastructure, choose suitable technologies, avoid backwardness, and be suitable with the technology development of the world and Vietnam.

In addition to the three strong influencing factors mentioned above, the other two factors, which are trust and accessibility, also need to be paid attention to by managers to further increase the satisfaction of people, using online public administration services.

5.4. Limitations and next research directions

Although this study has had a thorough theoretical research through which there is the inheritance of previous studies to build a research model for the actual context in Vietnam. The results also show that the explanation level of this model is quite high at 65.2%. However, there are still other factors that the research has not considered in this model to explain people's satisfaction when using online public services such as: people's perceptions, positive word of mouth, apprehension about administrative procedures, etc. need to be studied more in the following studies.

In the limited time of research, limited cost and capacity, the authors use convenient sampling method, the number of samples is quite modest and the surveyed localities are not really much and highly representative. Therefore, in the future, it is possible to conduct repeated studies with the participation of many provinces across the country to increase the generalization ability as well as provide a more comprehensive and comprehensive perspective.

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