

## THE KEY FACTORS INFLUENCING E-GOVERNMENT ACCEPTANCE: CASE OF VIETNAM

**YU YU LIU**

College of Public Administration  
Huazhong University of Science and Technology  
Wuhan, China  
**VIETNAM**

**WANG BING**

College of Public Administration  
Huazhong University of Science and Technology  
Wuhan, China  
**CHINA**

### ABSTRACT

The objective of this paper is to find out the driving model affecting on e-government acceptance in Vietnam. To meet the objective, this study has enlightened the concepts of e-government, adoption theories, and proposed a framework comprising of perceived trust, perceived usefulness, user's attitude, perceived ease of use, relative advantage, information system, and information system quality. Research Strategy, data collection, research design, descriptive statistics, Cronach's alpha, correlation, and regressions are constructed to contribute the data using statistical package for social scientists tool (SPSS). The sampling of this research is chosen from various groups of the citizen living in Vietnam such as students, teachers, government officers, private employees, and others. This paper provides the managerial implications to the government, policy makers, and administrators for formulating the policies, and regulations, rules to enhance the Vietnamese' perception on accepting the government electronic services. This research paper also contributes a practical implication to the researchers in the field of e-government by developing the research model integrated with the research findings. Especially, this study suggests that government and government agencies should motivate the Vietnamese people to engage in their electronic services by increasing the accountability of the services and improving the quality of the e-government systems.

**Keywords:** Perceived Trust, E-government, acceptance, Vietnam.

### INTRODUCTION

In the last decade, a number of scholars have studied e-government to find revolutionary concepts and ways to get people's cooperation in using it or put forwards the confirmed theories or models. Those scholars who have retained exploring the use of new innovation universally are from both developed and developing countries (Sokim, Xiaolin, & Dong, 2015). Hence, the definitions of e-government have been given differently by various researchers. UN (2008) & Lin et al., (2011) pointed that e-government is the use of information and communication technology (ICT) and the internet as a tool to accomplish better e-government. E-government is referred to the use of information and communication technology via WAN, Internet and mobile computing to increase the processing of government works and to provide citizens more governmentally practically-accessed information and services (Campeau & Higgins, 1995). Having aims to deliver government services efficiently and effectively to citizens, it is also considered as integration between government and citizen E-government (Zhao, Scavarda, & Waxin, 2012),

In light of benefits and modernity, e-government is expected for faster development and growth with inspiring impressions of many scholars for heterogeneous purposes. Researches

were carried out on trust variable on the adoption of e-government services (Lallmahomed et al., 2017; Sokim et al., 2016; AL-Hujran et al., 2015; Zafiroopoulos et al., 2012 & Carter & Belanger, 2005), on adoptions (Liu, et al., 2014; Ozkan & Kanat, 2011; & Carter & Belanger, 2005), on models or theories (Davis, 1989; Fishbein & Ajzen, 1975; Rogers, 1995, 2003), on adapted variables affecting to e-government acceptance, and on benefits of e-government (Ndou, 2004 & Seifert & Bonham, 2003). There are many aspects of e-government which are the interests of researchers around the world, as well as in a certain country.

The study on e-government in Vietnam has not been much documented and has been very scaring except the state's plan or master plan; for example, achievement of World Bank of Vietnam government services with contribution of e-applications for a reduction in turn-around , e-government adoption (Thanh Ha ,2016; Vo Thi & Van Hung, 2015). Therefore, my present study is aimed to figure out the key factors influencing on e-government acceptance in Vietnam.

## LITERATURE REVIEW

E-government refers to the use of information and communication technology via WAN, Internet and mobile computing to increase the processing of government works and to provide citizens more governmentally practically-accessed information and services (Campeau & Higgins, 1995). Having aims to deliver government services efficiently and effectively to citizens, it is also considered as an integration between government and citizen E-government (Zhao, Scavarda, & Waxin, 2012).

Adoption plays an un-overlookable role in the realization of e-government acceptance. Lack of the adoption of e-government services by citizens is either a negative symptomatic for unsuccessful e-government implementation or a very important indicative parameter of less e-government usage (Liu, et al., 2014; Ozkan & Kanat, 2011; & Carter & Belanger, 2005). Generally speaking, the governments cannot improve the public service delivery if e-government services are not used by citizens (Panagiotopoulos & Al-Debei, 2010). Undeniably from many types of research, low adoption illustrates scarce using and extreme rejection to intention the adoption of new innovation. Oppositely, high adoption will mark that e-government will move forwards and will provide social and economic benefit to citizens (Cavalheiro & Joia, 2014). The success of e-government is basically based on the citizens' intention or willingness to adopt and use this information technology (Carter & Belanger, 2005).

The prior empirical studies' literature reviews on the adoption and using of information systems and technology suggested e-government's popular functions in many different fields: electronic government (e-government), electronic commerce (e-commerce), e-learning and so on. Though, it is a heated field, according to a number of the scholars have their results shown of many governments ' lacks of e-government adoptions by citizens (Gupta, Dasgupta, & Gupta, 2008; Belanger & Carter, 2008; & Komar et al., 2007). Subsequently, bulks of theories have been devised and remained improving step by step to describe users' attitude and adoption of new innovations. Those most frequently used theories are the theory of technology acceptance model (TAM) and the theory of diffusion of innovation (DOI) and other theories. This research studies concentrated on TAM and DOI as basic components to determine in the adoption of e-government in Vietnam.

### Technology Acceptance Model

Davis (1989) has developed TAM theory, which has the core from the theory of reasoned action (Fishbein & Ajzen, 1975) and which has opted for by many scholars for their studies or investigations in this field. To apply TAM to authentic experiments, Davis has also proposed a model with many variables such as perceived usefulness and perceived ease of use, users' attitude, and intention to use and actual usage to describe how their significance is. Not only has he produced such a famous theory with observable variables, but he also explained those variables critically and simply like perceived usefulness (PU) as "the degree to which an individual believes the using actual system would improve her or his job practice" and perceived ease of use (PEOU) as "the degree to which an individual believes the using actual system would be free of mental and physical effort" (Davis, 1989). Both PU and PEOU have effects on user's attitude (UST) towards system usage (Davis et al., 1989), which is defined as "the degree of an individual's evaluative effect with using the target system in his or her job" Fishbein & Ajzen (1975).

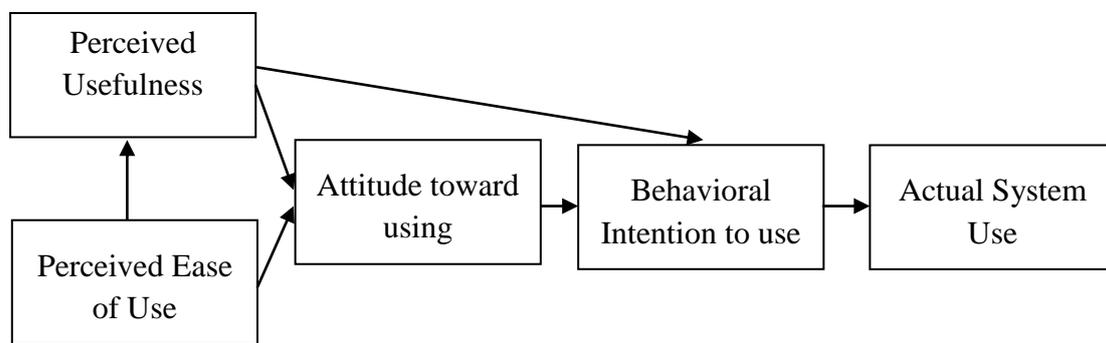


Figure 2.1: Technology Acceptance Model (Davis, 1989)

Davis (1989) indicated that information quality (IQ) and information system quality (ISQ) were positively confirmed variables having impacts on perceived usefulness (PU). One of them-- the information quality (IQ) -- would allow the individuals to find and research the information through TVs and radios online and other social Medias (Carter & Belanger, 2005), but information system quality (ISQ) would qualify an individual's to know and understand about the computer or Internet-based information system (Heo & Han, 2003).

### Diffusion of Innovation

Rogers, a founder of Diffusion of innovation (DOI), defined it as the process through which innovation is linked actual channels over time among social system members (Rogers, 1995), but Carter & Belanger (2005) claimed that DOI has been used to explain the adoption of information technology in public. These two pictures of considerations seem to hostile against each other, but they are, of course, from different provinces. Centered on Rogers' (2003), there are five components: relative advantage, compatibility, complexity, trialability, and observability. These five elemental variables of DOI a number of researchers have applied for their academic researchers have been found just two of them (relative advantage and compatibility) are more important than other ones to intention to use-e-government (Rokhman, 2011; Carter & Belanger, 2003; Agarwal & Prasad, 1998; Tornatzky & Klein, 1982). Therefore, our study model will include the two contributable factors as the extended model.

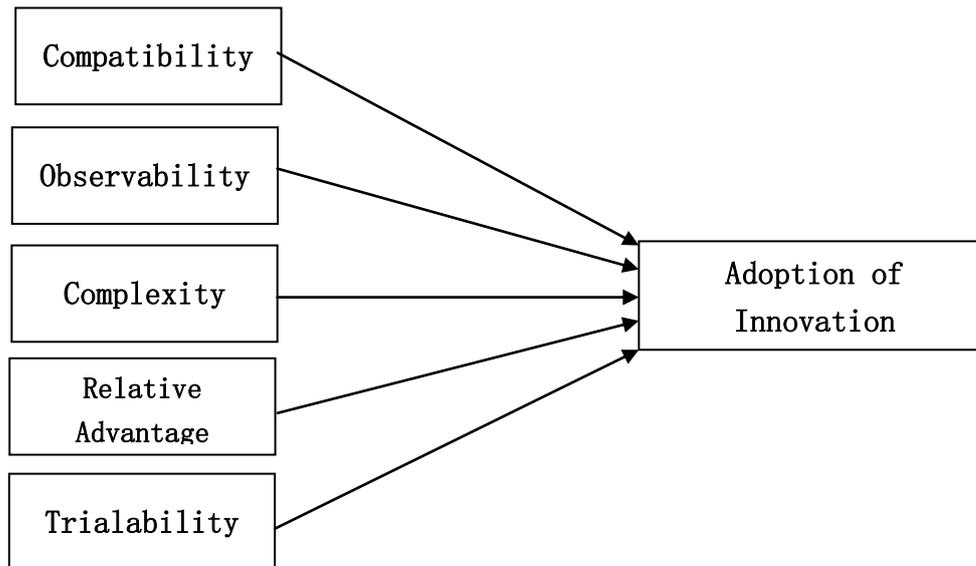


Figure 2.2 Diffusion of Innovation Theory

## METHODOLOGY AND HYPOTHESIS

The purpose of this research is to study about technology acceptance model (TAM) and diffusion of innovation (DOI) model which find out variables are suitable. Actually, the researchers have combined those models to be their extended models in order to practice and participate in using it.

### Adoption of E-government and Perceived Trust

Many scholars have conducted Trust to examine the models and theories which effect on the adoption of e-government services. Perceived trust is defined as “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party” (Mayer, Davis, & Schoorman, 1995). Trust in e-government websites focuses on the conception of trust on the technology used in providing and making the services of government by citizens (Mantymaki, 2008). Perceived trust plays an important role in facilitating individual overwhelmed perceived risks (Alsaghier, 2009). Perceived trust is a vital factor in online infrastructures because of related to risk (Lankton & McKnight, 2006), which in turn has a positive effect on the intention to use e-government (Fu, Farn, & Chao, 2006).

Trust variable was conducted by most of the scholars in different contexts because when the citizens trust on the using e-government, it means e-government implementation will be increasing. In contrast, when they do not trust on using e-government, e-government implementation will be failing. Lack of trust as a subject obstacle of the adoption of e-services (Carter & Weerakkody, 2008). Therefore, they suggested that trust is positively influenced predictors' intention the adoption of e-government services. Moreover, perceived trust (PT) which can contribute to the citizens' willingness and intention to adopt e-government services was found by (Azmi, Ang, & Talib, 2016).

In the practical trust in e-government, Asmi, (2016) & Carter (2008) pointed out that perceived trust was being integrated with other theories and models to decide the most central impacts on the adoption of e-government. In deep, Zeleti, (2011) & Warkentin et al., (2002)

insinuated that governments should construct the trustworthiness connections with their citizens before contributing information through e-channel using. They also produced perceived trust factor in their comprehensive model, finding that perceived trust is a significant factor affecting on predicting the success of e-government projects. Perceived trust was found to have a significant impact on individual's behavioral intention to use e-government services (Kurfali, Arifoglu, Tokdemir, & Pacin, 2017). Trustworthiness positively influenced on predicting citizens' intention to use and adopt e-government services (Carter & Belanger, 2005). According to these researchers, we can contribute the hypothesis as:

**H1:** Perceived trust (PT) significantly influences on adoption of e-government.

### **E-government and Technology Acceptance Model**

TAM is adapted and transferred from the Theory of Reasoned Action (TRA) in the field of information systems (Fishbein & Ajzen, 1975). TAM has been taken as a ground prosody by many scholars (Sokim et al., 2016; Rabaa et al., 2016; & Rokman, 2011). Davis has proposed two variables perceived usefulness (PU) and perceived ease of use (PEOU) as the key dimensions impacting on individual's attitude towards using technologies and affecting on individual's behavior intention to use new innovation. Davis et al., (1989) indicated that perceived usefulness is strongly influenced predictors to intention to accept technology. Perceived ease of use (PEOU) is significantly influential to the citizens' intention to adopt the technology. Evidently, perceived usefulness (PU) has positive influences predicting citizens' intention to adopt e-government (Rabaa et al., 2016; Sokim et al., 2016; Abu-Shanab, 2014; Lee et al., 2011; & Asmi et al., 2007). Furthermore, Hamid et al., (2016) & AL Shibly & Tadros, (2010) have illustrated the result that perceived usefulness (PU) ( $\beta = 0.65$ ,  $p < 0.01$ ) substantially affected on continuance citizens' intention to use e-government. Perceived usefulness (PU) is positively influenced predicting individual's intention to adopt e-government. Perceived usefulness (PU) is a significant variable influenced citizens' intention to use e-voting websites (Alomari, 2016). Regarding these studies, we can construct the hypothesis as:

**H2:** Perceived usefulness directly influences on the adoption of e-government.

Rehman, Esichaikul, & Kamal (2012) have proposed a model with variables of TAM, finding that information quality affected indirectly individuals' intention to adopt of e-government via perceived usefulness (Lee & Levy, 2014; Al Shibly and Tadros 2010; DeLone & McLean, 2003; & Livari, 2005) and so did information system quality (Al Shibly and Tadros 2010; Wixom & Todd, 2005; & Venkatesh, Morris, Davis, & Davis, 2003). This means that both of IQ and ISQ have a significant impact on perceived usefulness directly and perceived usefulness PU have a direct influence on users' intention to use. Presupposedly, IQ and ISQ factors also have a significant impact on intentions to use (Stefanovic, Marjanovic, Delic, Culibrk, & Lalic, 2016 & AL-Athmay, Fantazy, & Kumar, 2016). Perceived usefulness (PU) of information technologies was directly affected by variables: information quality and information system quality (Davis 1989). With IQ, the users are capable to hunt for information or the like from dependable electronic apparatuses in term of IQ of e-governmental service orientation (Davis 1989; Carter & Belanger, 2005), but information system quality (ISQ) is an individual's awareness and understanding about information system when she/he wants to explore and update the information on the computer or internet (Heo & Han, 2003).

Based on the studies above, the hypothesis will be proposed as:

**H2a:** Information System Quality (ISQ) positively effects on perceived usefulness (PU).

**H2b:** Information Quality (IQ) is positively affected on perceived usefulness (PU).

### Adoption of E-government and User's Attitude

User's attitude is a significant influenced predictors' intention to adopt and use e-government (Al-Hujran, Al-Debei, Chatfield, & Migdadi, 2015). Rabana' s study results (2016) denoted that user's attitude powerfully influenced on intention to use and adopt e-government services as user's attitude is also significant directly affected on intention to use and adopt e-government services (Alomari, 2016). The hypothesis is:

**H3:** User's attitude significantly influences on the adoption of e-government.

Davis (1989) has proposed a model with user's attitude factor in the TAM model as a full mediator. User's attitude is defined as "the degree of evaluative affect that an individual associated with using the target system in his or her job" (Fishbein & Ajzen, 1975). Davis has also constructed perceived usefulness (PU) and perceived ease of use (PEOU) as variables to observe if they are the positive impact on user's attitude (UST). In this connection, Eriksson, et al., (2005) & Guriting & Ndubisi, (2006) have indicated that perceived usefulness (PU) has a positively strong impacted on UST, greater than perceived ease of use (PEOU) has only impact on UST. Furthermore, perceived usefulness and perceived ease of use have significant influenced direct impact on user's attitude (Boateng et al., 2016). Additionally, Rabaa, (2016) has indicated that perceived usefulness (PU) is strongly influenced predicting on user's attitude. Perceived ease of use (PEOU) is significantly influenced directly by user's attitude (Al-Hujran, Al-Debei, Chatfield, & Migdadi, 2015). In light of these studies, we can construct hypothesis as:

**H3a:** Perceived ease of use (PEOU) positively effects on user's attitude.

**H3b:** Perceived usefulness (PU) positively effects on user's attitude.

### Diffusion of Innovation

In light of perceived ease of use, many scholars have conducted the model with PEOU variable most of the result found that perceived ease of use is a significant dimension predicting individual's intention to adopt e-government (Rehman, Esichaikul, & Kamal, 2012). In addition, perceived ease of use was positively predicting to continuance individual's intention to use e-government (Hamid et al., 2016). Moreover, Rabaa, (2016); Suki & Ramayah, (2010) have also found that perceived ease of use significantly influence on citizens' intention to adopt and use e-government services. The hypothesis will propose as:

**H4:** Perceived ease of use significantly influences on the adoption of e-government.

As mentioned, DOI is substituted by two prominent positive-impacting variables to real users' intention for e-government acceptance: relative advantage and compatibility (Rokhman, 2011; Carter & Belanger, 2003; Agarwal & Prasad, 1998; Tornatzky & Klein, 1982). Rogers (2003) defined that relative advantage is "the degree to which an innovation is perceived as better than the consciousness it surpasses", whereas compatibility is "the degree of perceived consistency with one's needs, value, and experiences". Many scholars have employed relative advantage (RA) and compatibility (CP) as a variable in their extended model (Sokim et al., 2016; Al-Awadh & Morris, 2009; & Carter & Belanger, 2005). In this connection, Liang & Lu (2013) have proposed a model with relative advantage (RA) and compatibility CP variables. The result indicated that both of relative advantage (RA) and compatibility (CP) are significantly influenced on the adoption of current users. Moreover, Rokhman, (2011) illustrated that relative advantage (RA) and compatibility (CP) can be used to predict the user's intention to adopt e-government.

Zafiropoulos, Karavasilis, & Vrana, (2012) conducted model with variables such as image, perceived usefulness, relative advantage, compatibility, subject norm, job relevance, perceived risk, output quality, trust in e-government, and perceived ease of use to examine which variables are significant. The results indicated that both relative advantage and compatibility positively influenced on intention to adopt e-government with successive values ( $\beta = 0.22, p < 0.01$ ;  $\beta = 0.33, p < 0.01$ ). Based on this study, we discover that value of relative advantage is smaller than compatibility in predicting intention on the adoption of e-government. Furthermore, Carter & Belanger, (2004) established a model with the image, perceived ease of use, relative advantage, and compatibility. The result indicated that relative advantage and compatibility variables were confirmed positively. Another study found that the variation of influence values between a relative of advantages and compatibility ( $\beta = 0.13, P < 0.05$ ;  $\beta = 0.23, P < 0.001$ ) but they still had a strong impact (Lee, 2011). Based on these research studies, we will construct hypotheses as:

**H5:** Compatibility (CP) directly influences on the adoption of e-government.

**H6:** Relative Advantage (RA) significantly directly influences on the adoption of e-government.

Based on above discussion, the whole Hypothesis and research framework have been developed as the following:

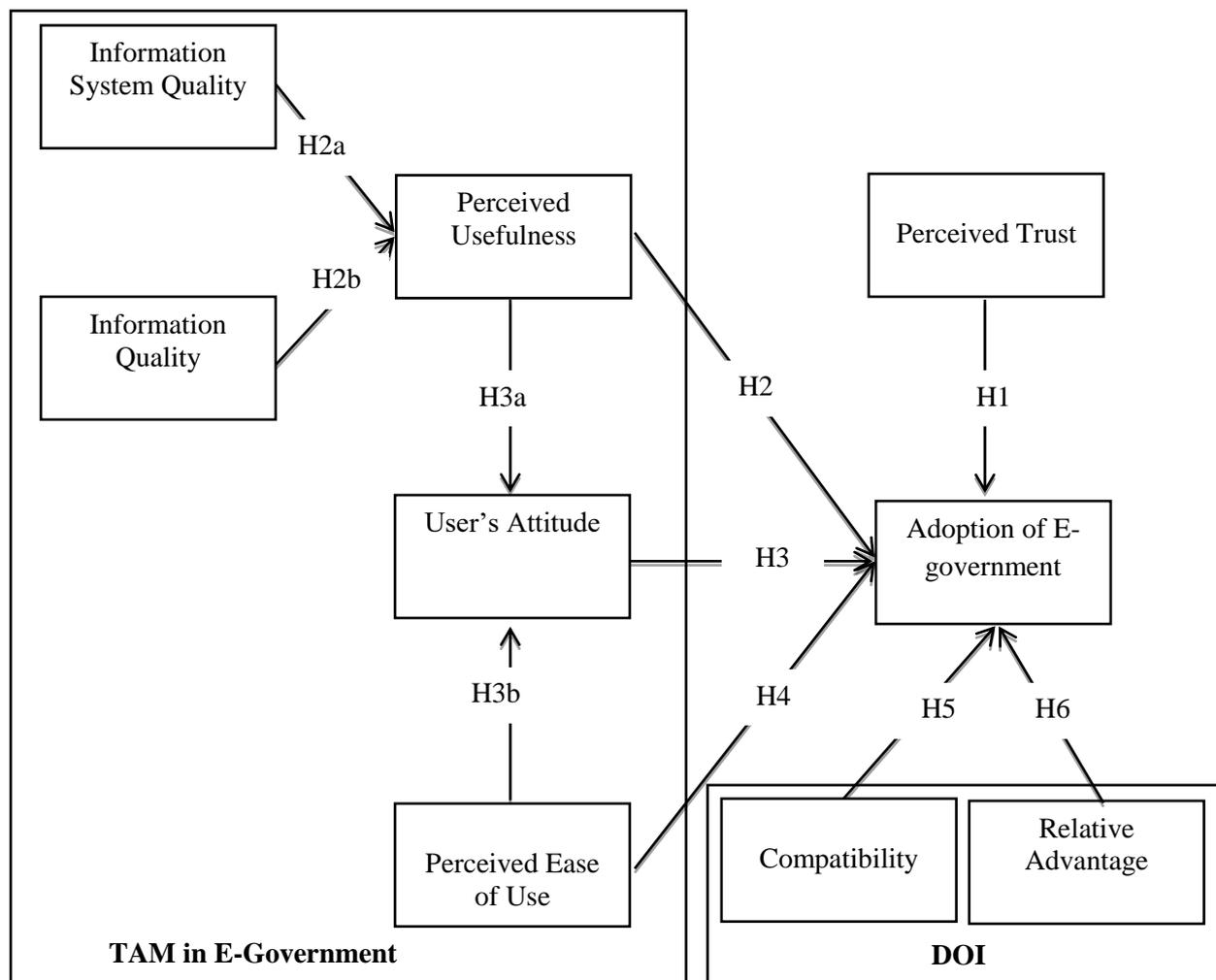


Figure 3.1: Hypothesis and research framework

**RESULTS****Demographic profile**

The demographic profile of respondents is presented in Table 6.1. The total sample of 507 respondents has been used to analyze in this study. According to Table 6.1, 62.9% of respondents are male, and 37.1% are female. The largest groups of respondents are from the 21-30 years age group (44.8%) followed by 31-40 years age group (32.9%). The respondents are engaged in different occupations. 33.7 % of respondents are students, and 24.3 % are teachers showing the predominant groups of occupation. The majority of participations are mostly educated to University. 40% of respondents are Undergraduate, followed by master degree accounted for 37.9%. In addition, 44.8% of the respondents have been experienced on the Internet more than 10 years in the group of 10-14 years.

Table 4.1 Respondents' profile

	Item (n=507)	Frequency	Percentage (%)
Gender	Male	319	62.9
	Female	188	37.1
Age	< 20 years old	40	7.9
	21-30 years old	227	44.8
	31-40 years old	167	32.9
	> 40 years old	73	14.4
Occupation	Student	171	33.7
	Teacher	123	24.3
	Government Officer	56	11.0
	Private Employee	119	23.5
Education	Others	38	7.5
	High School	49	9.7
	Undergraduate	203	40.0
	Master degree	192	37.9
Income (USD)	Doctoral degree	52	10.3
	Others	11	2.2
	No income	13	2.6
	<100\$	69	13.6
	101\$-300\$	79	15.6
	301\$-500\$	183	36.1
Experience on Internet	501\$-700\$	94	18.5
	>700\$	69	13.6
	< 1 year	2	0.3
	1-5 years	16	3.2
	5-9 years	188	37.1
	10-14 years	227	44.8
	≥15 years	74	14.6

**Structural Model**

SEM is a statistical technique used to empirically analyze the relationships among the constructs which consist of covariance and correlation (Kline, 2010). In this research, SEM is developed to measure the regression, factor analysis, standard deviation, mean value, reliability, validity, and the relationship among the proposed variables. Table 6.2 illustrates that Cronbach's values of the proposed factors achieve from 0.712 to 0.908, representing the high reliability of the research. The factor loading has appropriately loaded at least 0.55, representing the satisfaction's analysis. Thus, data collections and findings have found to be valid and consistent in this study.

Table 4.2 Factor Measurement

Items	Mean	Std. Deviation	Factors Loading	Cronbach's Alpha
<b>E-government Adoption</b>				.908
EA1	3.06	1.442	.892	
EA2	2.93	1.447	.800	
EA2	3.17	1.453	.732	
EA4	3.33	1.458	.636	
EA5	3.45	1.355	.880	
<b>Perceived Trust</b>				.884
PT1	3.13	1.506	.554	
PT2	3.15	1.460	.855	
PT3	3.04	1.413	.642	
PT4	3.24	1.506	.857	
<b>Users' Attitude</b>				.862
UA1	3.10	1.489	.762	
UA2	3.24	1.498	.890	
UA31	3.38	1.376	.792	
<b>Perceived Usefulness</b>				.870
PU1	3.12	1.363	.707	
PU2	3.18	1.454	.751	
PU3	3.32	1.450	.661	
PU4	3.32	1.390	.603	
<b>Perceived Ease of Use</b>				.792
PEOU1	3.09	1.444	.769	
PEOU2	3.03	1.453	.551	
PEOU3	3.07	1.465	.700	
<b>Compatibility</b>				.811
COM1	3.20	1.518	.721	
COM2	3.04	1.465	.565	
COM31	2.85	1.434	.690	
<b>Relative Advantage</b>				.867
RA1	2.99	1.446	.774	
RA2	3.17	1.420	.709	
RA31	3.17	1.404	.634	
<b>Information System Quality</b>				.727
ISQ1	3.10	1.359	.789	
ISQ2	2.97	1.419	.663	
ISQ3	3.02	1.398	.690	
ISQ4	2.92	1.366	.786	
<b>Information Quality</b>				.712
IS1	3.14	1.354	.681	
IS2	2.97	1.445	.717	
IS3	3.00	1.372	.669	

This research has used Pearson correlation to find out the association among variables. The strength of the relationship has ranged the value from -1 to +1. Table 6.3 presents the significant relationship among the proposed factors of Vietnamese citizens adopting on e-government. User's attitude has the strongest correlation with e-government adoption ( $r=.826$ ,  $p<.01$ ), followed by perceived trust ( $r=.810$ ,  $p<.01$ ). Perceived usefulness presents

the high positive relationship with e-government adoption ( $r=.777$ ,  $p<.01$ ) while relative advantage significantly correlates with e-government adoption ( $r=.757$ ,  $p<.01$ ), followed by compatibility ( $r=.743$ ,  $p<.01$ ). Perceive ease of use presents the moderate significant association with e-government adoption ( $r=.510$ ,  $p<.01$ ). The correlation between perceived usefulness and user's attitude illustrates the high and significant relationship ( $r=.829$ ,  $p<.01$ ), while perceived ease of use presents the weak relationship with user's attitude ( $r=.363$ ,  $p<.01$ ). With this regard, Information system comprises the moderate positive relationship with perceived usefulness ( $r=.581$ ,  $p<.01$ ), followed by Information system quality ( $r=.542$ ,  $p<.01$ ). In sum, all the constructs significantly present different factors, implying that the proposed factors would enhance e-government adoption in Vietnam.

Table 4.3 Correlation Analysis

	UA	PU	COM	PEOU	PT	RA	ISQ	IS	EA
UA	1								
PU	.829**	1							
COM	.646**	.659**	1						
PEOU	.363**	.382**	.442**	1					
PT	.826**	.746**	.657**	.411**	1				
RA	.762**	.711**	.687**	.423**	.834**	1			
ISQ	.452**	.542**	.512**	.493**	.528**	.531**	1		
Is	.419**	.581**	.510**	.489**	.494**	.496**	.784**	1	
EA	.826**	.777**	.743**	.510**	.810**	.757**	.561**	.532**	1

\*\* . Correlation is significant at the 0.01 level (2-tailed).

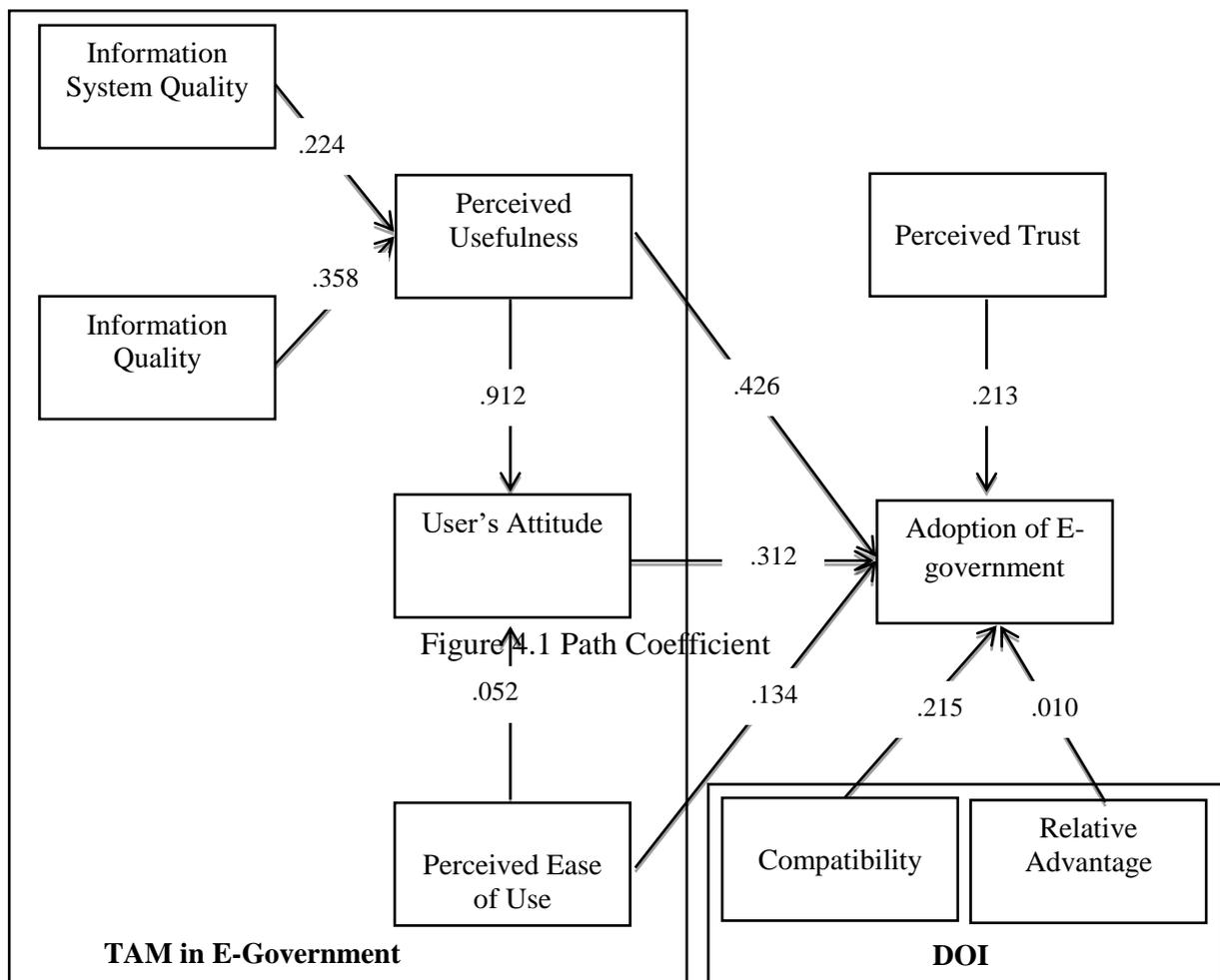
### Analysis of Path

In this research, path analysis is used regression analysis to examine the effects of adoption factors on e-government, given coefficient and p-value. As shown in Table 6-4, nine paths are found to be supported by this research. Perceive Trust significantly effects on e-government adoption ( $\beta=.213$ ,  $p<.05$ ), supporting H1. Similarly, Perceived Usefulness positively effects on e-government adoption ( $\beta=.426$ ,  $p<.05$ ), supporting H2. User's Attitude is also found to be significant with e-government adoption ( $\beta=.312$ ,  $p<.05$ ), supporting H3. With this regard, Perceive Ease of Use significantly effects on e-government adoption ( $\beta=.134$ ,  $p<.05$ ). H4 is supported. E-government adoption is found to be significantly affected by Compatibility ( $\beta=.215$ ,  $p<.05$ ), supporting H5. However, Relative Advantage doesn't significantly effect on e-government adoption due to the p-value scores higher than 0.05. Thus, H6 is not supported. Perceived Usefulness is found to be significantly affected by Information System Quality ( $\beta=.224$ ,  $p<.05$ ), Information Quality ( $\beta=.358$ ,  $p<.05$ ), supporting H2a and H2b. Additionally, User's attitude is also significantly impacted by Perceived Usefulness ( $\beta=.912$ ,  $p<.05$ ), Perceived Ease of Use ( $\beta=.052$ ,  $p<.05$ ), supporting H3a and H3b. Theoretically, the coefficient ( $\beta$ ) comprises a positive score with positive p-value, meaning that the factor is accepted.

Table 4.4 Path Coefficient

Hypotheses	Relationship	Coefficient ( $\beta$ )	p-value	Sig.
H1	PT $\rightarrow$ EA	.213	.000	Yes
H2	PU $\rightarrow$ EA	.426	.000	Yes
H3	UA $\rightarrow$ EA	.312	.000	Yes
H4	PEOU $\rightarrow$ EA	.134	.002	Yes
H5	COM $\rightarrow$ EA	.215	.000	Yes
H6	RA $\rightarrow$ EA	.010	.786	No
H2a	ISQ $\rightarrow$ PU	.224	.000	Yes
H2b	IQ $\rightarrow$ PU	.358	.000	Yes
H3a	PU $\rightarrow$ UA	.912	.000	Yes
H3b	PEOU $\rightarrow$ UA	.052	.048	Yes

\*\*\*p<.05



**DISCUSSION**

The factors of e-government adoption are discussed to figure out the proposed factors are significant or non-significant. From the findings, most of the constructs significantly effect on

the Vietnamese citizens adopting e-government in Vietnam. H1 is supported. This means that an increase in perceived trust significantly effects on e-government adoption, so Vietnamese people would try to engage in electronic services if they perceive the services to be safe and dependable. This finding is consistent with the previous research (Abu-Shanab E., 2014). H2 is also supported. It suggests that an increase in perceived usefulness positively affects on e-government adoption. This finding is consistent with the previous researchers (Sokim, Xiaolin, & Dong, 2015). This infers that Vietnamese citizens will have the attitude to use e-government adoption if they perceive the e-government services to complete their daily task more quickly. With this regard, H2a and H2b which are the determinants of perceived usefulness also found to be supported. These mean that information system and information system quality has a direct effect on perceived usefulness. The people perceive the government systems as a symbol of their daily work, they will consider it to be imperative. Thus, the government or government agencies need to guarantee that the online information that they display on the web site is accurate, useful, and up-to-date to afford a high information quality. H3 is found to be supported. This indicates that the user attitude has a positive influence on e-government adoption, meaning that Vietnamese people have the favorable attitude to use the online services provided by the government or government agencies.

H3a and H3b are supported. This means that perceived ease of use and perceives usefulness have a direct effect on user's attitude to using e-government in Vietnam. It implies that they people will participate in government online systems if they find the services are easy to use or understand and provide them more benefits. This study is congruent with the scholars whose names are Du Plessis & Joseph (2015), Shu-Sheng (2013). H4 is supported. The result demonstrates that perceive ease of use has a positive effect pm e-government adoption. The finding is compatible with Alsaif (2013). Vietnamese people will adopt e-government if they perceive the government system to be easy to use and clear to understand or vice versa. H5 is also accepted in this study. This means that an increase in compatibility significantly on e-government adoption, suggesting that the users will the government online systems if those electronic services could be compatible with their lifestyle and cultural values. This study is congruent with the previous scholars (Susanto & Goodwin, 2013; Alsaif,2013). However, H6 is found to be not supported. This means that this factor is affected by chance. Thus, the Relative advantage is required to be considered by the policy makers.

## CONCLUSIONS AND IMPLICATIONS

This study strongly focuses on the driving factors affecting e-government adoption in Vietnam. The study has explained with the theoretical frameworks, literature review, practical consequences, and current context of Vietnam e-government to identify the factors affecting the Vietnamese to accept the government online services. The results are identified in terms of perceived trust, perceived usefulness, perceived ease of use, user's attitude, compatibility, relative advantage, information system, and information system quality. The study has provided both theoretical contributions and practical contributions. The theoretical contributions of this research are divided into two main themes. Firstly, it enriches e-government literature by providing the broad comprehension of the key factors in diverse contexts of e-government to contribute the effective implementation of e-government adoption. Secondly, this study proposes a research framework (figure 3.1) which is a vital tool to understand the driving model affecting e-government adoption in Vietnam. This framework is constructed is themed under DOI and TAM model (Al-Shafi, 2009) as the research framework. For practical contribution, the research results provide a vital

contribution to the government, government agencies, and policy makers to develop a successful e-government implementation in Vietnam by guiding the administrators on which factors need to pay close attention. This suggests that the implications of the finding can contribute the practitioners to develop the millennium project of e-government in Vietnam as well as other countries.

To succeed in e-government implementation, it recommends that the government agencies need to encourage the people to engage in government online services by increasing accountability of the services, strengthening the system trust, and making the propaganda of services because this propaganda can increase the people participation on e-government. With this regard, the government needs to diffuse the usefulness and online services to the people because the diffusion would change the Vietnamese' undesirable mindsets on e-government to initiate the government systems. Especially, the government and policymakers should strengthen the regulations of e-government to induce the involvements from the people. If the involvement is increased, Vietnamese will definitely engage to accept government services so that the citizens' trust would be increased as well.

## **FUTURE RESEARCH**

Future researchers are still required to enhance the adoption of e-government in Vietnam due to some limitations in this study. Firstly, most respondents are mostly chosen from the Vietnamese who have experienced on e-government services so that they know clearly how to use those services. In contrary, the people who have never experienced on e-government would have a negative aspect for their first use. Hence, the future researcher should classify both the adopters and non-adopters of e-government. Secondly, the future researcher should extend the sample size more than 500. Theoretically, the more involvement from the people in the study, the effective the research is. Finally, the future researcher should find out the correlation between descriptive statistics consisting of age, and gender with the adoption of government.

## **ACKNOWLEDGEMENT**

I am enthusiastically grateful to my supervisor, Pro.Wang Bing, who periodically affords a lot of good guidance throughout the program regardless his busy diary. This paper will not be magnificently completed without his consideration and contribution.

I would like to extend my gratitude to parents for their unconditional adoration and sacrifice. I am very thankful to my sisters, brothers, and my friends for devoting their time and encouragement to my research in any circumstances.

Last but not least, I sincerely extend my thankfulness to all professors, lecturers, and school members who have sustained and transferred their knowledge, study materials, instructions throughout the entire academic target.

## **REFERENCES**

- Abu-Shanab, E. (2014). Antecedents of Trust in E-government Services: An Empirical Test in Jordan. *Transforming Government: People, Process, and Policy*, 8(4), 480-499.
- AL Shibly, H. H., & Tadros, I. H. (2010). Employee's Perceptions Towards Eletronic Government in Jordan. *Journal of Scientice Research*, 48(2), 169-176.

- AL-Athmay, A. A., Fantazy, K., & Kumar, V. (2016). E-government Adoption and User's Satisfaction: An Empirical Investigation. *EuroMed Journal of Business*, 11(1), 57-83.
- Al-Awadh, S., & Morris, A. (2009). Factors Influencing the Adoption of E-government Services. *Journal of Software*, 4(6), 584-590.
- Al-Hujran, O., Al-Debei, M. M., Chatfield, A., & Migdadi, M. (2015). The Imperative of Influencing Citizen Attitude toward E-government Adoption and Use. *Computers in Human Behavior*, 189-203.
- Alomari, M. K. (2016). E-voting Adoption in a Developing Countries. *Transforming Government: People, Process, and Policy*, 10(4), 526-547.
- Alotaibi, R., Sandhu, K., & Houghton, L. (2014). A Study of Service Users' Attitudes towards E-government Initiatives in the Kingdom of Saudi Arabia. *International of Computer Science and Information Technologies*, 5(6), 6892-6901.
- Alsaghier, H., Ford, M., Nguyen, A., & Hexel, R. (2009). Conceptualising Citizen's Trust in e-Government: Application of Q Methodology. 7(4), 295-310. Retrieved 2016, from [http://www98.griffith.edu.au/dspace/bitstream/handle/10072/30823/60983\\_1.pdf?sequence=1](http://www98.griffith.edu.au/dspace/bitstream/handle/10072/30823/60983_1.pdf?sequence=1).
- Alshomrani, S. (2012). A Comparative Study on United Nation E-government Indicators between Saudi Arabia and USA. *Journal of Emerging Trends in Computing and Information Sciences*, 3(3), 411-420.
- Asmi, F., Zhou, R., & Lu, L. (2017). E-government Adoption in Developing Countries: Need of Customer-centric Approach: A Case of Pakistan. *International Business Research*, 10(1), 42-58.
- Athmay, A. A., Fantazy, K., & Kumar, V. (2016). E-government Adoption and User's Satisfaction: An Empirical Investigation. *Euromed Journal of Business*, 11(1), 57-83.
- Avgerou, C. (2008). Information Systems in Developing Countries: A Critical Research Review. *Journal of Information Technology*, 23, 133-146.
- Azmi, A., Ang, Y. D., & Talib, S. A. (2016). Trust and Justice in the Adoption of a Welfare E-payment system. *Transforming Government: People, Process, and Policy*, 10(3), 391-410.
- Barney, J., & Hansen, M. (1994). Trustworthiness as a Source of Competitive Advantage. *Strategic Management Journal*, 15, 175-190.
- Belanger, F., & Carter, L. (2008). Trust and Risk in E-government Adoption. *Journal of Strategic Information Systems*, 17(2), 165-176.
- Berman, B. J., & Tettey, W. (2001). African States, Bureaucratic Culture and Computer Fixes. *Public Administration and Development*, 2(1), 1-13.
- Boateng, R., Mbrokoh, A. S., Boateng, L., Senyo, P. K., & Ansong, E. (2016). Determinants of E-learning Adoption among Students of Developing Countries. *The International Journal of Information and Learning Technology*, 33(4), 248-262.
- Bugembe, J. (2010). Perceived Usefulness, Perceived Ease of Use, Attitude and Actual Usage of a New Financial Management System: A Case Study of Uganda National Examinations Board. Uganda: Makerere University.
- Campeau, D. R., & Higgins, C. A. (1995). Computer Self-Efficacy: Development of Measure and Initial Test. *MIS Quarterly*, 19(2), 182-211.
- Carter, L. (2008, March 17). E-government Diffusion: A Comparison of Adoption Constructs. *Transforming Government: People, Process and Policy*, 2(3), 147-161.
- Carter, L., & Belanger, F. (2004). The Influence of Perceived Characteristics of Innovating on E-government Adoption. *Electronic Journal of E-government*, 2(1), 11-20.
- Carter, L., & Belanger, F. (2004a). Citizen Adoption of Electronic Government Initiatives. Hawaii: Proceedings of 37th Hawaii International Conference on System Sciences.

- Carter, L., & Belanger, F. (2005). The Utilization of E-government Services: Citizen Trust, Innovation and Acceptance Factors. *Information System Journal*, 15(1), 5-25.
- Carter, L., & Weerakkody, V. (2008). E-government Adoption: A Cultural Comparison. *Information Systems Frontiers*, 10, 473-482.
- Cavalheiro, C., & Joia, L.-A. (2014). Towards a Heuristic Frame for Transferring E-government Technology. *Government Information Quarterly*, 31, 195-207.
- Chang, I., Li, Y., Hung, F., & Hwang, G. (2005). An Empirical Study on the Impact of Quality Antecedents on Tax Payers' Acceptance of Internet Tax-filing Systems. *Government Information Quarterly*, 22(3), 389-410.
- Davis, F. D. (1989). Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13, 318-341.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User Acceptance of Computer Technology: A Comparison of two theoretical models. 35(8), 982-1003.
- DeLone, W. H., & McLean, E. R. (2003). The DeLone and McLean Model of Information System Success: A Ten-Year Update. *Journal of Management Information System*, 19(4), 9-30.
- Eriksson, O., Reich, M. C., Frostell, B., Bjorklund, A., Assefa, G., Sundqvist, J.-O., . . . Thyselius, L. (2005). Municipal Solid Waste Management from a Systems Perspective. *Journal of Cleaner Production*, 13, 241-252.
- Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention and Behavior: An Introduction to Theory and Research*. Addison-Wesley Pub.
- Fu, J. R., Farn, C. K., & Chao, W. P. (2006). Acceptance of Electronic Tax Filling: A Study of Taxpayer Intentions. *Information Management*, 43, 109-126.
- Gupta, B., Dasgupta, S., & Gupta, A. (2008). Adoption of ICT in a Gvoernment Organization in a Developing Country: An Empirical Study. *Journal of Strategic Information Systems*, 17(2), 140-154.
- Guriting, P., & Ndubisi, N. O. (2006). Borneo Online Banking: Evaluating Customer Perceptions and Behavioural Intention. *Management Research News*, 29(1), 6-15.
- Hamid, A. A., Razak, F. Z., Bakar, A. A., & Abdullah, W. S. (2016). The Effects of Perceived Usefulness and Perceived Ease of Use on Continuance Intention to Use E-government. *Procedia Economics and Finance*, 35, 644-649.
- Heo, J., & Han, I. (2003). Performance Measure of Information System (IS) in Evolving Computing Environments: Empirical Investigation. *Journal Information and Management*, 40(4), 243-256.
- Kumar, V., Mukerji, B., Butt, I., & Persaud, A. (2007). Factors for Successful e-Government Adoption: a Conceptual Framework. *Electronic Journal of e-Government*, 5(1), 63-76.
- Kumar, V., Murkeji, B., I, & Persaud, A. (2010). Factors for successful E-government Adoption: A Conceptual Framework. *The Electronic Journal of E-government*, 5(1), 63-76.
- Kurfali, M., Arifoglu, A., Tokdemir, G., & Pacin, Y. (2017). Adoption of e-government services in Turkey. *Computers in Human Behavior*, 66, 168-178.
- Lallmahomed, M. Z., Lallmahomed, N., & Lallmahomed, G. M. (2017). Factors Influencing the Adoption of E-government Services in Mauritius. *Telematics and Informatics*, 34, 57-72.
- Lankton, N., & McKnight, D. H. (2006). Using Expectation Disconfirmation Theory to Predict Technology Trust and Usage Continuance Intentions. Invited Paper Presented at University of Minnesota.
- Lee, A., & Levy, Y. (2014). The Effect of Information Quality on Trust in E-government System transformation. *Transforming Government: People, Process, and Policy*, 8(1), 76-100.

- Lee, Y. H., Hsieh, Y. C., & Hsu, C. N. (2011). Adding Innovation Diffusion Theory to the Technology Acceptance Model: Supporting Employees' Intention to Use E-learning Systems. *Educational Technology & Society*, 14(4), 124-137.
- Liang, S. W., & Lu, H. P. (2013). Adoption of E-government Services: An Empirical Study of the Online Tax Filing System in Taiwan. *Online Information Review*, 37(3), 424-442.
- Liang, S.-W., & Lu, H.-P. (2013). Adoption of E-government Empirical Study of the Online Tax Filing System in Taiwan. *Online Information Review*, 37(3), 424-442.
- Lin, F., Fofanah, S. S., & Liang, D. (2011, January 28). Assessing citizen adoption of e-Government initiatives in Gambia: A validation of the technology acceptance model in information systems success. *Government Information Quarterly*, 28(2), 271-279.
- Liu, Y., Li, H., Kostakos, V., Goncalves, J., Hosio, S., & Hu, F. (2014). An Empirical Investigation of Mobile Government Adoption in Rural China: A Case Study in Zhejiang Province. *Government Information Quarterly*, 31(3), 432-442.
- Livari, J. (2005). An Empirical Test of the DeLone and McLean Model of Information System Success. *The Data Base for Advances in Information System*, 36(2), 8-27.
- Mantymaki, M. (2008). Does E-government Trust in e-Commerce when Investigating Trust? A Review of Trust Literature in E-Commerce and e-government Domains. In: Oya M., Uda R., Yasunobu C. (eds) *Towards Sustainable Society on Ubiquitous Networks* (Vol. 286). Boston, MA: The International Federation for Information Processing.
- Mayer, R. C., Davis, J. S., & Schoorman, F. D. (1995). An Integrative Model of Organizational Trust. *Academy of Management Review*, 20, 709-734.
- Ndou, V. (2004). E-government for Developing Countries: Opportunities and Challenges. *The Electronic Journal on Information Systems in Developing Countries*, 18(1), 1-24.
- Ozkan, S., & Kanat, I. E. (2011). E-government Adoption Model Based on Theory of Planned Behavior: Empirical Validation. *Government Information Quarterly*, 28(4), 503-513.
- Panagiotopoulos, P., & Al-Debei, M. M. (2010:16-17). Engaging with Citizens Online: Understanding the Role of E-Petitioning in Local Government Democracy . *Internet, Politics, Policy*.
- Rabaa, A. A., Zogheib, B., Alshatti, A., & Jamal, E. A. (2016). Adoption of E-government in Developing Countries: The Case of the State of Kuwait. *Journal of Emerging Trends in Computing and Information Sciences*, 7(2), 77-101.
- Rehman, M., Esichaikul, V., & Kamal, M. (2012). Factors Influencing E-government Adoption in Pakistan. *Transforming Government: People, process and Policy*, 6(3), 258-282.
- Rogers. (2003). *Diffusion of Innovations* (5th ed.). New York: The Free Press.
- Rogers, E. M. (1995). *Diffusion of Innovation* (4th ed.). New York: The Free Press.
- Rokhman, A. (2011). E-government Adoption in Developing Country; The Case of Indonesia. *Journal of Emerging Trends in Computing and Information Sciences*, 2(5), 228-236.
- Sang, S., Lee, J.-D., & Lee, J. (2009). E-government Adoption in ASEAN: The Case of Cambodia. *Internet Research*, 19(5), 517-534.
- Seifert, W., & Bonham, G. (2003). *The Transformative Potential of E-Government in Transitional. Public Management*.
- Shareef, M. A., Kumar, V., Kumar, U., & Dwivedi, Y. (2011). E-government Adoption Model (GAM): Differing Service Maturity Levels. *Government Information Quarterly*, 28(1).

- Sokim, T., Xiaolin, X., & Dong, H. (2015). E-government: Combatting Corruption and Contribute to Good Governance. *European Journal of Research in Social Sciences*, 3(6), 42-47.
- Sokim, T., Xiaolin, X., & Dong, H. (2016). Key Factors Influence Adoption of E-government: Case of Cambodia. *International Journal of Social Science and Humanities Research*, 4(3), 386-400.
- Song, H. J. (2004). *Building E-government through Reform*, Governance Research Series. Seoul: Ewha Womans University Press.
- Stefanovic, D., Marjanovic, U., Delic, M., Culibrk, D., & Lalic, B. (2016). Assessing the Success of E-government System: An Employee Perspective. *Information & Management*, 53, 717-726.
- Suki, N. M., & Ramayah, T. (2010). User Acceptance of the E-government Services in Malaysia: Structural Equation Modelling Approach. *Inter Disciplinary Journal of Information, knowledge, and Management*, 5(1), 395-413.
- Thanh, H. T. (2016). Empirically Testing the pbublic Value Based Conceptual Framework for Evaluating E-government Performance in Vietnam. *Scientific Research Publishing*, 7, 140-152.
- United, N. (2008). UN E-government Survey: From E-government to Connected Governance.  
<http://unpan1.un.org/intradoc/groups/public/documents/UN/UNPAN028607.pdf>.
- Venkatesh, V., Morris, M., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Towards a Unified View. *MIS Quarterly*, 27(3), 425-478.
- Wixom, B. H., & Todd, P. A. (2005). A Theoretical Integration of User Satisfaction and Technology Acceptance. *Information Systems Research*, 16(1), 85-102.
- Zafiroopoulos, K., Karavasilis, I., & Vrana, V. (2012). Assessing the Adoption of E-government Services by Teachers in Greece. *Future Internet*, 4, 528-544.
- Zhao, F., Scavarda, A. J., & Waxin, M. F. (2012). Key Issues and Challenges in E-government Development: An Integrative Case Study of the Number One E-City in the Arab World. *Information Technology & People*, 25(4), 395-422.