



# Examining the Influence of Society and Technology in Vietnam E-Government Adoption

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## ABSTRACT

*Electronic government (E-government) has played an important role as an effective mechanism for increasing government productivity and efficiency and meet demand of citizen's life. However, e-government implementation in Vietnam is surrounded by technological and social issues which are affecting on developing and building E-government process. This research attempts to find out the key elements and the issues from applying E-government process in Vietnam. Also, it explains several points on "Technical Group" and Social Group" which will be affected on the Trust of citizen and citizens' intention to use. Survey data from public employees will be used to test the proposed hypothesis and the model.*

**Keywords:** E-government, Technical, Social, Vietnam.

## 1. INTRODUCTION

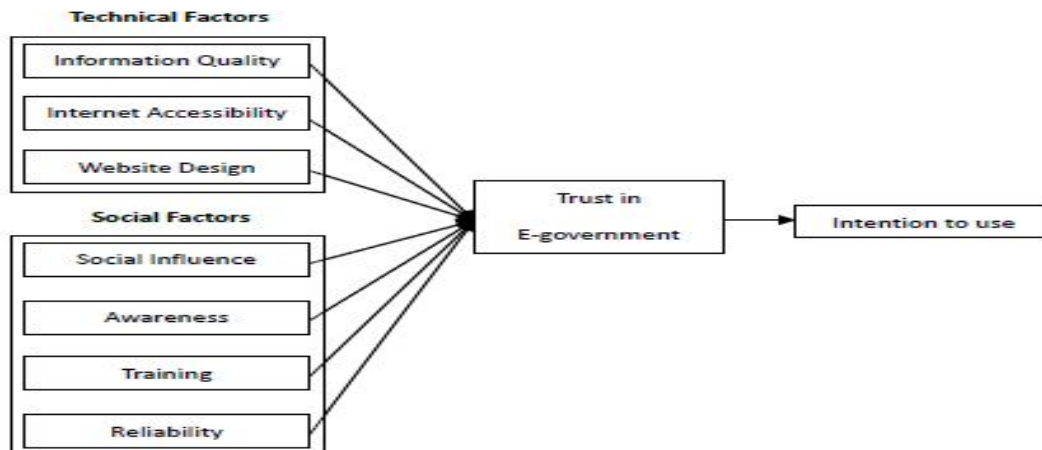
In the late 1990s, E-government has been considered as "a powerful enabling tool" (Bhatnagar, 2010) that has assisted governments in utilizing information and communication technologies (ICTs) in order to save operational and transaction costs for citizens, businesses and themselves. The implementation of e-government is particularly important for developing countries to narrow their gap with developed countries and to explore benefits more from the development of ICTs.

Following the trend of the world, a number of initiatives have been achieved to assist e-Government and ICT adoption and diffusion by Vietnam Government. Although Vietnam government has invested in e-Government implementation, there have been varying results and delayed outcomes. During last 23 years, Vietnam government has implemented 5 big projects: two of which were financially supported by the French Government (in the 1991-1993 and 1994-1996 periods); one was invested by the State budget (a part of the national IT program, period 1996-1998); and the other was under the Prime Minister's Decision in 1997. For all that, the achievements were still very limited. In 2001 Vietnam government decided to start the new project named Project 112. The 112 project was considered as the milestone for Vietnam e-government but unfortunately this project was halted in April 2007. After that, in the early of year 2007, the Vietnam Ministry of Information and Communication implemented a grand scheme named "ICT development in Vietnam" (2008-2013) and the results are not as expected. Actually, this phenomenon has not only occurred in Vietnam. The chief information expert of the World Bank pointed out that "among the e-Government projects in developing countries, according to estimation, 35 totally failed, and 50 partially failed, only 15 can be considered completely successful" (Heeks, 2003). Undoubtedly, E-government's benefits could not be delivered to its stakeholders if the failure occurred. Besides, for the world's poorer countries failures come at a higher price because their resources are limited and the wasteful capital should be invested in the other profitable projects. According to a report of E-government Institution of Waseda Tokyo University in the conference about E-government ranking in 2014, among Southeast Asian countries, Vietnam was ranked at fifth, lower than Singapore, Thailand, Malaysia and Indonesia. As for the global rank, Vietnam's position has increased 3 ranks compared with 2013. This facts are conformity to the number of Internet users in Vietnam, which has increased very significantly. In 2001 when the prime Minister Decision on E-government Vietnam was issued, Internet users are only 8 hundred thousand - Vietnam Internet Center in 2013, whereas in 2010 the Vietnam Internet users increased dramatically to 26 million users and in 2014 growing to 39 million users - Internet users by country in 2014. Based on these facts, a research regarding e-government adoption of Vietnam is very necessary to be done, since the success of e-government implementation is dependent not only government support, but also on citizen's willingness to accept and adopt those e-government service.

This research focuses on e-government in Vietnam, and attempts to explore important factors affecting user intention in using e-government systems in Vietnam in the field of technology and society. In the view of the above points, this contribute to both, theoretical as well as practical literature, thereby study will justifying its worth by bridging the gap in the extant literature about the e-government adoption. And this is actually a specific study to save costs for e-government projects success in the future. This paper highlights factors affecting user intention in using e-government systems in Vietnam in the field of technology and society. As a result the paper sought to answer two key research

questions. (i) What are the factors of society affecting using e-government in Vietnam? (ii) What are the factors of technology affecting using e-government in Vietnam? An investigation into the two research questions in the current study would help to identify the most influential factors of intention to use Vietnam e-government of citizen.

## 2. RESEARCH MODEL AND HYPOTHESES



**Fig.1** Research model

Information quality is a concept involving the quality of information system outputs, it can include the accuracy of information, and easy-to-understand as well as useful for users ... It is argued that, the assessment of the government's website quality lists information quality as a key element (V. McKinney and K. Yoon, 2002). Information quality, as assessed by citizens, usually influences their satisfaction and perceived usefulness (Moon and Kim, 2001). Before interacting with E-service, citizens must have access to the Internet as well as Internet accessibility is a pre-condition for citizen perceptions of E- service. According to (Prattipati, S., 2003), public access to the Internet is the most important factor affecting the use of online government services. Researchers have suggested that the design of an E-government website may encourage citizens to use the services and make a good impression to increase citizens' repeated usage (M. Rehman and V. Esichaikul, 2011). The effectiveness of website design from a citizen's perspective can be measured in terms of perceived usefulness and perceived ease of use.

Through, service of Government, people have chance to develop skill, contact with the technology and facilitate of process, procedure for their life. Public organizations that have introduced electronic services have done so by radically transforming their organizational structures using the latest innovations in technology (Bjorck, 2004). Barley (1986:79) defines social structure as patterned action, interaction, behaviors, and awareness. Davidson and Chismar (2007:741) posit that social structures often become a taken for granted aspect of social life. Furthermore, Basing on Dourish and Bellotti (1992), awareness is "an understanding of the activities of others, which provides a context for your own activity". Awareness includes using the mass media to introduce the concept of E-government system for people in the public sectors, conducting seminars or workshops to encourage the public sectors' work force to apply the concepts as their daily operations. In the research process, we also found that, Training and education are being given the importance that they deserve throughout industry and business. According to Greig (1997), in general terms, the analysis divides in- service training into three classifications: (i) Training that can be conducted most readily and effectively outside the enterprise; (ii) Training that can be carried out most readily and effectively inside the enterprise; (iii) Training that, both technically and cost-effectively, can be delivered equally well outside or inside the enterprise. Also, the re-engineering of work processes needs to manage well, as well as retraining and educating the relevant staff members (Jupp, 2001). The importance of training, hands-on support and a proactive stance towards adjusting the technology to the work have been identified as important both by practitioners (Smith, 1996; Lloyd and Whitehead, 1996) and researchers (Rogers, 1994; Orlikowski et al., 1995, Karsten et al., 1997). In addition, one of the most important points to applying and building E-government is making reliability of system and service. Reliability is requirement for the customer online service (Liu and Arnett, 2000). Service quality would be reliable while the delivering services as promised (Trentin et al., 2001), also the system could be reliable when it has a quick error recovery (Liu and Arnett, 2000). Besides that, Trust in E-government is the belief of citizen about the government body will perform an action which is very important to the human behavior control over the trailing and accepting the E-government system (Hisham Alsaghier et al., 2009). Trust is one of the most important factor effect on the intention of user for every system and service which can surfer the human demand. Therefore, the study designed the following hypotheses:

- H1:** The information quality of E-service (IQ) has positive effect on Trust in E-government of citizen (Trust).
- H2:** Internet accessibility (IA) has positive effect on Trust in E-government of citizen.
- H3:** E-service website design (WD) has positive effect on Trust in E-government of citizen.
- H4:** Social influence (SI) has positive effect on Trust in E-government of citizen.
- H5:** Awareness (AW) has positive effect on Trust in E-government of citizen.
- H6:** Training (TR) has positive effect on Trust in E-government of citizen.
- H7:** Reliability (RE) has positive effect on Trust in E-government of citizen.
- H8:** Trust in E-government has positive effect on Intention to Use (IN).

### 3. DATA ANALYSIS AND HYPOTHESES TEST

Table 1: The Exploratory Factor Analysis (EFA)

Rotated Component Matrix<sup>a</sup>

	Component								
	1	2	3	4	5	6	7	8	9
IN3	.954								
IN2	.948								
IN1	.935								
IN4	.931								
IN5	.920								
IA3		.924							
IA5		.914							
IA1		.903							
IA2		.890							
IA4		.841							
WD3			.885						
WD5			.877						
WD2			.848						
WD1			.807						
WD4			.793						
IQ4				.834					
IQ5				.819					
IQ2				.810					
IQ6				.737					
IQ1				.727					
IQ3				.697					
PU3					.876				
PU2					.870				
PU5					.842				
PU1					.808				
PU4					.784				
TR2						.899			
TR4						.890			
TR3						.876			
TR1						.793			
TR5						.729			
SI2							.913		
SI3							.897		
SI4							.894		
SI1							.835		
SI5							.697		
RE3								.865	
RE4								.857	
RE2								.815	
RE1								.768	
RE5								.732	
AW4									.876
AW1									.848
AW2									.834
AW3									.778

In table 1, the items gather for each factor clearly with the value is over 0.5. EFA test is satisfied.

**Table 2:** The Cronbach's alpha, CR and AVE

	TR	IQ	RE	SI	AW	WD	IA	PU	IN
Cronbach's alpha	.899	.906	.878	.906	.863	.924	.950	.913	.974
CR	.909	.894	.837	.914	.872	.890	.911	.894	.952
AVE	.671	.629	.567	.685	.633	.732	.775	.679	.868

The cronbach's alpha value of each factor is over 0.5; CR of factors are over 0.7 and AVE of all factors are over 0.5. Cronbach's alpha test, CR and AVE are satisfied.

**Table 3: Hypothesis Test**

			Estimate	S.E.	C.R.	P	Label
Trust	<--	TR	.087	.097	.894	.371	Rejected
Trust	<--	RE	-.046	.143	-.323	.747	Rejected
Trust	<--	IQ	.339	.099	3.422	***	Supported
Trust	<--	WD	-.218	.091	-2.388	.017	Supported
Trust	<--	SI	-.157	.094	-1.676	.094	Supported
Trust	<--	AW	.178	.104	1.702	.089	Supported
Trust	<--	IA	.291	.065	4.469	***	Supported
IN	<--	Trust	.212	.123	1.722	.085	Supported

Training and Reliability do not affect to Trust in E-government with P-value over 0.1. The others affect to Trust in E-government with p-value less than 0.1.

#### 4. CONCLUSION

The study investigated the factors affecting the intention to use E-government services of citizen in Vietnam. Basing on the results above, we can recognize that Technical factors group includes Information Quality, Internet Accessibility and Web Design have positive effects to citizens' trust in e-government. However, in social factors group, it shows that citizens do not have "reliability" in using the E-government service due to the lack of "training" or deficiency training for the new service from the government. Moreover, bad impacts from "social influence" does not affect well to the trust of citizen in e-government even though they have enough "awareness" in e-government. This research has practical implications for Vietnam government to the ways in which Vietnam citizens might increase their willingness to use E-government services. In addition, this research will stimulate discussion among the e-Government research community, not particularly in Vietnam but also in other developing countries with similar characteristics in the planning of e-Government uptake.

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