

The Effect of Power Distance on E-Government Adoption in Vietnam: Empirical Investigation Using UTAUT Model

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Abstract

In recent years, E-government is considered as an effective mechanism for increasing government efficiency, productivity and meeting the demand of citizen's life in many countries all over the world. Vietnam E-government has been implemented for many years to improve the quality of public services. However, the implementation of Vietnam E-government is surrounded by many different cultures issues which effect on E-government process. This research utilizes the Unified Theory of Acceptance and Use of Technology (UTAUT) to examine usage behavior of citizens in E-government services in Vietnam as well as investigate how national culture, especially Power Distance affect E-government adoption in Vietnam. Survey data from participants will be used to examine the proposed hypothesis and the research model.

Keywords: *E-government, Vietnam, UTAUT, Power Distance.*

1. Introduction

Along with the advances and rapid development of Information and Communication Technologies (ICTs), numerous of new opportunities for novel applications' implementation as well as high quality services' provision have been raised over global networks; its purposes is to employ the "Information Society Era" in order to improve the quality of life for all citizens, strengthen social cohesion, generate earnings, disseminate knowledge and ultimately ensure that public bodies as well as organizations still keep competitive position in the global electronic marketplace. Electronic government which is known as E-government is the term reflecting the utilization of ICTs in public administration in order to deliver the ease access for citizens, businesses as well as government agencies to government information. E-government can be widely defined as the utilization of ICTs and Internet to improve and enhance the access, the delivery of all aspects of government services and operations for the benefit of citizens, employees, businesses and other stakeholders [1]. 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 as well as ICT adoption and diffusion by Vietnam Government [2]. Vietnam Government has had many projects for applying ICTs in E-government implementation and E-government system of Vietnam has been developed steps by steps from 2009. Now, this system has brought various benefits for customs services as well as the clients, businesses nationwide and worldwide. According to the E-government survey 2016 conducted by the United Nations, Vietnam has been ranked 89th out of 193 countries and territories in the EGDI, up 10 places compared to 2014.

This research focuses on Vietnam E-government's implementation and adoption, aims to examine key elements affecting on usage behavior in using E-government systems basing on the Unified Theory of Acceptance and Use of Technology model (UTAUT). Besides, the E-government implementation in Vietnam is also affected by national culture factors, especially Power Distance. Identifying its effect on the process is not an easy task, so this study intend to explore and identify how Power Distance effect toward an implementation of the E-government systems in Vietnam. This research contributes to theoretical as well as practical literature, by that research will explain its worth by narrowing the gap in the extant literature about the E-government implementation. Consequently, this study aims to answer two key research questions. (i) Which factors affecting usage behavior in using E-government in Vietnam? (ii) How does Power Distance affect E-government usage behavior in Vietnam? An examination into the two research questions of this research would help to determine the most influential factors of Vietnamese usage behaviors in E-government.

2. Literature Reviews

2.1 The Unified Theory of Acceptance and Use of Technology

In the areas of general technology acceptance models, the Unified Theory of Acceptance and Use of Technology (UTAUT) is known as one of the newest developments. UTAUT was synthesized and created by Venkatesh from 8 well-known models in the technology acceptance literature such as Theory of Planned Behavior (TPB), Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Extension of the Technology Acceptance Model (TAM2), Social Cognitive Theory (SCT), Model of PC Utilization (MPCU), Motivational Model of Computer Usage (MM) and Diffusion of Innovation Model (DOI). UTAUT model aims to explain intention to use as well as the further usage behavior of users in an information system. Its model holds four key features like Performance expectancy, Effort expectancy, Social influence and Facilitating conditions which are independent variables determinate directly or predict user’s intention and behavior. The variables gender, age, experience and voluntariness of use play as moderator of the key relationships in the model. UTAUT incorporates many major theories and models of user acceptance, so we utilized UTAUT in this study as the base model [3].

2.2 National Cultures

Culture is “the collective programming of the mind that distinguishes the members of one group or category of people from another” [4]. National culture includes people’s beliefs, shapes values, expectations, assumptions, perceptions, and behaviors that discern people of one nation from others. The relationship between cultural differences and information technology (IT) adoption has been researched highly. Many studies showed that in ICT/IT/IS adoption, cultural factors play a significant role [5; 6]. The effects of national culture on E-government adoption has been examined in few research and most of them use Hofstede’s cultural model [7; 8; 9]. The definition of culture and theoretical framework of Hofstede are widely accepted and recognized, and as well in this research, they have been chosen as a theoretical background to explore the effect of national culture on E-government usage behavior in Vietnam. This research uses Power distance – one of the antecedents of the Hofstede’s National culture theory to examine whether and how national culture affects E-government usage behavior.

3. Research model and hypothesis

3.1 Tables and Figures

Basing on prior research, the research model of the study was designed as the Figure 1 below.

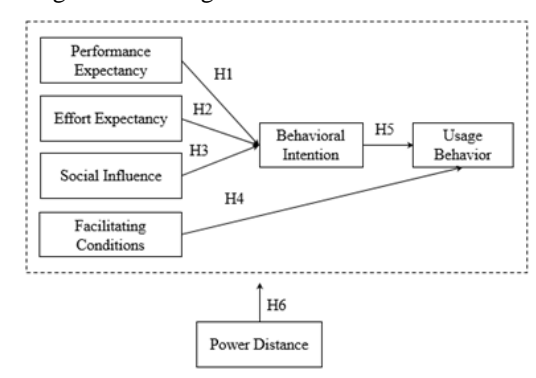


Fig. 1 Research model

Performance expectancy refers to the degree to which a person has belief that using the system will help her or him to increase her/his job performance [3]. In many prior studies performance expectancy is considered as a powerful predictor of behavioral intention toward technologies [3; 10]. Performance expectancy was measured by people’s perception of benefits when using E-government services such as saving time, reducing money and effort, facilitating communication with government, improving the government services quality by providing and supporting citizens with an equal basis on which to accomplish their business with government [10]. Effort expectancy is related to the degree that people associate in using with the system easily [3]. It is measured by the awareness of learning in how to use and ease to use the E-government services. When a system is noticed as easy and effortless to use, the users will have positive attitude toward using the system [3; 11]. Social influence is related to the degree in which an individual recognizes that people who are important to them believe if she or he should use the new system [3] and it is considered as an important determinant of behavior [12; 13]. In this research, social influence is defined as the normative pressure of associated members such as friends or family who influences the usage behavior in E-government. Facilitating condition is defined as the degree in which an individual believes that the use of the system is supported by the organizational and technical infrastructure exists [3]. It was measured by the perception of having ability to obtain knowledge, as well as to approach required resources and the necessary support to use e-government

services. Many governments in the world have proposed solutions to raise access to public services and facilitate the usage of information technologies effectively [14]. Behavior intention is related to the person’s subjective probability that she or he will perform the behavior in question [15] and it was investigate to have a direct influence on the individuals’ actual usage of any technology [16]. Therefore, the researcher proposes the following hypothesis

H1. Performance expectancy (PE) will have a positive influence on behavioral intention to use E-government services.

H2. Effort expectancy (EE) will have a positive influence on behavioral intention to use E-government services.

H3. Social Influence (SI) will have a positive influence on behavioral intention to use E-government services.

H4. Facilitating conditions (FC) will have a positive influence on E-government usage behavior (UB).

H5. Behavioral intention (BI) in using E-government services will have a positive influence on E-government usage behavior (UB).

According to Hofstede, Power distance is defined as the extent to which the less powerful members of the organizations and institutions expect and accept the unequal power distribution [4]. It means that high power distance organization will let opportunities slip for better competence, meanwhile low power distance organization will have opportunities to expand organization’s competence because of the tacit knowledge, it considers collective and individual knowledge [17]. In the society with high power distance, IT adoption as well as E-government initiatives could be recognized as a threat to the hierarchy [18]. It can be explained that information in this society is controlled by a hierarchy of power so it limits the public’s access [19]. Therefore, the researcher proposes the following hypothesis

H6. Power distance (PD) can affect to the impacts among factors in the research model.

4. Data Analysis

This research’s objects are variety of citizens who have been using E-government services in Vietnam. The survey questionnaire was designed to collect data which consisted items related to respondent’s profile, possible factors affecting usage behavior in using E-government services in Vietnam. The scales used in the questionnaire were largely built upon the scope and structure of previous studies. Constructs were measured based on seven-point Likers-scales ranging from strongly disagree (1) to strongly agree (7). The questionnaires were sent directly to the participants and the online questionnaires. Out of 248 self-administered questionnaires distributed, only 232

questionnaires were considered to be useful, which represents a response rate of 93.5%. 60.6% of the respondents are male and the dominant age range of respondents are 21-30 with 42.3% of total and 31-40 with 19.4% of total. The respondents’ education level is mostly undergraduate with 73% of the whole respondents.

Table 1: Cronbach’s Alpha, CR and AVE

	PE	EE	SI	FC	BI	UB
Cronbach’s alpha	0.945	0.937	0.888	0.875	0.924	0.906
CR	0.934	0.917	0.880	0.863	0.891	0.874
AVE	0.780	0.736	0.710	0.566	0.732	0.635

As described in Table 1, the Cronbach’s alpha values range from 0.875 to 0.945, with 6 research concepts are satisfied internal consistency reliability after refining scales. Besides, all CR indexes of factors are over 0.7 and all AVE indexes of factors are over 0.5. CR and AVE are satisfied.

Table 2: Model fit indices

Model fit indices	Recommended value	Obtained
Cmin/df	<3	1.649
CFI	>.8	0.965
GFI	>.8	0.888
AGFI	>.8	0.854
RMSEA	<.08	0.054
RMR	<.09	0.089
TLI	>.8	0.958
PCLOSE	>.05	0.266

As Table 2 shows, all the model-fit indices satisfy their respective acceptance criteria suggested in the prior literature. Therefore, we can conclude that the measurement model has good fit with the data collected.

Table 3: Hypothesis Test

	Estimate	S.E.	C.R.	P	H-Test
BI <--- PE	.172	.093	2.051	.040	Supported
BI <--- EE	.565	.087	6.891	***	Supported
BI <--- SI	.154	.073	2.376	.018	Supported
UB <--- FC	.431	.069	5.595	***	Supported
UB <--- BI	.227	.040	3.329	***	Supported

Purpose of hypothesis test is to determine which predictors (independent variables) bring a significant contribution to the dependent variables' explanation [20]. And all of the hypothesis are satisfied with P-value are less than .05.

Table 4: Structure weight value

Value	Power Distance
Structure weight	0.043

Basing on the P-value of structure weight in MSEM test, Power distance can affect significantly to the impacts among factors in the research model as moderators. We divided the moderator – Power Distance into 2 groups (high and low) to examine about the difference in their mind about E-government.

Table 5: Power Distance

	PD_High	PD_Low	z-score	Label
	Estimate	Estimate		
BI<---PE	0.047	0.300	1.332	Not Different
BI<---EE	0.812	0.449	-1.973	Different
BI<---SI	0.063	0.275	1.341	Not Different
UB<---FC	0.559	0.310	-1.535	Not Different
UB<---BI	0.143	0.108	-0.459	Not Different

There is the difference in the impact of Effort expectancy on Behavioral intention between 2 groups.

5. Conclusion

Based on the results, we can see that Performance Expectancy, Effort Expectancy and Social Influence have positive effect on Behavioral Intention in using E-government services; besides, Facilitating Condition and Behavioral Intention have positive effect on Usage Behavior in E-government services as well. It can be explained that Vietnamese citizens are willing to take actual behavior in using E-government services, they have awareness about the benefits and usefulness offered by E-government services such as declining the service time as well as effort required to contact government officials, saving money... besides, they can easily interact with E-government services anywhere, anytime. In addition, with the huge support and great facilitating condition from Vietnam government, Vietnamese citizens and their associated members seem to be satisfied with the services as well as they have tend to utilize E-government in their social life and work. For the impact of Power distance moderator, based on the table 5, there is the difference in usage behavior in using E-government between 2 groups high and low, especially in the Effort Expectancy. In high Power distance group, people tend to focus more on the Effort Expectancy than others in low one. It is consistent with society with high power distance, citizens always

expect about E-government system which is ease to use and appropriate with their economic and knowledge levels in the developing country as Vietnam. As in all previous studies, this research also has its limitations. For instance, this research is based on a representative sample of Vietnam to validate the proposed hypotheses about the factors affecting successfully implementing of Vietnam E-government. This sample is composed of citizens have used E-government in Danang. Although the stated rationale for the selection of this sample of this research, there are still other groups of Vietnam community which may have different needs and demands of change for the adoption and implementation of Vietnam E-government. However, validation of hypotheses by choosing other samples from the study population, such as those mentioned would generalize the results to other groups of the same context, without exceptions.

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