

Research Article

FACTORS IMPACT ON INTENTION OF USE E-GOVERNMENT SERVICES IN HO CHI MINH CITY, VIETNAM

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ABSTRACT

The implementation of E-government is currently undergoing significantly in Vietnam, especially following the issuance of Government Regulation No. 6 in 2022 on the national digital transformation. However, the question arises whether citizens' knowledge can keep up with the pace of technological advancement, which poses a significant obstacle for developing countries like Vietnam. In this article, the authors analyze the factors influencing the intention to use online public services in Ho Chi Minh City, aiming to provide a broader picture whether citizens can cope with the government's digitalization efforts. More specific, the authors investigate the reasons that may hinder or discourage individuals from using online public services in Ho Chi Minh City. A conducted survey was utilized to collect data from 303 participants, employing a survey questionnaire as the data collection method. The authors applied the Extended Technology Acceptance Model (TAM3) for the analysis, utilizing the Analysis of Moment Structures (AMOS) software to process the data. The results indicate that perceived usefulness has a major impact on usage intention, while the perceived ease of use has less effect on usage intention. Based on these findings, the authors propose recommendations to eliminate barriers and increase the adoption of online public service rate in Ho Chi Minh City.

Keywords: Extended Technology Acceptance (TAM3), E-Government, digital government services, online public service, Information and Communication Technologies (ICTs), intention of use.

INTRODUCTION

With the development of Information and Communication Technology (ICT), communication between the government and citizens, as well as among citizens themselves, has undergone significant changes and improvements. Information barriers are now virtually nonexistent, making the establishment of an E-Government imperative for every nation. E-Government refers to the use of technology, especially online applications, to enhance access to and provide government information and services to citizens, partners, employees, other agencies, and government organizations. It has the potential to foster better relationships between the government and citizens by making interactions smoother, easier, and more efficient. This article analyzes the factors influencing the use of E-Government services in Ho Chi Minh City, Vietnam. Our study explores the capabilities and perceptions of users affecting the intention to use E-Government services. These findings aim to provide the government with a deeper insight into the current factors influencing the use of E-Government services, thereby offering solutions to enhance the effectiveness and usage rate of electronic public services in Ho Chi Minh City, Vietnam.

THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

Theoretical background.

The Technology Acceptance Model (TAM) (Davis 1986) is a widely used model in research on factors influencing technology usage. Davis's initial model was very simple, consisting of only two (02) groups of variables affecting attitudes toward usage. These two (02)

groups of factors include: (1) Perceived usefulness, and (2) Perceived ease of use. In 1989, Davis and colleagues reconstructed the TAM model, known as Adjusted TAM (Davis 1989). In this 1989 adjusted model, the authors added several factors such as: accessibility, system compatibility, support, capability, experience, expertise, etc. In 2000, Venkatesh and Davis reconstructed the TAM model once again, referred to as TAM2. In this model, the authors inherited the TAM (1989) model and added additional factors related to social influence. In 2008, the TAM model was retested, resulting in TAM3. In this article, the authors will utilize the TAM3 model (Venkatesh and Bala 2008) as the basis for understanding the factors influencing citizens' intention to use online public services in Ho Chi Minh City, Vietnam.

Hypothesis development

Based on the TAM3, the authors developed the hypothesis as follows:

- H1: Subject norms have positive impact on Perceived usefulness.
- H2: Job relevance has positive impact on Perceived usefulness.
- H3: Result demonstrability has positive impact on Perceived usefulness.
- H4: Support agencies have positive impact on Perceived usefulness.
- H5: Support agencies have positive impact on Perceived ease of use.
- H6: Computer self-efficacy has positive impact on Perceived ease of use,
- H7: Facilitating condition has positive impact on Perceived ease of use.

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- H8:** Computer anxiety has negative impact on Perceived ease of use.
- H9:** Perceived usefulness has positive impact on Intention of use.
- H10:** Perceived ease of use has positive impact on Intention of use.

METHODOLOGY

A total of 303 online survey questions were distributed to Ho Chi Minh citizens over a period of three months. A questionnaire was used to measure the following variables of the study: (1) Subjective Norms, (2) Job relevance, (3) Result demonstrability, (4) Support agencies, (5) Computer self-efficacy, (6) Facilitating condition, (7) Computer anxiety, (8) Perceived usefulness, (9) Perceived ease of use, (10) Intention of use. A Likert scale was used to measure (1=strongly disagree to 5= strongly agree). The data were analyzed using the Analysis of Moment Structures (AMOS) software.

ANALYSIS AND FINDINGS

Demographic Analysis

The analysis of data from 303 individuals reveals that 56% is female and 43% is male. Most of them are from 25 to 30 years old (70%). College and university graduates comprise 62%, the rest are high school graduates. All of them are living in Ho Chi Minh City. The data indicates that 52% have experience using e-government services, the rest 48% have not used e-government services.

Reliability Analysis

The summation of all the ten variables' scale shows all the ten variables are getting good scores with the results are at the range between 0.886 and 0.964. It is considered highly reliable, and valid for this research, where they are fulfilling the rule of thumb for good and excellent rating, high reliable alpha value of >0.07 (Glen, 2014). From the reliability test result, which shows in this research, it can be concluded that it is an appropriate, sufficient and acceptable score, therefore, the analysis is trustworthy and rightful to use.

Variables	Number of items	Cronbach's Alpha Based on Standardized Items
PU (Perceived usefulness)	4	0.911
SN (subject norms)	3	0.886
REL (Job relevance)	3	0.900
RES (Result demonstrability)	3	0.891
SA (Support agencies)	3	0.932
PEOU (Perceived ease of use)	3	0.921
CSE (Computer self-efficacy)	2	0.948
FC (Facilitating condition)	5	0.957
CA (Computer anxiety)	4	0.964
IU (Intention of use)	4	0.956

Factor analysis.

All 23 independent variables that meet the conditions for Cronbach's Alpha reliability analysis were entered into an Exploratory Factor Analysis (EFA). The task of the EFA is to explore the structure of the measurement scale of factors influencing the intention of use through seven factors: Subject norms (SN), Job relevance (REL), Result demonstrability (RES), Support agencies (SA), Computer self-efficacy (CSE), Facilitating condition (FC), Computer anxiety (CA). After ensuring the correct execution of the EFA process, the factors will be examined to clean the data.

Conducting EFA analysis for the entire set of 23 variables belonging to independent factors influencing the intention of use, we obtained the following results:

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.861
Bartlett's Test of Sphericity	Approx. Chi-Square	1360.904
	Df	6
	Sig.	.000

In the table of KMO and Bartlett's test, with the results of the factor analysis of variables belonging to independent factors, the author obtained a Kaiser-Meyer-Olkin (KMO) coefficient of 0.861, which is greater than 0.5, with a Sig. value of 0.000. This affirms the adequacy of the KMO value for ensuring the appropriateness of exploratory factor analysis and the significance of the data entered the factor analysis.

Correlation Analysis

The results of the correlation analysis aimed to examine the relationship between dependent and independent factors for potential correlation before running the regression model. The data shown in the below table ensures that the correlation between the factors is statistically significant, allowing the author to proceed with running a linear regression model. Therefore, during the linear regression analysis, the author will include the seven factors Subject norms (SN), Job relevance (REL), Result demonstrability (RES), Support agencies (SA), Computer self-efficacy (CSE), Facilitating condition (FC), Computer anxiety (CA) to identify these factors influencing Perceived usefulness (PU), Perceived ease of use and on Intention of use (IU).

	CA	SA	CSE	FC	SN	REL	RES
CA	1	.796**	.794**	.827**	.586**	.694**	.609**
SA		1	.834**	.844**	.642**	.742**	.669**
CSE			1	.825**	.596**	.702**	.660**
FC				1	.648**	.710**	.685**
SN					1	.637**	.600**
REL						1	.628**
RES							1

Regression analysis and hypothesis testing.

Table 5. Regression analysis and hypothesis testing.

Hypothesis	Relationship	The standardized Beta coefficients	P-value	Hypothesis testing	Level of Impact (1 = strongest)
H1	SN --> PU	0.168	***	Accepted	7
H2	REL --> PU	0.343	***	Accepted	3
H3	RES --> PU	0.182	** (0.008)	Accepted	6
H4	SA --> PU	-0.201	** (0.020)	Not Accepted	None
H5	SA --> PEOU		0.372	None	None
H6	CSE --> PEOU	0.252	***	Accepted	4
H7	FC --> PEOU	0.344	***	Accepted	2
H8	CA --> PEOU	-0.286	***	Accepted	8
H9	PU --> IU	0.542	***	Accepted	1
H10	PEOU --> IU	0.257	***	Accepted	5

The results of the regression model analysis show:

$$PU = 0.702 + 0.128*SN + 0.343*REL + 0.182*SR$$

$$PEOU = 0.741 + 0.252*CSE + 0.344*FC - 0.286*CA$$

$$IU = 0.628 + 0.524*PU + 0.257*PEOU$$

Among the seven independent variables, there are five variables that have a positive impact, and one variable has a negative impact on the two intermediate variables, they are Perceived usefulness and Perceived ease of use. The positive impact of these six variables aligns perfectly with the hypotheses proposed. However, the supporting agency variable does not align with the proposed hypothesis. This could be explained by slight inaccuracies in the input data, as the reliability test did not detect them, making it impossible to exclude this variable from the outset. Nevertheless, the remaining six variables are all significant for the author to further analyze their influence on usage intention. Finally, the result of the two intermediate variables on the dependent variables on the Intention of use, demonstrate that perceived usefulness has a greater impact on usage intention than perceived ease of use.

CONCLUSION

The study intended to measure the impact of seven types of independent variables namely Subject norms (SN), Job relevance (REL), Result demonstrability (RES), Support agencies (SA), Computer self-efficacy (CSE), Facilitating condition (FC), Computer anxiety (CA) and two types of mediating variables calling Perceived usefulness (PU), Perceived ease of use and on the dependent variable Intention of use (IU) of citizens in Ho Chi Minh City. It can be concluded that the objectives of the study have been achieved by testing the impact of selected nine types of factors on Intention of use. Job relevance is found to have a significant impact on Perceived

Usefulness. This shows that citizens consider E-government useful when its related to their job. Another group of dependent factors testing the impact on Perceived ease of use also indicate that Facilitating condition confirms the most significant impact on Perceived ease of use. This means that citizens will use online public services when they are equipped with the necessary devices. The outcome of the two mediating factors shows the Perceive usefulness impact the most on E-government Intention of use. This study recommends citizens will use online public services when they perceive the benefits of using them. In summary, to increase the rate of citizens using online public services, firstly, the government needs to promote the usefulness of online public services through emphasizing the connection between these services and people's tasks, highlighting how online public services can benefit citizens' tasks, secondly, the government needs to design online public services in such a way that it is easy for citizens to use, finally, e-governance is a process of getting use and adapting new technologies, therefore it takes time and effort for both citizens and governments to work together.

REFERENCES

Davis , F. D. (1986). A technology acceptance model for empirically testing new end-user information systems: Theory and results. Massachusetts Institute of Technology.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS quarterly, 319-340.

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. Management science, 35(8), 982-1003.

Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. Management science, 46(2), 186-204.

Venkatesh, V., & Morris, M. G. (2000). Why don't men ever stop to ask for directions? Gender, social influence, and their role in technology acceptance and usage behavior. *MIS Quarterly*, 115-139
