

Malaysian e-Government Application: Factors of Actual Use

¹Sahari N., ¹Zainal Abidin, N., ²Kasimin, H., ²Mohd Idris, H.

¹School of Information Technology, Faculty of Information Science and Technology, ²School of Economy, Faculty of Economy and Management Universiti Kebangsaan Malaysia, 43000 Bangi, Selangor, Malaysia

Abstract: Implementation of Malaysian mega projects, the Multimedia Super Corridor (MSC) [1996-2020] has been into the third phase [2011-2020]. In this phase, among others is the transformation of the Malaysian citizen into knowledge-based society using information and communication technology (ICT) as an executor in all economic sectors to spur productivity and innovation to become a vibrant hub for the production of ICT solutions. In conjunction with the nation's visions, one of the seven flagship applications of MSC are e-Government which promises the citizen to get the services and information online. The implementation of e-Government is destined to improve the efficiency, effectiveness and comprehensiveness of the public services. Government has taken various efforts to encourage the utilization of e-Government. In contrast, the practice of e-Government among Malaysians is still at the disappointing stage. Therefore, the main purpose of this study is to design a model of Malaysian citizen's needs towards actual use of e-Government system. A cross sectional studies was done to identify factors that influence actual use of e-Govt system in Malaysia. An initial actual use model was constructed and a set of questionnaire was developed to confirm the model. Questionnaires were administered to e-Govt users in Selangor State in Malaysia. Using two stage least square analysis, t-test and ANOVA, several factors which influence the actual use of Malaysia's e-Govt system were identified. Perceived ease of use, perceived usefulness, social influence, attitude, trust, intention to use behavior, ICT infrastructure and an individual's background (age, race, level of education, service group, and skills in ICT) were found to be of influence towards the level of actual use. The finding is hoped to be able to assist government agencies in planning, developing, implementing and upgrading the e-Govt system in order to optimize the actual use.

Key words: e-Government, Actual use, Behavioural intention to use, Two stage least square analysis, ICT.

INTRODUCTION

The establishment of a seamless government would go to waste if the citizens have difficulty in identifying, accessing and using the Electronic Government (e-Govt) services. Some citizens are still not aware of the advantages and benefits obtained if they choose to use e-Govt system as a medium of interaction with public service agencies compared with the traditional methods of over-the-counter service. According to Zahri (2009), among the issues or constraints which hinder the use of e-Govt among Malaysians are the accessibility and infrastructure of ICT, data security and reliability, user attitude and awareness, performance and capabilities of the Internet or the system, as well as the support provided.

The facilities of ICT infrastructure in Malaysia is still not comprehensive. The digital gap in the ICT sector is obviously wide. A gap exists between knowledge society and less knowledgable; young and old generation, educated and less educated as well as between the urban and rural communities (Ahmad *et al.* 2008). For example, it is stated in the Economic Transformation Plan Program that for low-income households who wish to receive financial assistance and other supports from the government such as "1 Azam Program", they must register in the e-Kasih system in priory. However, the process of identifying and registering the households into the database is challenging since their number is huge, they are scattered all over the country and the access to Internet technology is not available. To reduce this digital gap, the government has implemented numerous projects involving ICT facilities. Internet connection in rural areas is provide through government initiatives such as the Rural Internet Center (RIC) program and the Universal Service Provision (USP) program. Nevertheless, it could be seen that the implementation of all these projects have not yet given any positive impact in encouraging Malaysians to use the e-Govt services.

The issue of data security and confidentiality is a critical aspect which needs to be taken seriously by the government in implementing the e-Govt project. Users are mainly concerned about the aspect of the disclosure and sharing of their data and personal information. The system's ability to protect the confidentiality of data

Corresponding Author: Noraidah Sahari, School of Information Technology, Faculty of Information Science and Technology, Universiti Kebangsaan Malaysia 43600 Bangi, Selangor, Malaysia.
Phone: 60192719286 Fax: 603-89217089
E-mail: nsa@ftsm.ukm.my or norashaari63@gmail.com

gives a positive impact on Malaysian's trust in using the e-Govt services (Ahmad *et al.* 2008). This shows that if Malaysians are not convinced with the security of their personal information, it becomes the cause of their reluctance in using e-Govt applications. Armesh *et al.* (2010) states that the level of trust has a significant relationship with the security and confidentiality of data in the use of Internet as a medium for marketing in Malaysia. Eventhough Malaysia's e-Govt system has implemented various technical aspects in order to safeguard the security and confidentiality of data, the people are still skeptical in making their transactions on-line.

The public perceives the problem of data security as a critical aspect which needs to be given due attention by the government. If a security problem occurs in one of the government agency applications, this would reflect that all government agencies have failed to ensure that security aspect is well guaranteed (Ahmad *et al.* 2008). There are a number of e-Govt application which require payment transactions to be made through Internet banking. According to Sohail and Shanmugham (2003), the issues of trust and security are some of the main factors which influence the acceptance of Internet banking which directly gives a negative impact on the usage of e-Govt application among Malaysians.

The aspect of positive attitude and confidence towards transactions created through the Internet is still low. This is related to the aspect of their resistance to change whereby the existance of such group causes an organization to fail in introducing any changes (Ahmad *et al.* 2008). For instance, users who are accustomed to the conventional method of over-the-counter service or correspondence would have difficulty in switching to service channels carried out on-line (Armesh *et al.* (2010). Moreover, Malaysians are more interested in using services which would not involve any costs, such as Internet subscription, personal computer or the cost of services incurred for making payment via Internet banking. They would also only use the applications if the government provides incentives or rewards.

The e-Govt system performance also becomes an obstacle in increasing the total usage of e-Govt among Malaysians. Lean *et al.* (2009) states that the information on the government's website needs to be accurate, informative, up-to-date and relevant to the needs of the people. A good website does not only have complete information, but has to be designed so that it is user friendly for all levels of citizen. There are e-Govt websites which information has not been up-dated and the presentation of the information is misleading. This situation is further compounded by low speed and low Internet access ability. High number of e-Govt users do their transaction during office hours especially during peak time which causes them to get delayed responses from the system being used. This would result in a rather long time to complete a transaction. This situation makes the users feel bored and thus do not want to use e-Govt applications in the future and to return to conventional methods.

The provision of additional support in using e-Govt application is also another constraint which prevents Malaysians from using these applications. Users find it difficult to get assistance especially during peak hours. Complaints submitted by electronic mail to the responsible party are sometimes not attended to or are not resolved in the given time frame. Telephone calls to the support services are normally not answered by the staff in charge. To make matters worse, there is no centralised telephone line for e-Govt assistance service. Users would need to contact several different agencies to solve their problems. The sometimes delayed response from those agencies would in turn make the citizens to return to conventional methods in order to obtain public services (Zahri 2009).

In summary, it can be concluded that the availability of ICT infrastructure, trust, people's attitude, quality of information and the support in using the e-Govt applications are all cause the public refuse to become the users of the e-Govt system. When the citizens are doubtful in using these system, the government's efforts in developing various types of e-Govt applications for the ease of the public will be washed down the drain. If these obstacles are not dealt with immediately, the implementation of e-Govt system will fail. Effective strategies need to be planned and implemented to increase Malaysian's level of trust which would in turn further enhance the actual use of the e-Govt service (Lean *et al.* 2009). Consequently, this study is carried out to identify the requirement factors of the system and characteristics of users who would actually used Malaysia's e-Govt system. If the government is able to identify the requirement and characteristics of the users, then it is believed that the e-Govt system users could be increased. The effect of this is that the implementation of e-Govt would give a positive impact to both the government and citizen.

Actual Use Factors:

The users in this study are referred to as the users of ICT or the Internet who plan to use or have used e-Govt applications in their daily affairs. User behaviour is the attitude within each individual which determines the intention in using e-Govt applications and how it will retain such behaviour so that it becomes a habit or more precisely to acculturate the behaviour. In the acculturation of the use of e-Govt, the perception and acceptance of the applications being developed are very important. Perception is defined as a unique impression on how it affects a person in viewing, organizing and interpreting a certain thing or incident (Newstrom & Davis 1997). Each individual has a different perception depending on the effects they receive

from their senses. Acceptance on the other hand is seen as a consistent response and is in accordance with the perception, either consciously or unconsciously (Sharifah Norazlinda 2007).

According to Davis (1993), users' level of acceptance is one of the factors which determines the success or failure of a system. Its implementation will fail if the users refuse or are reluctant to use the system. Thus, a study on users' acceptance needs to be carried out as early as possible in the process of designing or developing a system. If a designer is able to predict the features and factors which could influence users' acceptance, this will reduce the risk of rejection in using the system. On that basis, several researchers have developed or designed models in analysing and understanding the factors which influence user's acceptance towards information technology and communication. These acceptance factors will give an impact on the continued use and result in the creation of an accultured usage of the system.

In this study, based on the findings of Zahri (2009); Lu *et al.* (2011); Armesh *et al.* (2010) and Lean *et al.* (2009) as well as the TAM (Davis 1993), an actual use model of Malaysia's e-Govt system is designed. A propose research model (Figure 1) has been designed and developed to represent user's needs towards Malaysia's e-Govt system. Eight main factors in the actual use model of Malaysia's e-Govt system are identified. The factors are; perceived usefulness, perceived ease of use, social influence, attitude towards use, trust, behavioral intention to use, ICT infrastructure and user's demographic characteristics. The definition of each factors that are applied to e-Govt system usage are discussed.

The factor of actual use (AU) refers to whether the people have used and are currently using the e-Govt applications which are provided on-line. This factor is measured through characteristics such as has ever used, how many applications have been used and are currently being used and whether an individual uses a system continuously and makes it part of his life requirement. Users will be satisfied if they are convinced that the system is easy to use and is able to increase their productivity. This will directly reflect the actual situation of the system's level of usage. The implementation of the e-Govt system is considered a success if the application's level of actual use is high. Lean *et al.* (2009) has recommended that developers of a public service system need to design and implement appropriate strategies to increase Malaysian's level of trust and confidence towards the use of e-Govt service.

Perceived Usefulness (PU) of a system is defined as the measurement used in assessing whether the use of a certain information system would give advantages or benefits to the users. Davis (1989) defines perceived usefulness as a level where a user believes that by using a certain system, it could increase the person's work performance. Jahangir & Begum (2009) stated that to ensure that an individual uses a system, the system being developed has to be beneficial, easy to use and can be trusted. Thus, in the context of this study, perceived usefulness is defined as the perception of Malaysian towards the benefits to be gained if they were to use the e-Govt application. Apart from that, perceived usefulness also means how Malaysian perceive this system as a medium which could assist them in dealing with government agencies. If the e-Govt system could be fully utilised, this might change their behavioural of intention to use of the system.

A system's perceived ease of use (PEoU) is referred to as easy to be used when the system being developed is not too complex and the level of its compatibility is high (Sharifah Norazlinda 2007). Davis (1989) defines the perception of ease of use as a level where a user believes that using a certain system does not require too much effort and high level of thinking. Davis adds on that an application which is easy to use is preferred and accepted by users. This perceived ease of use is measured in a system by features of easy to learn, easy to control, clear and easy to understand, flexible as well as easy to be mastered (Davis 1989). To ensure that people's attitude towards making the e-Govt applications as their chosen medium of interaction with Malaysia's public service agencies, the system being developed has to be usable. Moreover, a system which has easy-to-use and easy-to-understand interface will give a high level of satisfaction (Bevan2000).

Attitude towards use of e-Govt system are impacted by user's social influence which is defined as the perception of an individual that the surrounding people think that it is necessary for a person to use the new invention, method or technology. Social influence is based on the pressures or sanctions applied by group members to produce conformity in terms of attitude and behavior (Deutsch & Gerard, 1955). It occurs in a social system when an individual's thoughts, feelings or attitudes are affected by people around him. In the use of e-Govt system, social influence refers to as change in user attitudes towards use of e-Govt system that results from interaction with family members, friends, colleagues, employers and others (Jyoti Devi, 2009).

User's attitude towards use (UA) is an element in an individual which determines the individual's behaviour and how it retains that behaviour. User's attitude towards a system is a major determiner whether they will use or reject the system. Davis (1989) states that attitude towards the used of a system depends on perceived usefulness and ease of use. In the TAM model, attitude is defined as acceptance or rejection of a system which exists based on an individual's experience in using a certain technology. Furthermore, the characteristics or functions of a system could directly influence an individual's attitude without the need for the individual to make an initial perception of that system. Study by Yang *et al.* (2011) confirmed that attitude in playing online game is affected by social influence on college students. An individual who has a positive attitude towards the acceptance of a certain technology will have more desire in using that technology (Jyoti Devi 2009). Hence,

user's attitude mentioned, together with user's trust factor will be used as a measure in assessing how far Malaysians are prepared to accept and intent to use the e-Govt system.

User's trust (UT) factor refers to an individual's level of confidence towards the reliability and integrity of a system. Carter & Belanger (2005) and Hung *et al.* (2006) found that trust is the determiner of the people's acceptance of the service offered online. Trust should be built based on e-Govt system's features which have high level of security. A system should be able to store and secure user's personal information from any type of violation. Trust also takes into account the assurance that the payment transactions made online is secure. Studies by Hadri and Herni (2011), and McKnight *et al.* (2002) have found that trust has a significant positive relationship to the behaviour intention to use of online transaction.

The factor of behavioural intention to use (BI) refers to an individual's behavioural inclination or tendency in using or adapting to a certain technology. As featured in the TAM model, intention to use is influenced by attitude and this will in turn influence the user's level of actual use of a system. Jahangir & Begum (2009) state that existing resources such as the availability of ICT infrastructure (computer hardware and Internet accessibility) needs to be taken into account to intensify user's desire in using the system. According to Jyoti Devi (2009), an individual's desire in using e-Govt system has direct correlation to the level of actual use of the e-Govt system.

The factor of availability of ICT infrastructure (ICTI) is a level where an individual believes that the facilities and infrastructure provided by the parties concerned could support the use of a certain system (Venkatesh *et al.* 2003). The inavailability of ICT facilities will become a utilization constraint and this will hamper an individual's intention in using a certain technology (Jyoti Devi 2009). Study by Noraidah *et al.* (2011) states that the availability of ICT infrastructure is measured through the features of ICT equipment ownership, facility of a premise for using the computers and accessing the Internet, and the facilities for Internet access.

Besides above factors that influence user's actual use, user's demographic factor (UDF) is capable of influencing the level of use of Malaysia's e-Govt application as well. Porter & Donthu (2006) in their research stated that demographic factors such as age, level of education, total income, and race are capable of influencing the attitude and the level of use of the Internet technology. Gauld *et al.* (2010) in their research have also tested whether age, gender, total income, level of education and place of residence have contributed to the level of usage of the e-Govt system. Their research findings showed that only factors of age, level of education and place of residence have direct impact on the use of e-Govt systems among citizens of Australia and New Zealand. This study also attempts to identify demographic factors that influence the actual use of e-Govt system in Malaysia.

Based on the discussion of the research factors above, a proposed model of the actual use of Malaysian e-Govt system is developed as in Figure 1. Research method and findings of the work are discussed in the next session of this paper.

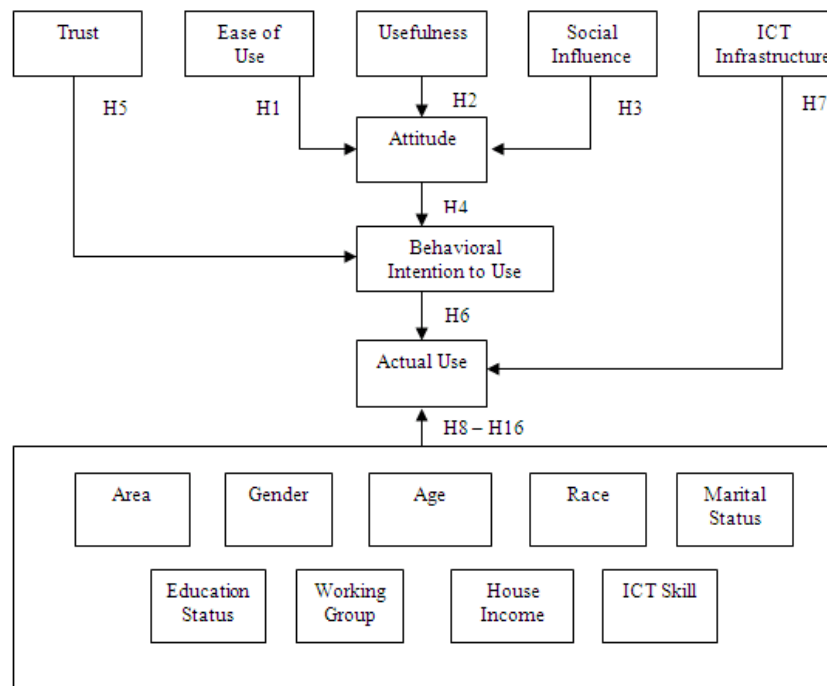


Fig. 1: Proposed Actual Use Model of Malaysia's e-Govt System.

Methods:

Based on the factors presented in the actual use model of the Malaysian e-Govt system, a set of questionnaire has been constructed with the objective to verify the factors. This questionnaire is developed based on previous studies and the items are modified based on questions that can identify the perception, attitude and behaviour of Malaysians in the actual use of the e-Govt system. The questionnaire with 5-point Likert scale was administered to e-Govt users using stratified random sampling in Selangor State.

Referring to the TAM, ease of use and usefulness of the system are the two main characteristics that will influence an individual’s attitude towards the use of a system. Therefore, this study intends to evaluate whether perceived ease of use, perceived usefulness, combined with social influence factors are able to influence user’s attitude in using the e-Govt system. The attitude factor contributes as a guide to evaluate the extent of Malaysian’s readiness to accept and use the e-Govt system. In order to evaluate whether these three constructs have any influence on the behavioural intention to use of the users of the e-Govt system, three research hypotheses, H1, H2, H3 are developed as shown in Figure 1.

To identify the relationship between trust and attitude factors and the behavioural intention to use factor among Malaysian in continuously using the e-Govt system, two research hypotheses, H4 and H5 are constructed. According to Jyoti Devi (2009), an individual’s intention to use the e-Govt system has direct correlation to the actual use level of the e-Govt system. Thus, a research hypothesis H6 is developed to test the behavioural intention factor on the actual use of the e-Govt system.

In this work, the availability of ICT infrastructure is measured through the features of ownership of ICT tools, the facility of computer usage and Internet access. Consequently, hypothesis H7 is formed to look at the effects of the existence of ICT infrastructure on the actual use of the Malaysian e-Govt system. Several demographic features have been tested to look at their influence on the actual use. Research hypotheses (H8 – H16) in the model are used to test the relationship between citizen’s demographic characteristics on the actual use of Malaysia’s e-Govt system.

Results:

All of the research hypotheses are tested to determine whether they are accepted or rejected based on two stage least square (2SLS) regression analysis, t-test and ANOVA.

The Relationship between Attitude and Trust, and Intention to Use:

The testing of the first three hypotheses, H1, H2 and H3 is to confirm that perceived ease of use (PEoU), perceived usefulness (PU) and social influence (SI) factors have a direct influence on user attitude (UA) in the use of Malaysian e-Govt system. Meanwhile, the hypothesis testing for H4 and H5 is to confirm that the user’s attitude (UA) and trust (UT) factors have a direct influence on user’s behavioural intention (BI) in using the e-Govt system. Therefore to test those hypotheses (H1-H5) simultaneously, a two stage least square (2SLS) regression analysis is employed.

As shown in Table 1, the two variables, UA and UT are significant predictors [$F(2, 667) = 184.473, p < 0.05$] for BI. The R^2 value, 0.356 indicates that the 35.6% change in the dependent variable, BI is due to the change in the predictor variables, UA and UT. Thus, it can be concluded that there is a significant relationship between behavioural intention to use with attitude [$t=12.72; p < 0.05$] as well as trust [$t=2.24; p < 0.05$] towards the system. Since the value of β_1 is greater than β_2 , it can be concluded that UA is more influential on the BI variable compared to the UT variable. This test also directly proves that there are significant relationship between BI and PEoU, PU and SI.

Table 1: 2SLS Regression Analysis Between Attitude and Trust Towards Behavioural Intention.

Model Summary ^b					
R	R ²	Adjusted R ²	Std Error of the Estimate		
.597 ^a	.356	.354	1.004		
ANOVA ^b					
Model	Sum of Square	df	Min Square	F	p
Regression	372.218	2	186.109	184.473	.000 ^a
Residual	672.915	667	1.009		
Total	1045.133	669			
Coefficients ^b					
Model	B	Std Error	Beta	t	p
constant	1.350	.208		6.481	.000
Attitude	.734	.058	.643	12.723	.000
Trust	.091	.041	.089	2.241	.025
a. Predictor: (Constant), Attitude, Trust					
b. Dependent Variable: Behavioral Intention					
c. Instrumental Variables: Ease of Use, Usefulness, Social Influence, Trust					

The Relationship between Behavioural Intention and ICT Infrastructure towards Actual Use:

Hypothesis testing on H6 and H7 is to confirm that the behavioural intention factor (BI) and ICT infrastructure (ICTI) directly influence the actual use (AU) level of the e-Govt system. Since the BI factor is influenced by the other two factors, UA and UT, where the UA factor is influenced by the PEoU, PU and SI constructs, thus, the 2SLS analysis is chosen to test hypotheses H6 and H7.

With reference to Table 2, the data analysis result indicates that the two variables, BI and ICTI are significant predictors [$F(2, 662) = 117.499, p < 0.05$] for AU. The R^2 value, 0.262 indicates that the 26.2% change in the dependent variable, AU is due to the change in the predictor variables, BI and ICTI.

Therefore, it can be concluded that ICTI [$t=5.617; p < 0.05$] and BI [$t=13.758; p < 0.05$] have a significant relationship with the AU of the e-Govt system. The high value of regression coefficient β_1 for BI variable compared to the value of β_2 for ICTI variable indicates that the BI variable is more influential on the AU variable compared to the ICTI variable. This analysis also proves that other factors; UT, PEoU, PU, SI are indirectly effect the AU of e-Govt system.

Table 2: 2SLS Regression Analysis Between BI and ICTI Towards AU of The E-Govt System.

Model Summary ^b					
R	R ²	Adjusted R ²	Std Error of the Estimate		
.512 ^a	.262	.260	.974		
ANOVA ^b					
Model	Sum of Square	df	Min Square	F	p
Regression	222.824	2	111.412	117.499	.000 ^a
Residual	627.707	662	.948		
Total	850.532	664			
Coefficients ^b					
Model	B	Std Error	Beta	t	p
Constant	-.881	.275		-3.207	.001
Behavioral Intention	.679	.049	.965	13.758	.000
ICT Infrastructure	.147	.026	.231	5.617	.000
a. Predictor: (Constant), Behavioral Intention, ICT Infrastructure					
b. Dependent Variable: Actual use					
c. Instrumental Variables: Trust, Attitude, Ease of Use, Usefulness, Sosial Influence					

The Relationship between Respondent's Demographic Variables and the Actual Use:

The mean score of actual use for each group representing demographic characteristics is shown in Table 3.

Table 3: Mean Score of Actual use.

User Characteristics	Mean
Age (years)	
16-19	2.7452
20-29	3.3408
30-39	3.2640
40-49	3.3704
50-59	3.3171
Above 60	2.7422
Race	
Malay	3.3300
Chinese	3.1700
Indian	2.9305
Others	3.4688
Marital Statue	
Single	3.2618
Married	3.3324
Divorced	2.5875
Widowed	2.7188
Education Level	
PhD	3.5250
Master's Degree	3.6489
Bachelor's Degree	3.4244
Diploma/Certificate	3.2791
SPM/SPMV	3.0074
PMR and lower	3.0785
Service Group	
Top Management	3.5500
Management and professional	3.5256
Support Staff	3.1933
Self-Employed	2.8960
Unemployed	3.2998

Student	3.1652
Household Income	
Less Than RM 2000	3.1640
RM2000 - RM3999	3.3186
More Than RM3999	3.3781
ICT Skill	
None	2.7634
Basic	3.0710
Moderate	3.2470
Skillful	3.4070
Extremely skillful	3.5189

Results from t-test and ANOVA show that there are no significant difference in the mean score of actual use between users in the urban and those in the rural areas, between males and females, between marital status and between household income.

The ANOVA test result indicates that user's age group [$F(5,666) = 3.942, p < 0.05$] influences the actual use level of Malaysia's e-Govt system. The *Post Hoc* Tukey result shows that there is a significant difference in the mean score between the age group of 16 to 19 years old and users aged 60 and above with other age groups. This might due to those in the age group of 20 years and below (teenagers) and above 59 years of age use less of the e-Govt application as shown in Table 3. It shows that user ethnicity or race [$F(3,669) = 3.460, p < 0.05$] influences the actual use level of the e-Govt application system. The Indian respondents have a lower mean score compared to the Malays and Chinese.

The ANOVA test also shows that there is a difference in the mean score of the actual use and education level [$F(5,667) = 6.433, p < 0.05$]. The *Post Hoc* Tukey test result shows that there is a significant difference between users whose education levels are SPM or SPMV (high school graduate) and those with Masters Degree and Bachelors Degree. Table 3 shows that the score for actual use is low for users with SPM or SPMV. It shows that there is a significant difference in the actual use of the e-Govt application system between service groups [$F(6,666) = 5.028, p < 0.05$]. The *Post Hoc* Tukey test result confirms that there is a significant difference between those who are self-employed, and those in the top management as well as management and professional groups. There is also a significant difference between the management and professional groups with those from the support staff group and students. Users who are self-employed have a lower actual use level compared to the other service groups.

The one-way ANOVA test [$F(4,668) = 5.810, p < 0.05$] shows that the user's ICT skills influence the actual use level of Malaysia's e-Govt system. The result of the *Post Hoc* Tukey test shows that there is a significant difference between users with none basic skill and skillful computer users. A low mean score is shown for the none basic skill users.

Based on data analyses results, there are several factors that influence Malaysian citizen to use e-Govt system. The result of these hypothesis testings are used to support the proposed model framework. Accepted hypothesis maintains the existing factors, while the rejected hypothesis eliminates the factors in the proposed model. The results of the study indicate that all of the constructs are maintained except for living area, gender, marital status, and household income factors.

Discussion:

From the results, the level of actual use of e-Govt application system among Malaysians is directly influenced by three major factors namely behavioural intention to use, ICT infrastructure and user's demographic characteristics.

Research findings show that the level of actual use is influenced by an individual's behavioural intention to use of the e-Govt system. This behavioural intention exists from the positive attitude and high level of trust towards the ability and security of the e-Govt system. Trust is a critical factor which needs to be taken into account by the government in creating a culture in using the e-Govt system. The system's ability to safeguard the security and confidentiality of data have an effect on user's trust in using the e-Govt system. This is in accordance with the research carried out by Lean *et al.* (2009) and Kaur & Rashid (2008).

Positive attitude is influenced by the factor of a system's ease of use and usefulness as well as the social influence which exist in an individual. The perceived ease of use and usefulness are created depending on the ability and quality of the system provided by the public service agency. If the users feel that the e-Govt system used is easy to handle and operates as expected, then a positive perception will be created and this will give a direct effect on users' attitude. As mentioned by Fishbein & Azjen (1975), social influence also play an important role in influencing an individual's attitude in using the e-Govt application. They found that employer gives an impact on users' attitude compared to the individuals who are around them. Based on that, in order to increase the level of use of this application, the government may come up with policies or laws which require each organization or company to encourage their workers to use e-Govt application.

Based on the results of this study, it is proven that the ownership of ICT and ICT facilities do influence the level of actual use of Malaysia's e-Govt application. This statement is supported by a research done by Suki & Ramayah (2010) where the availability of ICT facilities is one of the determiners of user's acceptance towards the e-Govt system. Those who own ICT equipment with Internet access facility have more potential in becoming the users of e-Govt system. According to Raman *et al.* (2007), among the main constraints of e-Govt's utilization is the inavailability of personal computers and the inavailability of broadband facilities. Those who do not own or possess these facilities will not have the opportunity to access various applications provided by the government for public convenience.

In terms of ICT infrastructure, government effort is not limited to the construction of public centres for Internet access only, but has to take into account areas to be provided with Internet access coverage, Internet access speed and the subscription fee for Internet access service. The process of upgrading and improving ICT infrastructure facilities have to be done to ensure that the people will get the best Internet access service as expected.

The digital gap which exists is a huge challenge or obstacle which causes the level of actual use of the e-Govt application is still low. The digital gap exists between the young and old generations, the educated and less educated as well as between the urban and rural communities (Ahmad *et al.* 2008). Demographic features are also able to determine whether an individual accepts or rejects the use of e-Govt as a medium of interaction with the public service agencies in Malaysia. The findings of this research found that factors such as age, level of education, service group, and ICT skill level do influence the level of actual use of the e-Govt system.

Individuals who fall into these two age groups; teenager and the elderly, are individuals who would least interact or deal with government parties. For example, the interaction between teenager and government parties are only limited to applications for intake to boarding schools/technical schools/matriculation programmes, applications for institutions of higher learning or scholarship applications and educational loans. This is supported by a research carried out by van Dijk *et al.* (2008) which found that students are among those who would least use the e-Govt system. As for the elderly, eventhough various applications have been developed for their convenience such as the retirement system (POWER system), due to the digital gap problem, they are more comfortable in using over-the-counter service. To overcome this constraint, the government needs to find a solution in encouraging them to deal with public service agencies through e-Govt system. The role of the mass media and social influence too could play a part. The dissemination of information, encouragement and assistance from the people around them (such as family members, friends, neighbours, school teachers) are able to encourage and help teenager and the elderly to become users of e-Govt system.

The findings of this study found that the Indians are the least user of the e-Govt application. This due to the Indians are one of the minority groups in Malaysia. Apart from that, this study also found that some of the respondents come from middle-income families and have rather low level of education. The government should consider the best way to attract the interest of minority group so that they would become users of Malaysia's e-Govt system. For example, advertisements or e-Govt promotions need to be advertised in different languages. E-Govt posters and brochures should be posted and distributed in minority group residential areas. Campaigns on utilizing the system could also be done at Schools or conferences which involve this community. The implementation of campaigns or announcements should be done comprehensively, so that the message on the importance of using e-Govt could be conveyed to the people in encouraging the actual use of the system and subsequently creating the utilization culture of Malaysia's e-Govt system.

Level of education and service group do influence the use of e-Govt application. This statement is supported by a research done by Gauld *et al.* (2010). Therefore, the government has to make promotions, insentive-type programmes or educational programmes which are able to influence the public in using e-Govt. Programmes on skills in using the e-Govt application could be carried out specifically for those who have low level of education to ensure that they have the skills to handle the e-Govt application.

Research findings have shown significant differences between those who have non basic ICT skill and skillful users in using the e-Govt application. Therefore, in order to increase the number of actual users of the e-Govt system, skills in ICT among Malaysians need to be increased. Training on ICT skills and training on the use of e-Govt system should be carried out. These training could be done at public centres for Internet access, schools, community halls, and other premises which are deemed suitable. Computer facilities together with officers who are ready to offer assistance need to be provided in order to guide the public.

User manuals on the e-Govt application might also be attached in daily newspapers. These manuals could be prepared periodically, for instance once a week for a different application each week. Through this, more Malaysians will aware and change to e-Govt services. This will directly increase the number of users among Malaysians.

Conclusion:

e-Govt system is a public service delivery from the government to the public which is electronically handled. Numerous efforts have been done to make sure that Malaysian citizen would use this application

effectively. However, the level of e-Govt application's utilization among Malaysians is still low. Hence, this work is done to identify citizen requirements of factors towards the actual use of e-Govt system.

Several factors which influence the actual use of Malaysia's e-Govt application are identified. Perceived ease of use, perceived usefulness, social influence, attitude, trust, behavioural intention to use, ICT facilities and an individual's background (age, race, level of education, service group, and skills in ICT) are found to be of influence towards the level of actual use of Malaysian e-Govt system.

The development of actual use of Malaysia's e-Govt system model is hoped to be able to assist government agencies in the process of planning, developing, implementing and upgrading the e-Govt system. This is to ensure the optimum use of the e-Govt application by all communities in Malaysia. Based on the factors the government could make it as a reference in finding a suitable approach and one which suits the needs of each category of users who have different needs and desires. When the need of each category of users fulfilled as well as the quality and ability of the system are as expected, public would start to adopt the e-Govt application and subsequently turn it into a culture.

In addition, to encourage more people to willingly use the e-Govt system, government management and administrative parties have to offer various incentives. Cash rebates, lucky draws or rewards are some of the ways which are thought to be effective in attracting the public's interest in using e-Govt application willingly even though the government might have to allocate a certain amount of money for this purpose. This is to ensure that the implementation of e-Govt would be beneficial to all stakeholders and success as well as comparable with other developed nations which have succeeded in implementing the e-Govt system.

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