



INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES



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To Link this Article: <http://dx.doi.org/10.6007/IJARBSS/v12-i9/13159>

DOI:10.6007/IJARBSS/v12-i9/13159

Received: 13 July 2022, **Revised:** 17 August 2022, **Accepted:** 28 August 2022

Published Online: 15 September 2022

In-Text Citation: (Azmi & Zakaria, 2022)

To Cite this Article: Azmi, N. A., & Zakaria, Z. (2022). E-Government Where are We Now? *International Journal of Academic Research in Business and Social Sciences*, 12(9), 782 – 801.

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Vol. 12, No. 9, 2022, Pg. 782 – 801

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E-Government Where are We Now?

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Abstract

Many studies have investigated the factors contribute to E-Government adoption and introduced several models of E-Government maturity stages or levels, but less has focus on the E-Government adoption at different stages of service maturity. Therefore, this study tries to discovers the critical factors that contribute to Malaysian citizens' adoption of E-Government websites or services at different stages of service maturity. The method of quantitative through survey was used and the result of this study shown that all respondents have experienced in using E-Government websites or services, thus contributed to the positive adoption of static and interaction stage of E-Government. The result demonstrates that Perceived Awareness, Perceived Usefulness and Perceived Functional Benefit have significant impact on the Static and Interaction Stage. However, most of the respondents positively responded the static stage application of E-Government websites or services compared to interaction stage. Hence, many initiatives should be done by the government to help public easy to access it services. In future research, perhaps many researchers will extend the into wider scope of variables, methods and area and reflect the digital government as highlighted in national agenda.

Keywords: E-Government, Adoption, Service Maturity Stages, Static Stage, Interaction Stage

Introduction

The significant of developing E-Government system is to facilitates the delivery of government services in electronic form which can in lead to a considerable reduction of service cost, meet the needs of society and increase the satisfaction of government customers, for examples citizens, other government agencies, or business organization (Adiyarta et al., 2018; Al-Mashari, 2007). After more than two decades being a player in this Information Age, most of government entities in Malaysia has made a big stride to move forward with E-Government. MyGovernment, E-Syariah, MyHEALTH, and MyProcurement are part of the government entities' initiatives toward E-Government. In 2020, the global outbreak of the COVID-19 pandemic has bolstered the process of digitalization in Malaysia. Lock down, quarantine and social distancing has forced Malaysia government to strengthen

the E-Government initiatives which drives online interaction and transaction as it is crucial to keep citizens informed and engaged. In fact, governments around the world are exploring new ways to engage and to provide clear, up-to-date information to the public and to health workers, while working alongside and with stakeholders to reduce the spike in misinformation and disinformation (United Nation, 2020). Despite diffusion and substantial growth and development of E-Government universally, it is not clear whether citizens are ready to embrace these services in developing countries (Carter and Belanger, 2005; Kalsi and Kiran, 2013; Kumar et al., 2018). The information dissemination via website is still in building progress in most of the developing country (Adiyarta et al., 2018). Many Governments encounter challenges such as resource limitations, a lack of digital infrastructure, and insufficient capacities or capabilities especially in developing countries and countries in special situations because of the non-acceptance by citizens (United Nation, 2020; Al-Sobhi et al., 2010; Danish, 2006; Kumar et al., 2018). As far as E-Government benefited citizens' and nation is concern, E-Government has moved and revolutionize from one stage to another stage. These stages can be classified as maturity stages or levels. While many studies have investigated the factors contribute to E-Government adoption and introduced several models of E-Government maturity stages or levels, less has focus on the E-Government adoption at different stages of service maturity. According to Shareef et al (2011), many researchers introduced several models of E-Government maturity stages or levels, however the existing literature on E-Government has failed to present a comprehensive framework of E-Government adoption at different phases of service maturity. It is crucial for Malaysia's government to addressing the requirements and the fundamental demands of citizens to accept an E-Government system besides upgrading E-Government services from one simple stage to better and advance stages. Therefore, this study is one of the first to focus on the discovery of critical factors that contribute to Malaysian citizens' adoption of E-Government websites or services at different stages of service maturity.

Literature Review

Stowers, 2001 defined E-Government as government's use of technology, particularly web-based Internet applications, to enhance the access to and delivery of government information and service to citizens, business partners, employees, other agencies, and government entities. E-Government involving the use of information technology, especially telecommunications (such as Wide Area Networks, the Internet, and mobile computing) to enable and improve the efficiency with which government services and information are provided to citizen, employees, businesses, and government agencies through drastically change (Carter and Belanger, 2004; Accenture, 2002; World Bank, 2004). Technologies infrastructure is not the major challenge of E-Government. Rather, the challenge is to use technologies to improve the capacities of government institutions, while improving the quality of life of citizens by redefining the relationship between citizens and their government (Gautrin, 2004). In line with this statement, some of the major concerns of E-Government has been highlighted which are to ensure the delivery of complete optimization of services, constituency participation and governance by transforming internal and external relationship with citizens, businesses and other arms of government through technology, the Internet and new media (Gartner Group, 2000; World Bank, 2004).

Perceived Awareness of the E-Government system is crucial at the beginning to develop beliefs. Before attitude to adopt E-Government can be developed, it is important for citizens

to be aware of the existing of E-Government websites or services besides understand on the characteristic of the system, benefits, safety and security of the systems and so forth. Awareness of E-Government has several different aspects which are political, marketing, behavioural, and social. When citizens are aware of these elements, they might then have an intention to adopt the E-Government system (Shareef et al., 2011; Eggers, 2004; Parent et al., 2005). Availability of resources required for the use of E-Government has behavioural, economic, cultural, social, and technological aspects. Generally, where computers, internet, and modern ICT are not available, the citizens are economically poor, less educated, unaware of modern technology, socially and culturally unfamiliar with modern technology, and lack the necessary skills to use technology. As a result, they also do not believe that they will receive benefits by using an E-Government system. Therefore, there is an obvious relation between availability of resources and the adoption of E-Government (Shareef et al., 2011; see also Van et al., 2008; Dijk et al., 2008). The concept of PATU is similar with the concept of Perceived Usefulness (PU) as it will lead to the attitude toward adoption of E-Government. Previous study stated that E-Government will fail if the users do not have the ability to use the technology to access useful information and services, and eventually do not perceive E-Government as useful. Therefore, this would lead to a non-acceptance of the system by citizens (Bhattacharjee, 2001; Davis, Bagozzi, & Warshaw, 1989; Lucas & Spitler, 1999; Moon, 2002; Venkatesh, 2000; Shareef et al., 2011)

Information Quality has become a critical concern for both the private and public sectors as it has proven to be strongly associated with the use of websites (DeLone and McLean, 2003; Lee et al., 2002). Some studies have found that the most common reason citizens visit E-Government websites is to obtain information. Consequently, organizations need to treat information as a resource that ultimately serves as a tool satisfy the needs of users (Shareef et al., see also Thomas and Streib, 2003; Minikov, 2005; Kaisara & Pather, 2011). From the context of E-Government service maturity stages, previous study shown that PT has no significant relationship at the static stage as in this stage, citizens can only read, view and obtain information, therefore they are not interacting with government by any means, so that they are not disclosing any personal or financial information in the virtual environment. However, in the interaction stage of E-Government service maturity, PT has positive effects on the adoption of E-Government websites or services. Citizens required trust while interacting with E-Government websites or services (Parent et al., 2005; Thomas, 1998; Shareef et al., 2011). Perceived Functional Benefit is the degree to which citizens perceive the overall functional benefits, both absolute and relative-including cost, time, efficiency and effectiveness of using an E-Government system, instead of using traditional government physical office functions (Shareef et al., 2011). Several researchers assumed that this time constraint characteristic is also typical in EG because it is rational to assume that citizens might adopt E-Government systems as they save time to perform tasks relative to the functions of a traditional paper-based government office (Carter & Belanger, 2005; Gilbert et al., 2004; Wagner et al., 2003). On E-Government website, the main source of governmental information is its textual content (Abanumy and Mayhew, 2005). This information helps society by increasing government transparency i.e., e-Democracy, aids economic development, and increases a citizen's awareness (Hernon and Relyea, 1995). Thus, the citizens' demand for government information is very high (Madden, 2003; Accenture, 2004). In addition, government information available on websites largely determines to what extent the citizens are satisfied (Barnes and Vidgen, 2003). Moreover, the study made by Accenture (2004)

found that citizens more often access E-Government websites to seek information rather than to conduct transactions. Researchers of E-Government stage models hold the belief that publishing static information through a government agency website is an important stage for both citizens and government (Abanomy and Mayhew, 2005). The second stage is the beginning of the E-Government as a revolutionary entity changing the way people interact with their government. Citizens transact with government on-line by filling out forms and government responds by providing confirmations, receipts, etc. More importantly, citizens move from a passive to active role by not only conducting transactions on-line, but also participating through on-line forums that allow citizens to talk directly to government officials (Lyne & Lee, 2001; see also General Services Administration, 1999).

Methodology

Correlation research design was chosen for this research as the intention of this study is to see if a relationship does exist among the critical factors toward citizens' adoption of Malaysia's e-Government at different stages of service maturity. Convenient sampling technique applied due to the difficulties to obtain the comprehensive list of citizens or public who have experience in using E-Government websites or services besides limitation of resources, time constrain, and lack of manpower. The study followed Hair et al (2006) whereby the ratio would be twenty-five-to-one ratio of independent variable. Since there are six independent variables, the study should obtain at least 150 responses as sample size. Considering anticipating low service rate of study, 200 questionnaires were distributed in Klang Valley and Perak. The questionnaire adopted from Shareef et al (2011) whereby the questions were modified to meet the context of local study. The questionnaires were written in both English and Malay languages and were distributed to all respondents. The seven-point likert-scale ranging from 1: Strongly Disagree, 2: Disagree, 3: Somewhat Disagree, 4: Neither Agree or Disagree, 5: Somewhat Agree, 6: Agree, and 7: Strongly Agree were developed and divided into nine sections which consists of Section A, Section B, Section C, Section D, Section E, Section F, Section G, Section H1 and Section H2. Salkind (2009) claimed that the reliability (or the consistency) and validity (or the does-what-it-should qualities) of a measurement instrument are essential because the absence of these qualities could explain why the researcher acts incorrectly in accepting or rejecting the research hypothesis.

Findings and Discussion

This study was conducted in order to identify the relationship between the factors and citizens' adoption of E-Government at different stages of service maturity. Consequently, this section consists of the result of statistical analysis applied to accomplish research objectives, answer all the research questions and research hypotheses and finally discuss on the research findings.

Research Objective 1

To assess the current stage of citizens' adoption of Malaysia E-Government websites or services

There are many stages of Malaysia E-Government websites or services, for example, static, interaction, transaction and transformation. Since this study only focused on two stages which are static and interaction, researcher intended to identify what is the current stage of E-Government websites or services adopting by citizens. The following research question have been formulated to accomplish the first research objective.

Research Question 1

What is the current stage of citizens' adoption of Malaysia's E-Government websites or services?

This study found that the current stage of Malaysian citizens' adoption of Malaysia's E-Government websites or services is static stage. From the analysis of respondents answer in distributed questionnaires, it is found that most of the respondents adopted static stage of E-Government as they positively responded to all static items in the questionnaire. This can be seen from the Table 1 whereby static stage has a higher mean (5.6267) and standard deviation (.8593) compared to mean of Interaction stage (5.4952) and standard deviation (.8650).

Table 1

Mean and Standard Deviation for Static Stage and Interaction Stage

Instrument	N	Mean	Std. Deviation	Minimum	Maximum
Static Stage	175	5.6267	.8593	2.00	7.00
Interaction Stage	175	5.4952	.8650	2.33	7.00

Research Objective 2

To identify the relationship between the factors and citizens' adoption of Malaysia's E-Government at static stages of service maturity. There are four factors which consist of Perceived Awareness, Availability of Resources, Perceived Usefulness, and Perceived Functional Benefit included in this study. All factors were analysed to identify their relationship with dependent variable which is static stage. The following research question have been formulated to accomplish the second research objective.

Research Question 2

Is there any relationship between the factors and citizens' adoption of E-Government at static stage?

The answer for research question 2 is yes, there is a relationship between the factors and citizens' adoption of E-Government at static stage. However, the result of this study shown that only three of the factors which are Perceived Awareness, Perceived Usefulness and Perceived Functional Benefit have positive relationship with static stage whereas Availability of Resources factor have negative relationship with static stage.

Pearson's Correlation measures the linear relationship between two intervals and ratio scaled variables. The issue is to determine the significant of the correlation coefficient. Thus, if the relationship is significant, it is time to decide the strength of association that is acceptable.

Table 2 exhibits the result of correlations among independent variables determinants in the study. It shows that, all dimensions that are perceived awareness, availability of resources, perceived usefulness, and perceived functional benefit indicate positive and highly correlated association with each other ($p \leq 0.01$). The highly correlated variables indicate significant relationships among them which should be considered in explaining the phenomena. All factors or dimensions are significantly correlated with each other with the lowest; weak correlation is between Availability of Resources and Perceived Awareness ($r =$

.201, $p < .01$) and the highest; moderate correlation is between Perceived Functional Benefit and Perceived Usefulness ($r = .461, p < .01$).

Table 2

Correlation Analysis

No		1	2	3	4
1	Perceived Awareness				
2	Availability of Resources	.201**			
3	Perceived usefulness	.394**	.374**		
4	Perceived functional benefit	.391**	.291**	.461**	
5	Static stage	.441**	.211**	.572**	.448**

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

The significant correlations are also observed between independent variables and the dependent variable, Static Stage with the most significant; moderate correlation between Perceived Usefulness and Static Stage ($r = .572, p < .01$) and the lowest; weak correlation between Availability of Resources and Static Stage ($r = .211, p < .01$). The relationship was investigated using the Pearson product-moment correlation coefficient (r). The coefficient has a range of possible values from -1 to +1. The value indicates the strength of the relationship and the sign (+ or -) indicates the direction. A positive correlation indicates a direct relationship between variables and negative correlations indicates the negative relationship. Table below is based on Salkind (2006).

Table 3

Interpretation of the Correlation Coefficient

Coefficient of Correlation	Interpretation
.8 and 1.0	Very strong correlation
.6 and .8	Strong correlation
.4 and .6	Moderate correlation
.2 and .6	Weak correlation
.0 and .2	Very weak correlation

The following four research hypotheses have been formulated to answer the second research question.

H_{1a}: Perceived awareness (PA) factor significantly contributes to citizens' adoption of E-Government at static stage of service maturity.

H_{2a}: Availability of resources (AOR) factor significantly contributes to citizens' adoption of E-Government at static stage of service maturity.

H_{3a}: Perceived Usefulness (PU) factor significantly contributes to citizens' adoption of E-Government at static stage of service maturity.

H_{4a}: Perceived functional benefit (PFB) factor significantly contributes to citizens' adoption of E-Government at static stage of service maturity.

Based on the research hypotheses above, we can see that there are four independent variables were tested in order to observe the influence on dependent variable; Static Stage. Together, the hypotheses 1^a through 4^a were tested. Hypotheses were tested by testing the influence of independent variables on the dependent variables (E-Government service maturity stages; static and interaction stage). Initially, multicollinearity was examined by using the Variance Inflation Factor (VIF) and Tolerance Index. The VIFs were checked to ensure that none were above the value of 10 (Chin et al., 2003; Hair et al., 2006). The results of the regression analyses revealed that there was no multicollinearity problem in the regression models used in this study. Independent observations are assumed by many statistical procedures including multiple regressions. Independence is tested by the Durbin-Watson coefficient. The Durbin-Watson statistic should be between 1.5 and 2.5 for independent observations. The regression analysis revealed that there was no serious violation of the assumption of independent observations. The Standard Approach was chosen on multiple regression analysis because the research objectives are to identify whether all the sections have relationship to the stage. The main purpose is to understand how the combination of independent variables would influence the dependent variable.

Table 4

Regression Result of Independents variable and Dependent variable (Static Stage)

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.638 ^a	.407	.393	.66965	1.780

a. Predictors: (Constant), Perceived Functional Benefit, Availability of Resources, Perceived Awareness, Perceived Usefulness

b. Dependent Variable: Static Stage

The multiple regression result (table 4) indicates that a strong relationship existed as hypothesized. This model has a good fit and has moderately high values of R (0.638) and R² (0.407). The value of R² represents the proportion of variation of the dependent variable which accounted for by the independent variables in the regression model. Meanwhile, R value indicates strong association between the independent and dependent variable. The model suggested that the predictors (Perceived Functional Benefit, Availability of Resources, Perceived Awareness and Perceived Usefulness) are able to explain about 40.7% of the variance in the dependent variable (Static Stage). Durbin-Watson showed that there is a dependency between independent and dependent variable.

Table 5
 Beta Coefficients of Independent Variables and Dependent Variable (Static Stage)
 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.014	.366		5.501	.000		
	Perceived Awareness	.188	.059	.213	3.200	.002	.789	1.268
	Availability of Resources	-.028	.042	-.043	-.660	.510	.841	1.189
	Perceived Usefulness	.361	.062	.419	5.849	.000	.681	1.468
	Perceived Functional Benefit	.163	.061	.184	2.648	.009	.722	1.384

a. Dependent Variable: Static Stage

The significance of beta coefficients provides support for the alternate hypotheses in the regression model. The values of standardized beta coefficients of the total factors or dimensions provide some indication as to their comparative influences on the Static Stage. The result (table 5) indicates that, Perceived Awareness, Perceived Usefulness and Perceived Functional Benefit have significant impact on the Static Stage ($p < 0.05$), therefore, $H1^a$, $H3^a$ and $H4^a$ were accepted. While Availability of Resources are insignificant impact on the Static Stage ($p > 0.05$), therefore, $H2^a$ were rejected. The summary of the result for research question 2 constructed in this study showed in Table 6.

Table 6
 Summary of the Result for Research Question Two

Items	Hypotheses	Result
H1 ^a	<i>There is significant relationship between perceived awareness value and citizens' adoption of E-Government at static stage</i>	Accepted ($p < 0.05$)
H2 ^a	<i>There is significant relationship between availability of resources and citizens' adoption of E-Government at static stage</i>	Rejected ($p > 0.05$)
H3 ^a	<i>There is significant relationship between perceived usefulness and citizens' adoption of E-Government at static stage</i>	Accepted ($p < 0.05$)
H4 ^a	<i>There is significant relationship between perceived functional benefit and citizens' adoption of E-Government at static stage</i>	Accepted ($p < 0.05$)

Research Objective 3

To identify the relationship between the factors and citizens' adoption of Malaysia's E-Government at interaction stages of service maturity

There are four factors which consist of Perceived Awareness, Availability of Resources, Perceived Usefulness, and Perceived Functional Benefit included in this study. All factors were analysed to identify their relationship with dependent variable which is interaction stage.

The following research question have been formulated to accomplish the third research objective.

Research Question 3

Is there any relationship between the factors and citizens' adoption of E-Government at interaction stage?

The answer for research question 3 is yes, there is a relationship between the factors and citizens' adoption of E-Government at static stage. However, the result of this study shown that only three of the factors which are Perceived Awareness, Perceived Usefulness and Perceived Functional Benefit have positive relationship with interaction stage whereas Availability of Resources factor have negative relationship with interaction stage.

The significant correlations are observed between independent variables and the dependent variable, Interaction Stage. This can be seen from the table 7. For the Interaction Stage, the most significant; moderate correlation is between Perceived Usefulness and Interaction Stage ($r = .542, p < .01$) and the lowest; weak correlation between Availability of Resources and Interaction Stage ($r = .241, p < .01$).

Table 7

Correlation Analysis

No		1	2	3	4
1	Perceived Awareness				
2	Availability of Resources	.201**			
3	Perceived usefulness	.394**	.374**		
4	Perceived functional benefit	.391**	.291**	.461**	
6	Interaction stage	.510**	.241**	.542**	.456**

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

The following four research hypotheses have been formulated to answer the second research question.

H_{1b}: Perceived awareness (PA) factor significantly contributes to citizens' adoption of E-Government at interactive stage of service maturity.

H_{2b}: Availability of resources (AOR) factor significantly contributes to citizens' adoption of E-Government at interactive stage of service maturity.

H_{3b}: Perceived usefulness (PU) factor significantly contributes to citizens' adoption of E-Government at interactive stage of service maturity

H_{4b}: Perceived functional benefit (PFB) factor significantly contributes to citizens' adoption of E-Government at interactive stage of service maturity.

Based on the research hypotheses above, we can see that there are four independent variables were tested in order to observe the influence on dependent variable; Interaction Stage. Together, the hypotheses 1^a through 4^a were tested. The Standard Approach was chosen on multiple – regression analysis because the research objective is to identify whether all the sections have relationship to the Interaction Stage. The main purpose is to understand how the combination of independent variables would influence the dependent variable.

Table 8

Regression Result of Independents variable and Dependent variable (Interaction Stage)

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.650 ^a	.422	.409	.66525	1.624

a. Predictors: (Constant), Perceived Functional Benefit, Availability of Resources, Perceived Awareness, Perceived Usefulness

b. Dependent Variable: Interaction

The multiple regression result (table 8) indicates that a strong relationship existed as hypothesized. This model has a good fit and has moderately high values of R (0.650) and R² (0.422). The value of R² represents the proportion of variation of the dependent variable which accounted for by the independent variables in the regression model. Meanwhile, R value indicates strong association between the independent and dependent variable. The model suggested that the predictors (Perceived Functional Benefit, Availability of Resources, Perceived Awareness and Perceived Usefulness) are able to explain about 42.2% of the variance in the dependent variable (Interaction Stage). Durbin-Watson showed that there is a dependency between independent and dependent variable.

Table 9

Beta Coefficients of Independent Variables and Dependent Variables (Interaction Stage)

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.617	.364		4.446	.000		
	Perceived Awareness	.273	.058	.307	4.672	.000	.789	1.268
	Availability of Resources	.000	.042	.000	.007	.994	.841	1.189
	Perceived Usefulness	.293	.061	.338	4.780	.000	.681	1.468
	Perceived Functional Benefit	.161	.061	.181	2.632	.009	.722	1.384

a. Dependent Variable: Interaction

The significance of beta coefficients provides support for the alternate hypotheses in the regression model. The values of standardized beta coefficients of the total factors or dimensions provide some indication as to their comparative influences on the Interaction Stage. The result (table 9) indicates that, Perceived Awareness, Perceived Usefulness and Perceived Functional Benefit have significant impact on the Interaction Stage ($p < 0.05$), therefore, $H1^b$, $H3^b$ and $H4^b$ were accepted. While Availability of Resources are insignificant impact on the Interaction Stage ($p > 0.05$), therefore, $H2^b$ were rejected. The summary of the result for research question 3 constructed in this study showed in table 4.27.

Table 10

Summary of the Result for Research Question Three

Items	Hypotheses	Result
H1 ^b	<i>There is significant relationship between perceived awareness and citizens' adoption of E-Government at interaction stage</i>	Accepted ($p < 0.05$)
H2 ^b	<i>There is significant relationship between availability of resources and citizens' adoption of E-Government at interaction stage</i>	Rejected ($p > 0.05$)
H3 ^b	<i>There is significant relationship between perceived usefulness and citizens' adoption of E-Government at interaction stage</i>	Accepted ($p < 0.05$)
H4 ^b	<i>There is significant relationship between perceived functional benefit and citizens' adoption of E-Government at interaction stage</i>	Accepted ($p < 0.05$)

Discussions of Research Findings

E-Government implementation have revolutionized from one phase to another phases. Started from static stage or level, E-Government have improved to the interaction, transaction and integration stages. However, this study only focusses on two stages of E-Government service maturity which are static and interaction. The result of this study shown that all respondents (100%) have experienced in using E-Government websites or services, thus contributed to the positive adoption of static and interaction stage of E-Government. However, most of the respondents positively responded the static stage application of E-Government websites or services compared to interaction stage. This static stage of E-Government websites or services allowed respondents to view, read, and retrieved information from the websites. Referring to second research question, it is agreed that there is a relationship between factors and citizens' adoption of E-Government websites or services at static stage as the result of the study shown that Perceived Awareness (PA), Perceived Usefulness (PU) and Perceived Functional Benefit (PFB) are significant predictors for the adoption of E-Government at the static stage. Therefore, researcher hypotheses that PA, PU, and PFB have positive effects on the adoption of E-Government at the static stage are accepted. E-Government evolution; static stage and interaction stage is not very new to Malaysian. From the Malaysian perspectives, the result of this study shown that citizens awareness rate is 100% and at least 60.6% citizens have experiences in using E-Government for 1 to 4 years. Accordingly, Malaysian citizens' awareness is significant predictor for the adoption of E-Government at static stage. When citizens are aware that there is an existing of E-Government websites or services, they might be interested to explore these sites.

Subsequently, if they find that the information available in the websites are useful and will benefit them, they tend to adopt it. Here, Perceived Usefulness (PU) and Perceived Functional Benefit (PFB) has significant causal effect on the adoption of E-Government at this stage.

Static stage of E-Government websites or services allow citizens to only view, read and obtain information relating government issues. Therefore, availability of resources is not important for citizens to adopt the E-Government. With regard to the third research question, this study found that Perceived Awareness (PA), Perceived Usefulness (PU) and Perceived Functional Benefit (PFB) are significant predictors for the adoption of E-Government at the interaction stage. Therefore, researcher hypothesises that PA, PU, and PFB have positive effects on the adoption of E-Government at the interaction stage are accepted. Since in the interaction stage, citizens not only communicate with government agencies through websites but they also performed some activities as they did at static stage (reading, viewing, collecting information), the issue of PU and PFB is important as it provides absolute and relative advantages to citizens. When citizens are aware that instead of going to traditional government agencies for seeking service and information, they can alternatively communicate with the respective departments through electronic media which are integrated with E-Government websites, they develop an intention to use it. Subsequently, if they find that the websites provide useful information and will benefit them, they will most likely adopt it. Therefore, the result of this study shown that Perceived Usefulness (PU) and Perceived Functional Benefit (PFB) has significant causal effect on the adoption of E-Government at interaction stage.

Conclusion

The findings of this study showed the positive relationship between factors (Perceived Awareness, Perceived Usefulness and Perceived Functional Benefit) and E-Government service static and interaction stage of service maturity, whereas the current stage of Malaysian citizens' adoption of E-Government is in static stage. As mentioned earlier, E-Government implementation passes through different phases of evolution as the services offered mature. Though these phases are mutually exclusive and not distinctive, however, as the services provided by E-Government mature, its levels of interaction improve from the static level to the interaction, transaction, and integration levels. Nevertheless, based on the findings, the study reveals that the current stage of citizens' adoption of E-Government maturity was still at static stage even though Malaysia have moved to other stage of E-Government which is Interaction. This result supported previous research done by other researcher where most of the developed countries are in the final stages of E-Government development, developing countries are still in the early stages of E-Government development (Karokola and Yngstrom, 2009).

Secondly, based on the findings, researcher found that Perceived Awareness have positive relationship with static stage of E-Government service maturity. Result of this study supported by previous research whereby Shareef et al (2005) claimed that when citizens are aware of these elements, they might then have an intention to adopt the E-Government system. In other words, it is important for citizens to be aware of the existing of E-Government websites or services besides understand on the characteristic of the system, benefits, safety and security of the systems and so forth before attitude to adopt E-Government can be developed (Shareef et al., 2011; Eggers, 2004; Parent et al., 2005).

Researcher found that Perceived Usefulness and Perceived Functional Benefit have positive relationship with static stage of E-Government service maturity whereas Availability of Resources has no significant relationship with static stage. Perceived Usefulness shown the significant relationship with the static stage of E-Government service maturity. This result supported by the previous study where technology acceptance model (TAM) proposed that perceived usefulness (PU) determine the attitude toward adoption of ICT. This behavioral attitude, in turn, leads to the intention to use ICT and the final acceptance of the system (Bhattacharjee, 2001; Davis, Bagozzi, & Warshaw, 1989; Lucas & Spittler, 1999; Moon, 2002; Venkatesh, 2000; Shareef et al., 2011).

Citizens can only view, read and obtain information relating government issues at static stage of E-Government websites or services, therefore, Availability of Resources are not important for citizens to adopt the E-Government. This result supported by previous research conducted by Shareef et al (2011) which claimed that citizens do not adopt this stage to interact with government agencies; rather they could collect by physically going to different government offices. At this stage, availability of resources is not important for citizens to adopt the E-Government. Even though the result of this study was consistent with study conducted by Shareef et al. (2011), but it was contradicting with previous study conducted by Van et al (2008) as they claimed that when resources are not available, the citizens also do not believe that they will receive benefits by using E-Government system. Based on the findings, researcher found that Perceived Awareness, Perceived Usefulness and Perceived Functional Benefit have positive relationship whereas Availability of Resources has no significant relationship with interaction stage of E-Government service maturity. From the researcher perspective, Perceived Awareness is the key factor that leads to citizens' adoption of E-Government at this stage. This is because, when citizens aware of the E-Government existences, they tend to explore the websites and they will adopt the websites only if it can provide the benefit to the citizens. Besides that, the result of this study consistent with previous study conducted by Davis (1989) whereby he claimed that Perceived usefulness (PU) tends to influence user's attitude toward adoption and use of technology, which in turn affects behavioural intentions. However, the result of this study contradicts with previous research conducted by Shareef et al (2011) as they claimed that PFB are not important for citizens to adopt E-Government as in the interaction stage, government agencies might not communicate with citizens, therefore in this stage, citizens are concerned mostly with the trustworthiness of E-Government websites, not PFB. Therefore, the hypothesis is not significant. While looking at TPB (Ajzen & Fishbein, 1980), we can identify that a person's behaviour is influenced by the person intention to perform the behaviour and this will lead to the person attitude and believe toward the behaviour.

Even though this study believes that the results will give a new insight into the related subjects, this study also recognizes that some issues remained a question. As a result, there is a critical requirement for other research intended to make clear subjects regarding the availability of resources, which is exceptional concern in E-Government adoption stages of service maturity. Besides that, this study was limited to two stages of service maturity which are static and interaction stages. Researcher did not include other stages of E-Government service maturity, therefore other stage (i.e., transaction and transformation stage) that has been implemented should be investigated thoroughly. In this study, only a small sample size has been collected and this study is only confined to the Perak and Klang Valley states. Hence,

the sample of this study may not be a true representation of the adoption of the entire Malaysia population in adoption of E-Government websites or services at both static and interaction stage of service maturity. Therefore, future research is suggested to expand the scope of research to the whole Malaysia. In order for Malaysia to formulate and execute better strategies in enhancing their website or services for better stages, researcher propose with government agencies or department should offer education and awareness programs through online digital platforms to enhance IT skills among citizens besides promote the benefits of E-Government services. Government should not focus on Malaysian citizens from urban area but they must consider citizens from rural area as some of them are unaware, less educated, not familiar with, and not capable of using E-Government website. Citizens perceived usefulness and functional benefits as some of the important factors that lead to their adoption of E-Government websites and services. The websites should also easy to navigate and download, availability of chatting or forum room for two-way communication purposes, accurate, timely and relevant to citizens' need. An E-Government websites or services must be user friendly especially for disable people. Although the result in this study shown that there is no significant relationship between availability of resources at static and interaction stages of E-Government, not all citizens have enough resources to access the E-Government websites or services especially those who live or work in rural area. Therefore, it is recommended that government should offer lower price of computer and Internet especially to those with lower income so that they have opportunity and equal change to assess E-Government websites or service.

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