

FACTORS INFLUENCING CITIZENS' ENGAGEMENT IN E-GOVERNMENT 2.0

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ABSTRACT

Social media platforms usage by government agencies is a major trend in electronic government (e-government) practices, serving as one alternative for improving e-government services and enhancing information dissemination to the citizens. It is an issue for government agencies to connect with citizens through social media platforms. However, government agencies should support the usage of social media platforms to engage with more citizens. There are currently limited studies conducted on social media interactions in Malaysian government agencies' social media platforms. Therefore, this study explores the features affecting citizens' engagement in government agencies' Facebook page, which is a social media platform. We conducted a survey in the Kedah state, Malaysia. A total of 475 questionnaires were administered to the citizens. The findings established that the trust in government is a prominent factor in inducing the citizens' connection with the government agencies' Facebook page. These results can provide new insights to government agencies based on the importance of developing social media strategies to interactively promote and engage social media platforms.

Keywords: *E-Government, Social Networking Services, Facebook, Information Sharing*

1. INTRODUCTION

For the past 40 years, people have been totally relying on information and communications technology (ICT) in every area of their life. ICT has substantially changed our daily life regarding social, economic, and cultural contexts. ICT has substantially affected the public sector by converting most of its transactions to electronic form, which introduces the electronic government (e-government) initiative. The core aim of e-government is to deliver its services to the citizens efficiently and effectively while meeting their expectations [1].

E-government service is easier and accessible anywhere and anytime. It provides several benefits to the citizens, such as faster and easier access to services, and minimizes the cost of government management. Citizens do not have to go to government offices to get certain public services, as these services are already available in the e-government platforms [2].

E-government is moving towards a clearer relationship with the citizens; most of the government agencies have adopted Web 2.0

technologies in growing the interaction, engagement, and an honest policy with their citizens [3]. To create awareness on e-government services, disseminate information, and communicate with citizens to know their needs, the government should take advantage of Web 2.0 technologies, such as the various social media platforms. To support public information disclosure and effectiveness [4] and to consequently enhance the value of public services [5] and improve citizens' engagement, the use of social media is a major trend in e-government practices.

In this study, e-government 2.0 denotes to Web 2.0 technologies that provide public services and information to citizens through e-government. The implementation of e-government 2.0 is extensively utilized in Malaysia where most government organizations provided their official social media platform accounts, which are linked to their official government portal. Therefore, this study aims to detect the factors inducing the citizens' engagement in government agencies' Facebook page.

The rest of this paper is prepared as follows: In section 2 and 3, the questions and

objectives of this study are described. Then, section 4 and 5 discusses the literature review, as well as the research methodology. Section 6 and 7 presents the investigation of the findings and their clarifications. The conclusion and future researches are provided in the section 8 and 9 of this paper.

2. RESEARCH QUESTIONS

We conducted this study based on the following questions:

1. What are the factors that can affect citizens' engagement in using e-government services?
2. What is the relationship between the residence of a respondent and e-government usage intensity?

3. OBJECTIVES OF THE STUDY

The aims of this study are as follows:

1. To identify the factors that can affect citizens' engagement in government agencies' Facebook page.
2. To identify the relationship between citizens' residence and e-government usage intensity.

4. LITERATURE REVIEW

This section first describes e-government, Web 2.0, e-government 2.0, and related studies on citizens' engagement in e-government 2.0. Then, a discussion of the citizens' engagement follows. The section ends by reviewing the factors influencing citizens' engagement in government agencies' social media platforms.

4.1 E-Government and Web 2.0

There are many meanings to e-government in the literature, and they all agree on 'government using e-technologies to serve its citizens, business, and public sector'. E-government can be explained as how the government agencies implement their works by communicating with the citizens through a good access and a smooth connection to government online services [6]. E-government is one of the communication technologies that the government utilizes to interact with citizens to improve the services provided by the government agencies. Information can be shared with the public through online services by employing e-

government. The key services provided by e-government can be classified into the following four types: government-to-citizen (G2C), government-to-business (G2B), government-to-government (G2G), and government-to-employee (G2E). This study focuses on the external interactions between the government and the outside parties as it records most of the communications, i.e., services are prepared to citizens through the G2C interface.

Nowadays, Web 2.0 technologies are being practiced in achieving the requirements for e-government. Web 2.0 refers to the World Wide Web that emphasizes the following three components: interoperability, usability, and user-generated content. Web 2.0 is more participatory, scalable, interactive, content rich, and service oriented. The technologies provide an opportunity to the citizens to write comments and feedback about any information concerning government services and agencies. The citizens demonstrate various experiences and perspectives of e-government. Government agencies can gain numerous knowledge from citizens' feedbacks and comments [7].

4.2 E-Government 2.0

The term government 2.0 is obtained from Web 2.0, which discusses the technologies that are used for sharing, collaborating, and initiating online discussions [8]. E-government 2.0 is the use of social media in government that provides a connection between the government and citizens through social media platforms for disseminating information, incrementing transparency, and participating electronically [9].

Social media platforms, such as Facebook and Twitter, have been extensively employed by government agencies to enable engagement of more citizens. However, there are diverse rates of performances in the usage of social media platforms within government agencies [10]. Meanwhile, government agencies leverage social media platforms to enhance their e-government services that can advance their relationships with the citizens [11].

4.2.1 Related work

A few studies have been conducted on the use of social media platforms in e-government (e-government 2.0). A related study on citizens' engagement in e-government 2.0 was conducted by Gibby et al. [8]. The study explored key drivers and challenges from the implementation of e-government 2.0 and identified three distinct groups of citizens. From the study, one group was acknowledged as a willing adopter of the technologies, whereas the other group was acknowledged as a "Hard to Reach Group" (HtRGrp). This study builds the strategies of HtRGrp by targeting the use of e-government 2.0 and social media platforms for the HtRGrp.

Khasawneh and Abu-Shanab [12] conducted a study on the Jordan e-government Facebook page. They observed that there was a good level of engagement by citizens in that they communicate through the posts that are available on the government's Facebook page by commenting and answering questions. Moreover, a study needs to be conducted to know the engagement drivers that can be beneficial to the government agencies.

A recent study done by Levy, Trauth, and Bagby [13] discussed the potential e-government 2.0 transformation by implementing the social media platforms. The use of a Facebook page has enhanced the municipal services of the government to its citizens and enabled the citizens to be associated with their municipal government and its countless agencies.

Recently, an empirical study was conducted by Nadzir et al. [14] on social media connection *via* the Malaysian government agencies' Facebook page. Their results revealed that clicking the like button was the most communal style of connection, and most of the citizens favor to interact by clicking the like button available on the Facebook page demonstrating their interest in some posts.

The Malaysian Administrative Modernization and Management Planning Unit (MAMPU) [15] published its policy for social media ethics usage by public servants. This policy has been provided as a basis for using and monitoring social media platforms in the public sector. It also ensures that the utilization of social

media and the stream of information are clear and sensible, and it provides a positive impact.

4.2.2 Citizens' Engagement

Citizens' engagement can be defined as participation in any organized activity in which an individual partakes without paying a certain sum of money to achieve a common goal. Engagement is usually considered as the act of "taking part." It happens when an individual contributes to something. It can occur in numerous forms: direct (through one's action) or indirect (through others' representation), formal (formal mechanisms) or informal (informal discussions) and performed alone (done by oneself) or shared (done with a team) [16].

The success of e-government 2.0 greatly depends on citizens' participation or engagement. Citizens' engagement is important in influencing the processes of public services and decision makings [17]. The government must know the factors that influence the citizens' engagement and utilize e-government 2.0 tools. To enable the citizens to engage, governments need to investigate citizens' daily needs instead of the needs of the government. A good way to do this is to reach out to citizens where they already are, i.e., social media platforms.

Citizens' engagement plays a prominent role in helping government agencies to be more accountable and transparent. When citizens' engagement is effectively implemented, more citizens are brought into the decision-making process, enabling the government to be more responsive and effective. In this study, citizens' engagement is defined as the strong relationship between the two parties (citizens and government) that complements and benefits both parties.

4.2.3 Factors Influencing Citizens' Engagement in Government Agencies' Social Media Platforms

Numerous studies discussed some factors which are related to engagement, such as usefulness, ease of use, trust, privacy, security, service response, and personal factors [18, 20]. Other factors, such as social influence, quality, digital literacy, and users' attitude toward using technology, have also been investigated by previously conducted studies [3]. A previous study

conducted by Khasawneh and Tarawneh [19] observed that the increase in e-government usage influence citizens' perception on the role of the government, the use of government services, and the trust towards the government. The authors investigated the following factors: citizens' attitude toward e-government 2.0, e-government value perception, trust, Internet usage, and e-government usage intensity.

4.2.4 Citizens' attitude

Citizens' attitude is a major factor that was discussed in previously conducted studies [18–20]. By utilizing government services, it is likely to be influenced by services that use advanced and competitive technologies, especially in implementing all government responsibilities. Previous studies have detailed the attitudes and perceptions of users on government-based online services regarding satisfaction, trust, attitude, and value [20].

4.2.5 Value perception

Citizens' perception value of the government-based online services may vary and may be inconsistent. This complicated technology has a positive impact on the user's value perception. However, there may be negative perceptions behind the use of this technology. Therefore, the views of the citizens should be considered when implementing e-government 2.0. Furthermore, developments and advancements should be continuously implemented within the government functions, and new initiatives should be constantly updated. This enables the citizens to trust government-based online services and enhances consumers' satisfaction. Consumers also believe in government performance and transparency [20].

4.2.6 Trust

Previously conducted studies have revealed that trust has a positive result on the views and attitudes of the citizens through e-government implementation. The trust factor has been discussed in some of the previously conducted studies, such as that of Ahmed [18]. Trust can be defined as how the citizens are exposed to government websites.

This trust can satisfy the citizens' expectations regarding the real function of e-government. Studies have indicated that trust is a prominent factor that can affect the users' intention to employ e-government services positively, a result which was similar to those of a previously conducted study [3]. The increment in citizens' trust can provide an effective e-government implementation. Trust can increase the citizens' perception of government services [20].

4.2.7 Use of the Internet

Internet usage among citizens is also a significant factor affecting the e-government employment. A previously conducted study [18] has demonstrated that citizens, who utilize the Internet (they referred to it as Web self-efficacy), may be more likely to use public electronic services while searching for information or making online transactions.

4.2.8 Usage intensity

The usage intensity is a factor that can indicate the extent of seriousness to which the user can utilize government online services. A considerable usage intensity from citizens shows that the implementation of e-government is effective. It implies that implementing the e-government has satisfied the needs of citizens, and this allows maximum participation from citizens.

5. RESEARCH METHODOLOGY

This study employs a survey approach to gather information. The questionnaires were manually distributed and collected. The questionnaire for this study was adapted from Khasawneh and Tarawneh [19]. The first section of the questionnaire comprises demographic questions. The second section has five subsections that measure citizens' attitudes toward e-government 2.0, e-government value insight, trust in government, universal use of the Internet, and the intensity of the e-government usage [19].

The questionnaire was generated on paper only; this method was chosen to avoid information duplication. When using online forms, duplication may occur if the respondent answers the question more than once. The distribution of the questionnaire was personally done in numerous

agencies. Then, the responses were collected and tabulated in Microsoft Excel.

This study was conducted in Kedah state. The respondents were the citizens who are working in various fields of study. The population of Kedah state is about 2.1 million [21]. Figure 1 presents the distribution of the questionnaire in the three districts in Kedah. The respondents from Kota Setar have the highest value because Kota Setar has the highest population when compared with the other districts.

10	J	40	38
11	K	20	19
12	L	25	24
13	M	20	15
14	N	10	10
15	O	50	50
16	P	30	30
17	Q	20	20
18	R	50	50
Total		475	445

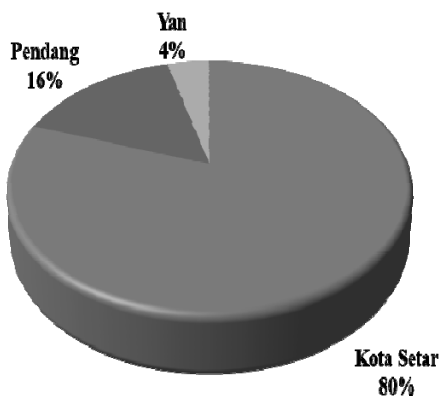


Figure 1: Respondents by District in Kedah State

475 questionnaires were distributed to the citizens during the duration of the survey. From the survey, about 445 questionnaires were returned. Table 1 presents the total number of distributed and returned questionnaires by various agencies.

Table 1: The Questionnaire Distribution by Various Agencies in Kedah State

No	Agency	Questionnaire	
		Distributed	Returned
1	A	30	24
2	B	10	10
3	C	20	20
4	D	30	27
5	E	30	25
6	F	30	28
7	G	10	10
8	H	20	18
9	I	30	27

6. RESULTS

Although 445 questionnaires were collected, 115 questionnaires have been identified as incomplete questionnaires with missing data. The respondents were reluctant to answer several questions. A total of 16 respondents did not answer several demographic questions. As depicted in Figure 2, 44 respondents were somewhat reluctant to answer questions regarding Internet usage. Besides, 26 respondents did not answer questions regarding e-government usage intensity. Meanwhile, 16 respondents did not answer trust-related questions. Furthermore, seven respondents did not answer questions concerning e-government value perception, and six respondents did not answer questions regarding citizens' attitude toward e-government 2.0. Therefore, this study employed only 330 questionnaires for its data analysis.

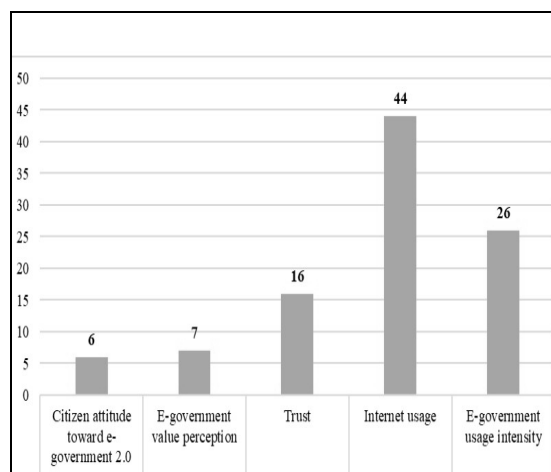


Figure 2: Respondents by District in Kedah State

e2	.278	330	.000	.871	330	.000
e3	.293	330	.000	.858	330	.000

6.1 Normality Test

In general, normality tests are conducted before performing the analyses. We discussed the results from the normality tests. The assumption that normal scattered data is a criterion for most statistical analysis techniques. There are two ways for conducting the tests for regularity: the graphical and numerical methods. This study applied both methods to conduct the normality tests. The graphical method comprises the following: histogram, stem-and-leaf plot, normal possibility plot, and detrended normal plot [22].

The results of this graphical method were confirmed by applying Kolmogorov–Smirnov and Shapiro–Wilk statistics, as demonstrated in Table 2. We used 330 sample sizes in this study. Additionally, the results of the Kolmogorov–Smirnov and Shapiro–Wilk tests were utilized to determine the normality of the data obtained. The obtained results reveal that the data were normally distributed because the value is significant 0.00 which is less than 0.05 ($p < 0.05$).

Table 2: The Normality Test

	Kolmogorov–Smirnov			Shapiro–Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
a1	.300	330	.000	.827	330	.000
a2	.311	330	.000	.834	330	.000
a3	.319	330	.000	.813	330	.000
a4	.220	330	.000	.905	330	.000
b1	.348	330	.000	.783	330	.000
b2	.322	330	.000	.820	330	.000
b3	.284	330	.000	.857	330	.000
b4	.304	330	.000	.840	330	.000
c1	.329	330	.000	.818	330	.000
c2	.330	330	.000	.824	330	.000
c3	.316	330	.000	.820	330	.000
c4	.324	330	.000	.819	330	.000
d1	.281	330	.000	.853	330	.000
d2	.316	330	.000	.831	330	.000
d3	.274	330	.000	.873	330	.000
d4	.290	330	.000	.838	330	.000
d5	.256	330	.000	.884	330	.000
e1	.208	330	.000	.902	330	.000

6.2 Reliability of a Scale

The scale’s internal consistency is important since the items that encompass the scale “hang together.” One of the most normally used pointers of internal consistency is Cronbach’s alpha constant. Cronbach’s alpha coefficient of a scale should be ideally above 0.7 [23]. Briggs and Cheek [24] recommended an optimal range for inter-item correlation from 0.2 to 0.4. The reliability of the scale for this study is presented in Table 3. Cronbach’s alpha coefficient is 0.89, indicating very good internal uniformity consistency for the scale of the sample. Values above 0.7 are considered acceptable, whereas those above 0.8 are preferable [23].

Table 3: Reliability Statistics

Cronbach’s Alpha	Cronbach’s Alpha Based on Standardized Items	N of Items
.896	.901	20

6.3 Demographic Profile

The survey involved 203 female citizens (61.5%) and 127 male citizens (38.5%). As presented in Table 4, majority of the respondents’ ages range from 30 to 39 years (37%). Regarding the respondents’ place of residence, most live in the cities (71.8%), whereas the others live in the rural areas in Kedah state.

Table 4: Demographic Details of the Respondents

	Category	Percentage
Gender	Female	61.5
	Male	38.5
Age	Under 20	0.9
	20–29	27
	30–39	37
	40–49	21.8
	Above 50	13.3
Academic Qualification	UPSR	0.9
	SRP/PMR/PT3	5.2

	SPM	37.9
	STPM/STAM/Matriculation/Foundation	18.2
	Diploma	29.1
	Bachelor	8.8
	Master	0
	PhD	0
	Others	0
Residence	City	71.8
	Rural	28.2

correlations between the variables. The scale-independent variables (citizens' attitude, value perception, trust, and Internet usage) substantially correlate with the dependent variable (usage intensity), i.e., from 0.312 to 0.431.

Table 5: Correlations between Variables

		Usage intensity	Citizen attitude	Value perception	Trust	Internet usage
Pearson Correlation	Usage intensity	1.000	.312	.363	.431	.370
	Citizen attitude	.312	1.000	.304	.248	.289
	Value perception	.363	.304	1.000	.552	.481
	Trust	.431	.248	.552	1.000	.296
	Internet usage	.370	.289	.481	.296	1.000
Sig. (1-tailed)	Usage intensity	.000	.000	.000	.000	.000
	Citizen attitude	.000	.000	.000	.000	.000
	Value perception	.000	.000	.000	.000	.000
	Trust	.000	.000	.000	.000	.000
	Internet usage	.000	.000	.000	.000	.000
N	Usage intensity	330	330	330	330	330
	Citizen attitude	330	330	330	330	330
	Value perception	330	330	330	330	330
	Trust	330	330	330	330	330
	Internet usage	330	330	330	330	330

6.4 Descriptive Analysis

Following Khasawneh and Tarawneh [19], the mean of the measure was specified based on the procedures of social sciences. The agreeability of responses was determined based on the following mean results: mean (1.00–2.33) is low agreeability, mean (2.33–3.66) is medium agreeability, and mean (3.66–5.00) is high agreeability [19].

The conducted descriptive analysis yielded high and moderate agreeability means regarding the following five major constructs: citizens' attitude toward e-government 2.0 (mean = 3.32), e-government value perception (mean = 3.81), trust in government (mean = 3.79), general use of the Internet (mean = 3.67), and e-government usage intensity (mean = 3.44). This analysis reveals that the lowest item used was "I believe that e-government presence on social networks is considered as an extra expense and a waste of money" (mean = 2.75), the highest item was "I believe that the presence of e-government on social networks enables the citizens to be better informed about what the government is doing," and "I use the Internet daily to browse different websites" (mean = 3.90).

6.5 Multiple Regression Analysis

The multiple regression analysis was done to quantify the association between two variables: the self-governing variables (citizens' attitude toward e-government 2.0, e-government value perception, trust, and Internet usage) and the dependent variable (e-government usage intensity). Multiple regression analysis was utilized to answer the first research question: what are the factors that can affect citizens' engagement while using e-government services? Table 5 presents the

Table 6 shows which of the variables encompassed in the model donates to the calculation of the dependent variable. In the column labeled, based on standardized coefficients, beta was investigated to compare the different variables. Standardized means that the values for each of the different variables have been transformed to the same scale. Beta is used to equate the contributions of each independent variable. The largest beta coefficient is 0.304, which is for the independent variable (trust). This means that this variable makes the sturdiest exceptional input in elucidating the dependent variable (usage intensity). The beta value

for value perception was slightly minor (.044), signifying that it made less contribution. The significance value is less than 0.05, so the variable made an important unique input to the prediction of the dependent variable.

Table 6: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.550	.275		2.001	.046
Citizen attitude	.192	.060	.162	3.215	.001
Value perception	.055	.077	.044	.705	.481
Trust	.344	.065	.304	5.336	.000
Internet usage	.202	.052	.212	3.877	.000

Model	95.0% Confidence Interval for B		Correlations		
	Lower Bound	Upper Bound	Zero-order	Partial	Part
1 (Constant)	.009	1.091			
Citizen attitude	.074	.309	.312	.176	.152
Value perception	-.098	.207	.363	.039	.033
Trust	.217	.471	.431	.284	.252
Internet usage	.100	.305	.370	.210	.183

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
Citizen attitude	.873	1.145
Value perception	.575	1.739
Trust	.688	1.454
Internet usage	.746	1.341

6.6 Pearson Correlation

The correlation analysis was directed to quantify the association between two variables when there is a significant positive result of citizens' utilization of the e-government usage intensity. The formation was calculated to identify the relationship between these constructs concerning the first question of this study. The following is the first question: What is the usage of e-government services among the citizens? Pearson

correlation analysis was utilized to identify the relationship between the independent variable (residence) and the dependent variable (e-government usage intensity). The rates of correlation are presented in Table 7. In this study, the correlations are e1 (1.000), e2 (0.539), and e3 (0.406). The word "none" in the left-hand column designates that no control variable is in operation. The bottom half of the table recurrences the same set of correlation analyses, but this time controls (takes out) the effects of the control variable (residence). In this case, the correlation value is same e1 (1.000), e2 (0.539), and e3 (0.406).

Pearson correlation was used to investigate the relationship between respondents' demographic (residence) and e-government usage intensity (e1, e2, and e3). Preliminary analysis was conducted to certify that there is no abuse of the following assumptions: normality, linearity, and homoscedasticity. There was a neutral and partial relationship between variable residence and e-government usage intensity, $r = 1.000, 0.539, 0.406, n = 328, p < 0.0005$, with the same level of these two variables. An investigation of the correlation revealed that residence had no effect on the e-government usage intensity.

Table 7: Pearson Correlation

Control Variables		e1	e2	e3	Residence
-None ^a	e1	Correlation 1.000 Significance (2-tailed) df	.539 .000 328	.406 .000 328	.002 .971 328
	e2	Correlation .539 Significance (2-tailed) df	1.000 .000 328	.446 .000 328	.034 .540 328
	e3	Correlation .406 Significance (2-tailed) df	.446 .000 328	1.000 .000 328	.054 .325 328
residence	Correlation .002 Significance (2-tailed) df	.971 .000 328	.540 .325 328	.325 .000 328	.000 0

Residence	e1	Correlation Significance (2-tailed) df	1.00 .000 0	.539 .000 327	.406 .000 327	
	e2	Correlation Significance (2-tailed) df	.539 .000 327	1.00 .000 0	.445 .000 327	
	e3	Correlation Significance (2-tailed) df	.406 .000 327	.445 .000 327	1.00 .000 0	

Research Question (b): What is the relationship between the residence of the respondent with the e-government usage intensity? The discussion of these results was based on the factors that influence citizens' engagement in e-government 2.0. Based on the results discussed in the immediate previous subsection, Pearson correlation analysis revealed that there is a substantial connection between demographic (residence) and the e-government usage intensity. These results satisfy the second research objective, which is to identify the relationship between the residence of the respondent and e-government usage intensity.

8. CONCLUSION

The advancement of ICT has demonstrated an important impact on communication among citizens of a government. This significant impact also changes the ways of the governments' work. Additionally, the government nowadays needs citizens' participation for the successful use of government e-services. Meanwhile, the usage of e-government 2.0 is still recognized as the major problem of the implementation of e-government. Therefore, this study investigated the factors that can impact the citizens' engagement in government agencies' social media platform, which is Facebook.

The findings of this study identified five major factors that can influence citizens' engagement towards utilize e-government 2.0. The factors are citizens' attitude toward e-government, e-government value perception, trust in government, the general use of the Internet, and e-government usage intensity.

Furthermore, the results indicated that trust is an important factor that positively affected the users' intention in using e-government services. This is aligned with the results of a previously conducted study. Thus, it is imperative for government agencies to plan relevant strategies for enhancing trust from the citizens and consider trust as a prominent factor associated with the use of government agencies' social media platforms and e-government services. This can consequently have a positive impact on citizens' engagement.

a. Note that cells contain zero-order (Pearson) correlations

7. DISCUSSION

By considering the research questions for this study, the analyses and results are explained and discussed.

Research Question (a): What is the factor that can affect the citizens' engagement in utilizing the e-government services? The multiple regression analysis is used to achieve the first research objective. The following are the five major factors that can influence the citizens to utilize e-government 2.0: Citizens' attitude toward e-government, e-government value perception, trust in government, the general use of the Internet, and e-government usage intensity. The trust in government is the highest factor (0.304) that influences the citizens to employ the e-government 2.0. This implies that trust is the factor with the most significant influence on the citizens. These results agree with several recent studies, which revealed that trust in government is correlated with the utilization of e-government services [25–27]. Additionally, the lowest factor is the e-government value perception (0.044), implying that it has the least significant influence. Meanwhile, the factor of general usage of the Internet (0.212) and citizens' attitude (0.162) also indicate a strong influence that needs to be emphasized. All the factors except value perception are significant since its value of Sig. is less than 0.05.

9. FUTURE WORK

The descriptive statistics results revealed high and moderate means regarding the five major constructs. From these results, we recommend that larger and different samples be used; the instrument used should be validated to simplify the results. In addition, other variables can be included in the future study to obtain more comprehensive results. The government agencies can consider these results to enhance their engagement with the citizens.

Apart from the factors mentioned earlier, there are also technological developments that should be studied, such as the advanced exploitation of particular artificial intelligence technology, namely, chatbots, in the public sector to address the following crucial issue: The improvement of the connection and teamwork between the government and citizens.

ACKNOWLEDGMENTS

This research was funded by a grant (Fundamental Research Grant Scheme – FRGS: 13259) sponsored by the Ministry of Education, Malaysia.

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