

# Technological Culturation on e-Government Sustainability among the Rural Communities in Malaysia

*By* Noreen I. Arshad

## Technological Culturation on e-Government Sustainability among the Rural Communities in Malaysia

Noreen I. Arshad<sup>1</sup>, Subuh Anggoro<sup>2</sup>, Jeevan R. Ramesh<sup>3</sup>, Nurshazlyn M. Aszemi<sup>4\*</sup>, Ahmad I. Z. Abidin<sup>5</sup>, Santhy Hawanti<sup>6</sup>

<sup>1,3,4,5</sup>Computer and Information Sciences Department, Universiti Teknologi PETRONAS, Bandar Seri Iskandar 32610, Perak, Malaysia

<sup>2,6</sup>Teacher Training of Elementary Education Department, Universitas Muhammadiyah Purwokerto, Dukuwaluh Street, Kembaran, Banyumas 53182, Indonesia

<sup>1</sup>noreenizza@utp.edu.my, <sup>2</sup>subuhanggoro@ump.ac.id,

<sup>3</sup>jeevan\_17008736@utp.edu.my, <sup>4\*</sup>nurshazlyn\_17007352@utp.edu.my,

<sup>5</sup>izuddin\_z@utp.edu.my, <sup>6</sup>santhyhawanti.ump@gmail.com

### Abstract

Successful implementation of sustainable e-Government remains a challenge in developing countries, especially among the rural communities in Malaysia. Not being able to identify the key factors that contribute to the e-Government sustainability success of a country may result in wasting resources, money, and time. This problem may also stumble the communication between government and citizens. Much research has been conducted in the context of e-Government, but only a few have been thorough with one of the main issues related to sustainable e-Government in developing countries, which is digital divide. There are limited guides identified to reduce the digital divide gap for rural communities in developing countries, particularly Malaysia. These reasons have provided the rationale for this study to be conducted with the following objective: to identify the key elements related to the digital divide that could increase the utilization of sustainable e-Government among the rural communities in Malaysia. This study reports the review conducted to identify these key elements. The more significant aim of this study is to develop guidelines that focus on technological culturation for sustainable e-Government among the rural communities in Malaysia. This study has found that the key elements that make technological culturation support e-Government include attitude, exposure, experience, and culture. In the long run, it is hoped that the guidelines outlined in this paper could assist rural community, the government, and stakeholders who involved to work towards better and sustainable e-Government.

**Keywords:** e-Government, digital divide, Information and Communication Technology, rural community, technological culturation component

### 1. Introduction

Malaysia is not new to the concept of e-Government. In 1990, the government of Malaysia announced its first e-Government initiative. Promptly the designing of structure and the construction of facilities to enhance the flow of electronic information to the citizens began [1]. The two- main objectives of the Malaysian e-Government were to the reinvention of service delivery using information communication technology (ICT) and to set in motion of the successful development of the Multimedia Super Corridor Malaysia (MSC Malaysia) [2]. E-Government is one of the seven flagship operations that was introduced under MSC Malaysia. The main objective of this operation is to help in the acceleration of MSC and reduce the uneven digital distribution [3]. This will help the

government to enhance the service delivery, internal government department operations and improve the quality of the development process, which in return will allow the government to be more responsive towards the citizen's needs.

The Malaysian government is continuously trying to upgrade the lifestyle of the citizen by introducing new strategies to enhance the technological advancement of the country. In the Ninth Malaysia Plan (RMK9), the government had intended to expand the current communication network across the country [4]. Similarly, in the Tenth Malaysia Plan (RMK10), the government focus was on improving and reinforcing the public service delivery for citizens and the business association through ICT infrastructure so that the productivity and efficiency of the Malaysian public sector can be elevated [4]. The current Malaysian Plan, which is the Eleventh Malaysia Plan (RMK 11), states that the focus would be on expanding and upgrading broadband infrastructure. By improving connection to households, measures are being taken to encourage investments in digital infrastructure. The government is also focusing on the strengthening of smart city infrastructure. Further, the government has taken the steps in establishing a seamless integration of services and focus on developing broadband, network, and applications [5].

Following the initiatives on developing a strong ICT infrastructure, the Malaysian government has also taken an interest in the improvement of internet services for the citizens [4]. Thus, with the aim of using the Internet to provide better services for the citizens, the government has been putting a lot of investment into the implementation of e-Government [1]. The idea of e-Government or better known as e-Government is in regard to all communication, interaction and procedures between citizens and the government offices to be operated at home using laptops, computers, or smartphones and accessible at any time and from anywhere. This will eliminate the need to physically go to the government offices to perform processes such as getting forms, making payments to respective departments and many more activities [6]. The government can be represented seamlessly through e-Government as a silhouette to their presence.

Malaysia is a very well-known country for its diversity in culture and governing such a diversely cultured country is not an easy task. This includes enabling effective information sharing among different communities and opening communication channels for communication and delivery among them requires efficient internet-working [7]. When transitioning to e-Government, a guiding set of principles, models and standards is critically needed. Without a proper guiding principle in place, many developing countries suffer from the digital divide. This includes developing countries such as China, India, Indonesia, Bangladesh and countless more [8]. Even though the presence of ICT awareness proven to be main contribution for sustainability rural development, the digital divide still exist [9]. The digital divide is referring to the internet accessibility difference between the rich and poor or those who live in urban and rural areas, which refer to the gap between those who have access to the Internet and those who have limited access (i.e., especially those in remote areas) [10] [11]. This results in them not being able to accept and utilize the true motive of the deployed e-Government systems.

On the other hand, for the public to have a unanimous acceptance over the e-Government services, the government must first ensure that the e-Government services possess the equal standing as the paper processes and not forgetting to establish the privacy and security before engaging into the e-Government services. For the e-Government to obtain successful initiatives and online processes, the operations should be based on a legal framework [12]. The shortcoming of legal compatibility between digital and paper processes can interfere with the acceptance of e-Government by the public, especially the suburban communities. Many countries have passed legislation recognizing digital signatures. However, only a small number of them have advanced legislation ahead of the beginning phase [7]. Ignoring this fact may induce a lack of trust among the

rural community on the government since the rural communities are not being exposed and lack experience in the culture of online processes [7]. For example, they are used to the old school style of seeing physical receipts and signature as proof of process or transactions.

The issues mentioned above are a few of the underlying factors that hinder the development of e-Government among rural communities in Malaysia. Therefore, these issues have been leading to the problem formulation of this research, which, in return, aims to identify the key elements that could increase the utilization of e-Government among the rural communities in Malaysia. The focus of this study is to look into the technological curation elements of e-Government uptake among this group of citizens.

## 2. e-Government in Malaysia

6

According to the Organization for Economic Cooperation and Development (OECD), e-Government is described as the “use of information and communications technologies (ICT), and particularly the Internet, to achieve better government” [7]. This description best fits why the OECD countries are distressing by the implementation of e-Government than the ICT tools itself. Driven by the force of increasing the performance of the government while attending to the needs and satisfaction of the citizens, OECD countries such as Mexico, Netherlands, and New Zealand have realized that e-Government is something that is far more complex than channeling information and providing services online. In a broader perspective, the adoption of ICT in the government can be used as an essential tool to transform the framework, procedure, and culture of the government itself to make it more efficient, transparent, and aligned to citizens’ needs [13] [7].

The global progression in ICT, including better internet services and e-commerce, has driven e-Government transformation and innovation in Malaysia, especially in urban areas. Malaysia has embarked on the information age with the ramification of a knowledge-based society [12]. Following this, the Malaysian government has introduced countless strategies and policies to help and guide the citizen to live a 14. sle-free life. For example, the Malaysian government 8. as introduced many projects under the e-Government flagship that include the Electronic Services (e-services), Electronic Labor Exchange (ELX), and E- Syariah to name a few. Therefore, as technology grows exponentially, all Malaysian citizens should be able to grow as well and adapt to the environment, including the rural communities.

Nevertheless, when it comes to new strategies such as the use of new technologies, Malaysians often fall back. The government is not the only one to take the blame in this scenario, as the citizens of Malaysia are supposed to play their role as well. Relating to this study, even though the Malaysian government has been putting effort in introducing e-Government to help facilitate citizens to communicate, acquire information from the government or going 1. through any official government process, there seems to be a significant difference in the usage and development of e-Government in Malaysia as compared to our neighboring country which is Singapore [14]. A 16. urvey conducted by the United Nations E-Government in 2016 has reported that the e-Government development index of Malaysia and Singapore is 0.6175 and 0.8828 respectively [14]. The Malaysian e-Government development index is above the world average which is 0.4922. Although it may seem like Malaysia is doing well, and there is only a 0.2653 difference as compared to Singapore, this small difference presents a considerable gap in ranking among all the countries in the world. This is evident as Singapore is ranked 4th, while Malaysia is ranked 60th [14]. There are many reasons for the

fallback of e-Government (e.g., infrastructure, budget, etc.), and this study is motivated to explore particularly on technological cultururation factors.

### 3. Technological Cultururation

The concept of technological cultururation first started to articulate from the term "cultururation" in anthropological studies [15]. This concept is defined as the "assimilation by members of a sub-culture of the values of and beliefs of a pre-existing culture or by the adoption of some of their cultural values" [16] in anthropological standpoint view. This means that people from a particular society, soak in or adopt to some of the values, culture or beliefs from a different society while retaining the way their own culture operates. One may ask how the technological cultururation concept relates to ICT and e-Government. Technological cultururation is one of the critical driving forces that allows someone to use technology and also related to exposure or experience that could encourage the adoption of a technology [2]. This in line with the work of [17] that highlights that technological cultururation is "the greater acceptance of new technology even if there are cultural barriers." [15] further defines the concept of technological cultururation as "the effect of on-going exposure to technology that in time makes the individual more accustomed to the technology." Exposure to technology, such as smartphones, is an excellent example of technology cultururation. Therefore, it is conspicuous that technological cultururation should be taken into consideration when it comes to ICT and its usage.

In a technologically cultured society (i.e., urban communities, and citizens of developed countries) that refers to a society that are exposed to technology in their daily lives, it is expected that they will be the majority or much heavier users of technology as compared to societies who are less technologically cultured [18]. Relating to [17], it is posited that technological cultururation influences modeling and it does affect the system outcomes. The study that looks into cultural influence modeling in estimating the success and failure of the technology adoption process has shown that cultural belief and technological cultururation are indeed critical aspects for the success of technology adoption [16].

Singapore is one of the countries that emphasizes technological cultururation in its e-Government adoption among the citizens [19]. The government of Singapore has done various technological cultururation initiatives that include providing every citizen with personal e-Government user identification and password. This has made the citizens of Singapore being able to log online and access their personalized information and services. Other than that, they also conduct national campaign and e-Government awareness programs [19] to encultururate the culture of using online government services. They have also taken further steps in teaching about e-Government services to schools. The technological cultururation does not stop there, and officers are trained to operate equipment to assist illiterates so that they, too can benefit from the e-Government services. It is evident that when technological cultururation is planned seriously and being implemented correctly, it could make a huge difference in driving the success of e-Government implementation.

Many scholars have agreed on the importance of technological cultururation in ICT usage as shown in table 1. [15] and [17] mentioned that the concept of technological cultururation influences the ICT usage in developing countries and evidence from their study suggest that technological cultururation significantly affect the level of internet usage. This is also supported by [16], [18], and [20]. Table I states the definitions that have been obtained pertaining to technological cultururation from various studies. Furthermore, table 2 highlights other works that reported on the

importance of technological cultururation. [18] has mentioned that the role of technological cultururation is crucial especially when it comes to the research relating to the digital divide and that technological cultururation is not well addressed as a construct for ICT usage. [15]–[18] has discussed technological cultururation in the context of ICT. They highlighted that technological cultururation has a positive influence over the ICT usage in a given society and cultural barriers can be mitigated through the inclusion of technological cultururation. On the other note, other works discussed technological cultururation from various domains that include e-learning [15] and telemedicine [20].

**Table 1. Definition of Technological Cultururation**

No.	Technological Cultururation Definition	Author
1.	Technological cultururation translates into a greater acceptance of new technology, even if there are cultural barriers	[17]
2.	Concept of technology cultururation is that people who have prior exposure to or who have access to the use of technologies are more accustomed to technology	[15]
3.	Technological cultururation refers to experiences that individuals have had with technologically advanced cultures	[16]
4.	Defines technological cultururation as the “cultural exposure and the experiences that individuals have with technology originally developed in other countries	[18]
5.	Technology Cultururation is a concept that represents a person’s prior exposure to relative technologies	[15]
6.	Technology cultururation represents a person’s exposure to a relatively technology-intense culture	[20]
7.	Technological cultururation is a process that seems to overcome certain cultural inhibitors. When individuals are exposed to the beneficial uses of the Internet in other cultures, they are more favorably inclined toward adoption.	[17]
8.	Defines Technological cultururation as the effect of on-going exposure to technology that in turn increases an individual becoming accustomed to technology	[15]
9.	In anthropological studies, this concept refers to the assimilation by members of a sub-culture of the values and beliefs of a pre-existing culture or by the adoption of some of their cultural characteristics.	[16]
10.	Technological cultururation occurs when people become informed or educated about ICTs initially absent from their culture.	[18]
11.	Technology Cultururation is the influence of technologically-advanced cultures on the attitude of an individual to technology	[15]

**Table 2. Statement from Scholars that Support the Importance of Technological Culturation in the Usage of ICT**

No.	The Importance of Technological Culturation	Author
1.	The individual acceptance model found a strong relationship between technological culturation and internet usage	[17]
2.	Recent research on the diffusion of ICT maintains that the extent that technological culturation of a society influences the extent of technology usage of that society	[15]
3.	Proposes that technological culturation is a key driver for the actual use or intention to use of new technology	[16]
4.	Heavier users of technology were more receptive towards new technologies compared to the societies that are less technologically cultured	[18]
5.	Attitude, Social influence and technological culturation all have a significant influence on behavioral intention to adopt an e-learning management system	[15]
6.	Technology culturation of citizens will yield favorable in the telemedicine transfer outcomes	[20]
7.	Numerous cultural barriers identified as problems can be mitigated through technological culturation	[17]
8.	Studies have established that accessibility based on technology culturation concept influences the usage of ICTs in developing nations	[15]
9.	Analysis of the data set suggests that both culture-specific beliefs and technological culturation significantly affect Information Technology Transfer (ITT)	[16]
10.	Research on digital divide barely addresses the construct of technological culturation as a determinant of ICT usage	[18]
11.	Data set suggests that technological culturation significantly affects internet usage	[17]
12.	Discovered that technology culturation consistently provide a positive influence on ICT usage	[15]
13.	Technological culturation is seen as influencing the extent to which ICTs are used within a given society	[18]

Table 2 provide evidence that there is more than one element to be considered for technological culturation. First, it has been constantly mentioned that exposure is a crucial variable when it comes to technological culturation [15], [17], [18], [20]. Secondly, culture has also been largely discussed in many works [16], [17], [20]. Following this, the element attitude has been mentioned twice [16], [17]. Experience has also been mentioned in [16], [18]. Therefore, based on these papers, this study has concluded that the important elements of technological culturation include the following: Attitude, Exposure, Experience, and Culture as shown in Table 3. The importance of these elements is determined from the study of [15]–[18], [20]. Exposure appears the most in the study of [15], [17], [20]. Attitude appears in the work of [16], [17]. Studies by [16] and [18] reveals Experience and Culture appears in the research of [15]–[17], [20]. Each of the elements is briefly explained as follows.

### 3.1. Attitude

The degree of the attitude of an individual determines the acceptance of ICT and other technologies [15]. This is due to the fact that an attitude of an individual drives the acceptance and adoption of any new technology or in this case, the usage of e-Government. As mentioned by [16]–[18], attitude is a highly influential factor that could drive a person to accept or reject technology.

### 3.2. Exposure

The idea of exposure is related to when a person has prior exposure to technologies or has access to technologies such as computer, Internet and other gadgets. The person will likely have more interest and ability in using other technologies that are being promoted to him or her through the exposure previously received [15]. This element appears to be one of the most critical elements that drive technological cultururation as highlighted by [15], [17], [18], [20].

### 3.3. Experience

Based on the study of [18], it has given a notion that experience plays a vital role in technology cultururation. In the case of e-Government, for someone from the rural area or developing countries to utilize it, he or she should first have the experience and knowledge to use the mentioned technology so that the knowledge can be utilized as a part of their daily life and then be passed on to others.

### 3.4. Culture

[15]–[17], [20] have suggested that the cultural belief of an individual or a community might either hinder or engaged them towards ICT or any use of technology. As mentioned by [18], if a new technology introduced contradict with a community's existing cultural norms and beliefs, it may impede the acceptance of that technology by the community to some degree. [16] also mention that data collected shows that culture-specific believes significantly affects technology acceptance.

**Table 3. The Occurrence of the Technological Cultururation Element in the Past Studies**

No.	Elements				Author
	Attitude	Exposure	Experience	Culture	
1.	/	/		/	13
2.		/			11
3.	/		/	/	12
4.		/	/		14
5.		/		/	16
6.		/		/	17

Previous research has pointed to the critical elements of technological cultururation that include Attitude, Exposure, Experience, and Culture. Therefore, based on literature, this study has reasons to believe that these four elements of technological cultururation could drive sustainable e-Government among rural communities.

#### 4. Methodology

A systematic search was carried out as it serves as the best means for the literature of this study to be captured [11]. The focus of this search was not directed to a specific journal or geographical location. Search mediums that include Google, Google Scholar, academia.edu, Microsoft academic search, IEEE Xplore and other databases were used. These databases were used to obtain previous studies that have been conducted with the emphasis of keywords and search terms mentioned in figure 1. The Malaysian government web portals were also analyzed to obtain information relating to e-Government services and initiatives. The outcome of the literature search has pointed to the four critical elements of technological culturation that include Attitude, Exposure, Culture and Experience. These four elements were then used as themes during deductive coding analyses.

```
(((((technology culturation) OR technology  
culturation) OR technology exposure) OR technology  
acculturation) AND ICT Usage) OR Information  
communication technology usage) OR e-government)  
AND rural area) OR village) OR rural village)
```

Figure 1. Search Strings

Semi-structured interviews were conducted with six selected respondents as shown in Table 4. Each interviewee holds different positions in government agencies that provide e-Government services to Malaysian citizens. Purposive sampling technique was applied in selecting the respondents. All the six interviewees were selected based on their experience in handling the e-Government portals and giving training and assistants to rural communities in using the e-Government services. The mix of roles allows researchers to get a significant overview of e-Government services. The demographic profiles of the six interviewees are shown in Table 4.

Interviews were conducted at respondents' respective offices with permissions. Selected e-Government portals were showcased by the interviewee and data were kept anonymous. Few documents were shared, which include user manuals to use the portals, advertisement of the portals and the online web portals. Each interview lasted between 40 minutes to 70 minutes. Interviews then were taped recorded upon permissions. All data were kept confidential, including user complaints concerning the portals and database of portal users.

All interviews were transcribed verbatim. The statements from the participants were used as the coding for the data. Data analysis with a primarily deductive approach was employed to examine participant perceptions in light of the four elements of technological culturation: Attitude, Exposure, Experience, and Culture. All interview transcripts were then coded following these four thematic categories. We chose the unit of coding to be at the sentence level, in each interview transcripts.

**Table 4. Demographic Profiles**

No.	Respondent	Gender	Age	Primary Roles
1.	RI	Male	38	Executive who manages rural community's affair
2.	R2	Male	48	Manager who oversees e-Government portals
3.	R3	Female	38	Manager who oversees e-Government portals
4.	R4	Female	52	Senior executive who conduct reach-out programs, promotional activities and training related to e-Government services
5.	R5	Male	25	Executive who maintains, develop and manage e-Government portals
6.	R6	Female	31	Executive who works in a government agency that provides online services to Malaysian citizens

11

## 5. Results and Discussion

As mentioned earlier, the main purpose of this study is to find evidence supporting technological cultururation that could drive towards sustainable e-Government among the rural communities in Malaysia. In correlation to that, this study has found supports evidence to the four major elements of technological cultururation: Attitude, Exposure, Experience and Culture. Statement from participants supporting each element is presented in the following paragraphs.

### 5.1. Attitude

This study is suggesting that attitude is an influential factor that could drive rural communities towards utilizing e-Government services. From the interviews, it is learned that the utilization of a technology (i.e., sustainable e-Government services) is partly driven by the attitude of users and society. The attitude could influence the decision to accept or reject the benefits of having it (i.e., e-Government) and to make it a routine to accomplish certain tasks.

One of the respondents observed that users displayed positive and negative attitudes when asked to utilize a portal. As highlighted by R5, "*The generations nowadays are familiar with the technology, Internet and so on. They have a very positive attitude in using most of the online portals to apply for [omitted to maintain anonymity]...However, the older generations, 60 and above, is a bit difficult. However, many are showing a positive attitude to learn. We need to go to the village and teach them how to submit the forms and for claims purposes ...*" It appears that a person who is familiar with the technology (e.g., Internet browsers and online systems) tend to be more optimistic in using portals and it usually becomes a norm.

Nevertheless, for the less IT literate group, a continuous effort should be put in place to support them towards using the e-Government services. As highlighted by R5, "*There are many requests from the oldies asking us to come and teach them at the village mosques and community halls... They also called us if there are issues with the portals.*" It was further highlighted that most of the users would show a positive attitude to use a portal if he or she is exposed to the benefits of it.

In line with the literature, attitude discovered to be the influence of the adoption of technology usage [16], [18]. [15] also found that the attitude of an individual determines the acceptance of ICT and other technologies. [17] further highlighted that a person who is reluctant to engage with a new technology or system in the beginning, will tend to have a change of mind if the person is exposed to the beneficial uses or advantages of the technology. Based on the evidence and previous work, this study suggests that government agencies should conduct reach-out programmes encouraging rural communities to use e-Government services. This includes user training for the illiterate group of people and remote support systems. The programme should also include campaign efforts that explain the benefits, use and aims of each service that government agencies have implemented online. In the long run, these reach-out programmes could change the user's attitude towards accepting and utilizing e-Government services.

## 5.2. Exposure

Secondly, this study is highlighting the importance of exposing rural communities to the benefits of e-Government services.

The executive who manages rural communities' affairs (i.e., R1) highlighted that, for people from the rural areas to engage in using e-Government services, they need to be exposed to various portals that are available. Hence, without having the knowledge of the existence of those online services and knowing how to use them, they are more likely to reject rather than accept or adopt them. As stated by R1, *"They will not know about any of the portals, unless you tell them and show it to them. Therefore, it is important for the people [government agencies] to conduct roadshows"* This evidence suggests that exposure to the e-Government services through promotional activities such as roadshows will increase the usage of e-Government services among the rural society. This fact is supported by R4, who stated that *"They [the rural community] will be excited to use them [the e-Government services] when they are being informed or educated about it [exposed] which initially was missing from their life."*

On the contrary, exposure to e-Government services might not be crucial for those who live in urban areas or grew up in the cities as they are well exposed to many technologies, gadgets and online systems. R2 pointed that, *"The level of exposure between the rural and urban communities is like chalk and cheese thus resulting in different level of acceptance towards using the portals and online systems [e-Government services] and that makes the usage and adoption of it [the e-Government services] vary significantly among the rural and the urban people."*

R3 further stressed the importance of exposing e-Government services towards the rural community to ensure the success of this kind of services, *"Users [the rural communities] do not have any knowledge that such a portal exists. However, when we open up information booths to explain the portals, they are very keen to try it and use it .... So the key is by exposing them to the available services"* This is in line with previous work that also pointed that a person or a community will likely have more interest and ability to utilize technologies that are being promoted to him or her through the exposure received [15], [18]. Based on the evidence, it shows that exposure to rural communities is crucial to support the utilization of e-Government services. Exposure will include educating them about the services, the benefits of it and steps to use the online systems. This will require efforts from government agencies to conduct promotional activities such as roadshows and exhibitions.

### 5.3. Experience

Thirdly, this study has discovered the need to offer rural communities in experiencing the usage of e-Government services. Rural communities have limited experience in using any of the e-Government services. Therefore, giving them the chance to experience the online services will alleviate the possibility of them returning and continuously using e-Government services.

One of the executives (i.e., R6) in government office pointed out that someone who is accustomed to technology would find it easier to learn new technologies, thus increasing the possibility of them utilizing it. As mentioned by the executive, *“An individual will be far more comfortable to use a system [e-Government services] when they have experienced such a similar system before”*. R3 also pointed out similar ideas concerning experience and stated that *“Individuals are more prone to using or adopting the services [e-Government services] when they have experienced it or have had previously practiced using them in other countries.”*

Respondents further agreed that it is difficult for rural communities to accept e-Government services with limited knowledge and lack of experience in using such systems. As mentioned by R1, *“They [the rural communities] often face problems using those systems [e-Government portals] because they have never used it before or anything similar ... This is different from people living in cities who have no problem because they are very experienced in using such systems for various purposes.”*

Since rural communities are lacked in experience using similar online services, having a proper training programme will be useful and an added advantage. As pointed by R3, *“The people [rural community] will come to our events when we conduct awareness programs and training teaching them how to use the online systems. They will be willingly come to try and experience the systems to be knowledgeable about it and might be using it [the e-Government services] again in the future.”* Evidence has shown that experience could drive better utilization of e-Government services among rural communities. Our study suggests that efforts should be channelled towards having programmes designed for rural communities by having first-hand experience in using the online e-Government systems to attract usage and adoption of it.

Hence, aligned with previous studies related to technological cultururation, experience elements are barely discussed from the perspective of rural communities. Experience is mostly mentioned by researchers concerning the use of technology among employees in organizations [17]. These studies discussed the importance of cultivating experienced workers in organizations as one of the key priorities in technological cultururation towards adopting new technologies [16], [18]. Therefore, our study has added some insights into how experience plays a significant role in the context of rural communities and the sustainability of e-Government.

### 5.4. Culture

Finally, evidence from this study has shown that there is a relationship between culture and successful e-Government utilization. It is learned that culture plays a vital role in influencing a rural community to adopt or reject new technologies (i.e., sustainable e-Government services). Few rural communities may avoid the usage of e-Government as a factor of reluctancy to change their cultural norms. As highlighted by one of the respondents, *“Even though, most of the interaction and communication between government and them [the rural community] can be done*

*from home on the computer without physically being in the office, several people still do believe in doing everything directly at the counter or kiosk at the government office as that has become their norm from day one.”*

Our findings are in line with the literature, which has found that although handling everything online could save a great deal of money, effort and time. Nevertheless, the cultural norms of specific communities hinder them from accepting the new technology or services. Therefore, it is evident that culture plays a massive role in technological curation, as supported by many authors [15]–[17], [20]. [15] believe that technologically advanced cultured society tends to have a greater significant influence towards adopting and using any new technologies.

Nevertheless, this study suggests that continuous promotional initiatives and strategies can allow rural communities to collectively change their mind as a group and accept new technologies that are benefiting them to be a norm and part of life. As suggested by one of the executives, “*They do not mind changing the way they do things [culture], as long as they could get assistance when there are problems [issue with the systems], and when they know the benefit of using it [e-Government services]*”. Therefore, this study is suggesting that continuous initiatives on promoting and supporting the utilization of e-Government services to rural communities may help towards making e-Government usage a norm and be part of their culture.

In summary, this study is suggesting that technological curation could drive sustainable e-Government among the rural community in Malaysia. As shown in figure 2, there are four supporting pillars of e-Government sustainability from the perspective of technological curation: (1) Attitude, (2) Exposure, (3) Experience and (4) Culture. It is suggested that with continuous programs, initiatives and efforts supporting these pillars, it will attract rural communities to use e-Government services as part of their routine tasks. Efforts should be channelled towards reaching out to the community, teaching the steps to use the online service, promoting the usage and provide supports at any time and from anywhere. Such efforts will ensure continuous usage of e-Government services. In the long run, sustainable and better e-Government will be attained and seamlessly improving digital divide.



**Figure 2. The four pillars of technological curation supporting e-Government sustainability**

## 5. Conclusion and Future Work

The importance of technological cultivation in the context of e-Government among the rural community in Malaysia has been discussed throughout this paper. Based on the findings, there are motives in believing with the right efforts, it will channel support to the pillars of technological cultivation and lead to sustainable e-Government involving the rural communities. Therefore, government agencies and related stakeholders should start planning and executing continuous programs, initiatives, and efforts that support technological cultivation, which include elements of experience, exposure, culture, and attitude.

This study suggested that the utilization of e-Government is partly driven by the attitude of the users and society, whether to accept or reject the benefits of having it in life. Moreover, this study also found that another key element that needs to be focused is exposure. Exposing individuals to the advantages of using e-Government will yield positive results. Furthermore, experience also holds an important position in the utilization of sustainable e-Government services usage. Educating the users on how to use e-Government systems may dictate a change in their willingness to continue using the systems. Lastly, culture is not something that should be neglected. It is crucial to understand the cultural barriers in the utilization of e-Government. Introducing new technologies (i.e., e-Government) to a culture or society that has never encountered with such technology will be challenging. However, if cultural barriers are adequately addressed and appropriate measures are taken into account, e-Government could be sustainable even in a less technologically cultured society.

This study has contributed to the literature and practice in such that it has extended the study of sustainable e-Government from the perspective of technological cultivation. This study specifically focuses on how technological cultivation (i.e., experience, exposure, culture and attitude) could drive better e-Government among the rural communities in Malaysia. It is hoped that this study would lead to better utilization and sustainability of e-Government portals and services that take into account the rural communities that are often neglected. Future work should look into designing the strategies for continuous programs, initiatives, and efforts that support the four pillars of technological cultivations.

15

## Acknowledgments

The authors wish to thank the Ministry of Education (MOE) Malaysia for supporting this research work. This work was supported by the Fundamental Research Grant Scheme of MOE, Ref Num: FRGS/1/2017/ICT04/UTP/03/. We also thank Universiti Teknologi PETRONAS (UTP) for supporting this research work in many ways possible.

## References

# Technological Culturation on e-Government Sustainability among the Rural Communities in Malaysia

ORIGINALITY REPORT

# 10%

SIMILARITY INDEX

## PRIMARY SOURCES

1	<a href="#">Transforming Government: People, Process and Policy, Volume 7, Issue 2 (2013-05-27)</a> Publications	126 words — 2%
2	<a href="http://eprints.covenantuniversity.edu.ng">eprints.covenantuniversity.edu.ng</a> Internet	120 words — 2%
3	<a href="http://www.cis.gsu.edu">www.cis.gsu.edu</a> Internet	117 words — 2%
4	<a href="http://www.coursehero.com">www.coursehero.com</a> Internet	69 words — 1%
5	<a href="http://tojde.anadolu.edu.tr">tojde.anadolu.edu.tr</a> Internet	30 words — < 1%
6	<a href="http://www.baselgovernance.org">www.baselgovernance.org</a> Internet	22 words — < 1%
7	<a href="http://journalofbigdata.springeropen.com">journalofbigdata.springeropen.com</a> Internet	22 words — < 1%
8	<a href="http://mafiadoc.com">mafiadoc.com</a> Internet	19 words — < 1%
9	<a href="http://www.uniassignment.com">www.uniassignment.com</a> Internet	18 words — < 1%
10	<a href="http://www.scilit.net">www.scilit.net</a> Internet	14 words — < 1%

- 
- 11 [mae.cornell.edu](http://mae.cornell.edu)  
Internet 14 words — < 1%
- 
- 12 Alenezi, Hussain(Papazafeiropoulou, N and Serrano, A). "Investigating the strategic relationship between information quality and e-government benefits", Brunel University, School of Information Systems, Computing and Mathematics, 2013.  
Publications 14 words — < 1%
- 
- 13 [su.diva-portal.org](http://su.diva-portal.org)  
Internet 13 words — < 1%
- 
- 14 Sohaimi, Mohd Salleh. "Venture capital financing : managerial factors and management conflict in ICT industry = Bencia kyapitaru no kigyo kin'yu : joho tsushin sangyo to ni okeru keiei mondai", Waseda University, 2006.  
Publications 13 words — < 1%
- 
- 15 [link.springer.com](http://link.springer.com)  
Internet 11 words — < 1%
- 
- 16 VINE, Volume 43, Issue 2 (2013-05-27)  
Publications 6 words — < 1%
- 

EXCLUDE QUOTES OFF  
EXCLUDE BIBLIOGRAPHY OFF

EXCLUDE MATCHES OFF