E-GOVERNMENT AND TRUST
IN PUBLIC ADMINISTRATION FROM
THE PERSPECTIVE OF *E-NOTIFIKASI* USERS

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UNIVERSITI SAINS MALAYSIA

2021

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by

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**Thesis submitted in fulfilment of the requirements
for the degree of
Doctor of Philosophy**

May 2021

ACKNOWLEDGEMENT

I acknowledge that I have made it through this academic journey because of the support and encouragement given to me by others. Firstly, I wish to thank and praise Allah S.W.T, the Almighty, the Cherisher, and Sustainer of the Universe for the opportunity to embark on this PhD and complete it successfully, even though it was a long, tough, and challenging journey.

To my supervisor, Associate Professor Dr. Khairiah Salwa Mokhtar, thank you so much. I appreciate all the time you took to guide me through this PhD journey and share your knowledge with me. Thanks for helping me focus on my studies as well, despite all the ups and downs I encoutered during this challenging passage. Thank you, Dr! Honestly, I am blessed to have you as my supervisor.

I also want to dedicate appreciation to the loves of my life, especially my husband, beloved parents, and siblings. Not to forget, my nephew and niece. Thank you for the prayers, endless love, and support. To Mohamad Farhan, my late younger brother who lost his battle to brain cancer, this is also for you. I love you and I miss you forever.

I am grateful to the Ministry of Higher Education, Malaysia (MOHE) and Universiti Utara Malaysia for granting me the IPTA Academic Training Scheme as well as Long-term Research Grant Scheme entitled *Enhancement of Relevant National Policies for Effective TB Management: Lesson Drawing and Control* from MOHE to sustain the study. Finally, to the generous people who assisted me in different phases of the study, especially my friends who stayed on the same journey; Suzylah, Liza,

Hajar, Fariha, Niza, Nani, and Kak As; if you managed to read this, thank you very much for your support.

Thank you so much everyone. I will be forever grateful.

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LIST OF ABBREVIATIONS

CDCIS   Communicable Diseases Control Information System

CSV   Comma Delimited Value

E-S-QUAL   Electronic Service Quality

OECD   Organisation for Economic Co-operation Development

PAC   Public Administration Communication.

PLS   Partial Least Square

SEM   Structural Equation Modelling

SPSS   Statistical Package of Social Science

UNESCO   United Nations Educational, Scientific and Cultural Organization

WHO   World Health Organization

KERAJAAN ELEKTRONIK DAN KEPERCAYAAN TERHADAP PENTADBIRAN AWAM DARI PERSPEKTIF PENGGUNA e-NOTIFIKASI

ABSTRAK

Kepercayaan terhadap pentadbiran awam semakin menurun saban tahun. Ketidakcekapan dan penyampaian perkhidmatan yang lemah dikenal pasti antara puncanya. Dalam hal ini, aktiviti berkaitan e-kerajaan diusulkan untuk membangun kembali tahap kepercayaan rakyat. Kajian ini meneliti hubungan antara aktiviti berkaitan e-kerajaan dan kepercayaan terhadap pentadbiran awam, dengan mensasarkan pengguna sistem e-notifikasi Kementerian Kesihatan Malaysia. Kerangka konseptual dibina dan disahkan melalui 382 set soal selidik kendalian sendiri. Data analisis yang menggunakan perisian SmartPLS menunjukkan kepercayaan terhadap pentadbiran awam dipengaruhi oleh kualiti e-perkhidmatan dan komunikasi pentadbiran awam. Sikap terhadap e-kerajaan memediasi hubungan antara kedua-dua pemboleh ubah bebas dan kepercayaan terhadap pentadbiran awam. Jantina hanya memoderasikan hubungan antara kualiti e-perkhidmatan dan kepercayaan terhadap pentadbiran awam. Dapatan kajian menyumbang kepada ilmu baharu bagi meneliti hubungan antara aktiviti berkaitan e-kerajaan dan kepercayaan terhadap pentadbiran awam. Batasan ketidakseimbangan jantina antara responden lelaki dan wanita wujud untuk analisis moderator. Memandangkan kajian seperti ini masih baru di Malaysia, kajian yang lebih terperinci diperlukan untuk mendalami perkaitan antara semua pemboleh ubah yang terlibat terutama dalam konteks Malaysia.

E-GOVERNMENT AND TRUST IN PUBLIC ADMINISTRATION FROM THE PERSPECTIVE OF *e-NOTIFIKASI* USERS

ABSTRACT

Trust in public administration has been declining over the years. Inefficiency and poor service delivery were identified among the factors that contributed to this problem. In this case, e-government related activities were proposed to rebuild citizens' trust levels in public administration. This research was carried out to examine the relationship between e-government related activities and trust in public administration by targeting the users of the e-*notifikasi* system Ministry of Health, Malaysia. A conceptual framework was developed and validated through 382 screened sets of self-administered questionnaire. Data analysis using SmartPLS software revealed that trust in public administration was influenced by e-service quality and public administration communication. The attitude towards e-government mediated the relationship between independent variables and trust in public administration. Gender only moderated the relationship between e-service quality and trust in public administration. The results contributed to a new body of knowledge in examining the relationship between e-government activities and trust in public administration. The study demonstrated gender imbalance between male and female respondents for the moderator analysis. The study results suggested that more studies need to be conducted to discover the associations between all the variables, particularly in the Malaysian context.

CHAPTER 1

INTRODUCTION

1.1   Introduction

This chapter gives the reader an overview of the study. Briefly explained, the constant decline of trust in public administration is the reason why this study was commenced. In this case, electronic government (later acknowledged as e-government throughout the study) was suggested as a mechanism to rebuild the level of trust. This research is an extension of the conceptual model by Belanche and Casalo (2015) as very limited researches have been undertaken in the past to examine the relationship between these two, especially considering trust as the dependent variable particularly in Malaysia.

Since earlier scholars discovered conflicting conclusions while examining the associations between e-government or its related activities and trust in public administration, this study can be considered as an effort to add a new body of knowledge in the related area. This study follows Belanche and Casalo (2015) where e-government activities are signified by two elements, namely electronic service quality (later acknowledged as e-service quality) and public administration communication (PAC). These two elements are regarded as the independent variables of this study, while trust in public administration acted as the dependent variable. This study also adopted attitudes towards e-government and gender of the respondents as the mediator and moderator respectively due to the mixed outcomes discovered by past studies. On the other hand, e-service quality was measured based on E-S-QUAL and its four components which are efficiency, privacy, fulfilment, and system availability. This is the conceptualisation of service quality introduced by Parasuraman, Zeithaml,

and Malhotra (2005). Hence, e-service quality in this study is acknowledged as E-S-QUAL in this study.

Data for this study were collected from *e-notifikasi* users from five selected states, which are Selangor, Federal Territory of Kuala Lumpur and Putrajaya, Johor, Sabah, and Sarawak. These were selected as they met two basic requirements stated for this study which are having recorded the highest number of infectious diseases reported between the year 2009 and 2016 and the highest numbers of *e-notifikasi* users compared to other states. All of these are explained in detail in the subsections of this chapter. This chapter was divided into several parts. It started with the background of the study and problem statement, which explained the reason why this study was commenced. Then, this chapter proceeded with the description of the research questions, research objectives, elaboration of the significance of this study, as well as the research scope. The subsection of this chapter then continued with the definition of the key variables, descriptions of the thesis structure and ended with the conclusion of the chapter.

1.2 Background of Study

Trust had been acknowledged by Ba and Pavlou (2002, p.245) *as the subjective assessment of one individual towards another individual who will perform a particular action according to his expectation of the environment that is categorised by uncertainty.* Other definition by McKnight and Chervany (2001) had addressed trust as the confidence that the party will act accordingly and met the expections of the other party such as providing better service delivery or able to keep the private information given to them securely.

Trust is important for private and public organisations. From the viewpoint of private organisations, there are several important factors of trust as described by Sendjaya and Pekerti (2010) as well as Crawshaw and Brodbeck (2011). These studies have revealed that a higher level of trust could benefit private organisations in several ways. For instance, it can increase the level of cooperation with the leader, make it easier for leaders to influence their subordinates into accepting a decision, reduce employees' intent to leave, make information given to employees easily believable, increase loyalty to leaders, encourage employees to give their full commitment to work, and increase job satisfaction.

On the other hand, from the perspective of public administration, trust is important as it acts as a benchmark to assess the government's ability to provide services to the people (Van de Walle & Migchelbrink, 2020). In this case, Easton (1965) and Organization for Economic Cooperation and Development [OECD] (2013) described trust as public confidence on the government actions to do what is right. Other scholars, such as Miller and Listhaug (1998), have labelled trust in government as an assessment whether or not the government is performing based on the expectations set by public while Porumbescu (2017) defined trust in the government as public' trust towards a particular organisation. The need of trust in public administration is crucial as it help to mould a long-lasting relationship with the government (Easton, 1975).

The statement is supported by Tyler (2004) who outlined how the absence of public trust tends to lead to a government that is unable to fulfil their function effectively. This is because the lack of trust becomes a leading factor in the loss of confidence among citizens towards the decisions and actions made by the government. It is the reason why trust in public administration is so important. In public sectors,

trust became a main focus for the government in order to ensure the success of government's projects (Belanche & Casalo, 2015) and to maintain a satisfactory long-term relationship between them and the public (Warkentin, Gefen, Pavlou & Rose, 2002). In fact, the government may also realise that it is harder for them to launch their programmes with the lack of citizen trust as they may refuse to participate in any governmental program (Levi, 1998; Nye & Zelikow, 1997) or it may create citizens who are against laws and regulations, and refuse to pay taxes (Tyler, 2004; Murphy, 2004).

Nonetheless, it is unfortunate to note that the level of trust in government administration has diminished over the years (Fukuyama, 1995; Cook, 2001; Tolbert & Mossberger, 2006; Belanche & Casalo, 2015; Morgeson, VanAmburg, & Mithas, 2011; Welch, Hinnant, & Moon, 2005; Bannister & Connolly, 2011; Aitalieva, 2017; Teo, Srivastava & Jiang, 2008; Grimmelikhuijsen, 2010; Mahmood, 2019; Mahmood, Weerakkody, & Chen, 2019a; Mahmood, Weerakkody, & Chen, 2019b) and is at a low level in most countries (Van de Walle & Migchelbrink, 2020; Charron & Rothstein, 2018). This harmful trend of public mistrust has been happening since the 1960s, especially in democratic governance countries such as Austria, the United States of America, the United Kingdom, Sweden, and Spain (Nye, Zelikow, & King, 1997; Blind, 2007; Belanche & Casalo, 2015). Comparable trends were also discovered in Asian countries like South Korea and China. In this matter, Japan as well as Malaysia also joined the bandwagon, seeing diminishing citizen trust towards public administration (Edelman, 2012). In this case, government's poor performance was discovered as one of the factors that lead to this issue (Sims, 2001).

In order to address this problem, earlier studies have discovered that one of the approaches that can be employed to improve trust levels among citizens is through the implementation of new governmental styles like e-government (Bertot, Jaeger, and Hansen, 2012; Al-Shafi & Weerakkody, 2009; Morgeson et al., et al., 2011; Tolbert & Mossberger, 2006; Welch et al., 2005; West, 2004; Mahmood, 2019; Belanche & Casalo, 2015; Waller & Weerakkody, 2016). In this case, Morgeson et al., (2011) and Tolbert and Mossberger (2006) suggested that the implementation of e-government could improve the performance of the government, reduce administration costs, and improve the perception of the government in the eyes of citizens which indirectly increases the level of trust.

On top of that, according to Bertot et al., (2012) encouraging citizen participation through e-government practice could help to improve citizens' trust toward government and public administration. In this instance, it was proposed by Carter and Belanger (2005) and Tolbert and Mossberger (2006) that applying e-government or its related activities could increase citizens' trust due to the interaction with citizens and the view of its response ability. Van de Walle, Roosbroek, and Bouckaert (2008) supported this idea with their judgement, in which citizens trusted the public administration less because the government itself did not fully understand the concept of e-government. Moon (2003) and Doullah and Uddin (2020) supported the idea and suggested that web-based public service like e-government might be able to assist the government to increase trust as it can deal with the issue occurs within public sector such as corruption, lack of transparency as well as lack of competence while providing the services.

Moreover, the main objective of the implementation of e-government was to improve service delivery in order to meet the user expectations. In this case, it was believed that better service quality delivered through e-government can help the service provider, which is the government in this context, to enhance the effectiveness of the administration, improve public participation, their consciousness as well as the commitment between both parties (Sharma, 2014). Heeks (2008) as well as Mpinganjira (2015) added and supported this which the authors noted that the implementation of e-government usually benefited the public - government relationship as this medium promotes ease of communication and better service delivery.

Hence, this research intended to find the relationship between e-government related activities and trust in public administration. However, it was crucial for future readers to note that this research concentrated on trust in public administration solely on service delivery, and not on other branches of trust such as trust in politicians or trust in elected governments, although trust might involve some electoral component. The decision follows the idea proposed by Cleary and Stokes (2006), Cook and Gronke (2005) and Horsburgh, Goldfinch, and Gauld (2011) and Goldfinch, Gauld, and Herbison (2009) where they suggested that trust in public administration or in government was different to trust in a specific voted government. In the context of this study, this research continued the work of Belanche and Casalo (2015) by further investigating the concept of enhancing public trust towards public administration through e-government activities. This study also followed to regard e-government activities based on two variables as proposed by Belanche and Casalo (2015), which were e-service quality and public administration communication (PAC). On the other

hand, attitude towards e-government and gender of the respondents are regarded in this study as mediator and moderator variables respectively.

In this study, e-service quality is defined as the customer's perception together with the recovery perceptions on the service received if a problem occurred (Collier & Bienstock, 2006). It was measured by four dimensions of E-S-QUAL introduced by Parasuraman et al., (2005) as noted in Section 1.1 of the current chapter. On the other hand, public administration communication in this study is defined as the governmental communication actions aim to increase citizen's awareness, knowledge, or perception of convenience of e-government services (Belanche & Casalo, 2015). Meanshile, attitude towards e-government in this study referred to an individual's inclination to react positively or negatively towards the website (Chen and Wells, 1999; Limbu, Wolf & Lunsford, 2012). The justification for selecting all the variables involved are described in the Problem Statement section.

1.3 Problem Statement

The level of citizen trust towards public administration has been declining in most countries all around the world since the 1960s (Fukuyama 1995; Nye et al., 1997; Cook 2001; Dalton 2004; Welch et al., 2005; Tolbert & Mossberger, 2006; Morgeson et al., 2011; Bannister & Connolly, 2011; Blind, 2007; Belanche & Casalo, 2015; Aitalieva, 2017; Mahmood, 2019; Edelman, 2014, 2015, 2016, 2017). This matter is very serious and needs to be addressed carefully as it is closely related to the government's ability to manage the administration of the country. In this regard, Beshi and Kaur (2019) stated, trust is an important factor to ensure the smooth running of administrative affairs in the public sector.

As a response to this issue, e-government services were suggested to be deployed as an initiative to improve citizen trust. Hence, the implementation of e-government or its related activities were hypothesised to increase citizen trust on public administration (West, 2004; Welch et al., 2005; Al-Shafi & Weerakkody, 2009; Tolbert & Mossberger, 2006; Morgeson et al., 2011; Belanche & Casalo, 2015; Waller & Weerakkody, 2016; Mahmood, 2019). Besides, most existing studies mainly focused on the impact of citizen trust on e-government services, rather than the impact of e-government services on citizen trust, and improper attention was given regarding the impact of e-government on trust (Welch et al., 2005; Mahmood, 2019; Belanche & Casalo, 2015; Morgeson et al., 2011; Morgeson & Petrescu, 2011; Tolbert & Mossberger, 2006; Mahmood et al, 2019a; Mahmood et al., 2019b). Such limitations indicated a significant gap in the existing literature that needed to be fulfilled in order to provide more accurate evidences on the impact of e-government activities and citizen-trust relationship. In addition to that, those existing studies were mostly conducted in Western countries such as the United States (e.g. Morgeson et al., 2011; Tolbert & Mossberger, 2006), Spain (e.g. Belanche & Casalo, 2015; Belanche et al., 2014), as well as the Middle East country like Bahrain (e.g. Mahmood, 2019; Mahmood et al., 2019a; Mahmood et al, 2019b). Inversely, evidence from South East Asian countries like Malaysia is still scarce. Hence, it was important to conduct a study that could provide evidence from a Malaysian perspective.

Although several studies examining the impact of e-government on citizen trust were conducted in the past, findings were inconsistent and contradictory from study to study (Im, Cho, Porumbescu, & Park, 2014; Porumbescu, 2016; Morgeson et al., 2011; Tolbert & Mossberger, 2006; Mahmood et al., 2019a; Mahmood et al., 2019b). For instance, while Belanche and Casalo (2015), Belanche, Casalo, Flavian

and Schepers (2014), Mahmood et al., (2019a), Mahmood et al., (2019b), Welch et al., (2005), Tolbert and Mossberger (2006) in local government, Parent, Vandebeek and Gemino (2005), Morgeson and Petrescu (2011), Harris and Goode (2004), Gefen (2002), Tan, Benbasat, and Cenfetelli (2008), Rita, Oliveira, and Farisa (2019), Gefen, (2002), Porumbescu, Park, and Oomsels (2013) as well as Beldad, Van der Geest, de Jong and Steehouder (2012) found a positive correlation between the employment of e-government related activities and trust, other scholars such as West (2004), Kearns (2004), Grimmelikhuijsen (2010), Morgeson et al., (2011), Belanche and Casalo (2015) in public administration communication and Mahmood (2019) discovered contradictory outcomes where the result of their studies were uncertain or failed to identify the association between these two. In this situation, the inconsistent results may have required further investigation (Mahmood & Weerakkody, 2014; Mahmood, 2019) especially for the past studies mentioned earlier that had discovered a non significant associations between e-governments or its related activities and trust, with the assumption there could be another variable that possibly will act as a bridge that can connect the missing link between the studied variables.

Moreover, Mahmood (2019) suggested that other factors should be considered since past works discovered that e-government was insufficient when it came to increasing trust in public administration. Hence, attitude towards e-government was introduced as a variable to mediate the relationship between e-government related activities employed in this study and citizen trust. The decision was led by few reasons, for instance, as noted earlier, e-government were discovered to have a positive relationship with trust, e-government services or its related activities was also discovered to have a significant relationship with attitude (e.g. Insani, Soewarno & Isnalita, 2018; Ayo, Oni, Adewoye & Eweoya, 2016; Tolbert & Mossberger, 2006;

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West, 2004). Finally, attitude was also discovered to have a significant relationship with trust (e.g. Jung, Kim & Kim., 2014; Tolbert & Mossberger, 2006; Lee, Cho & Bae, 2017). All of these positive relationships headed the attitude qualify to be adopted as a mediator variable for this study since it met the basic requirements for the variable to be adopted as the mediator variable as suggested by Baron and Kenny (1986).

Additionally, it was evident that attitude worked as a significant mediator in other contexts of social science studies (e.g. Asnakew, 2020; Shen, Geng & Su, 2019; Sundarasen & Rahman, 2017; Bouteraa & Al-Aidaros, 2020; Verkijika & De Wet, 2018; Dwivedi, Rana, Janssen, Lal, Williams & Clement, 2017; Rana, Dwivedi, Janssen, Lal, Williams & Clement., 2017; Al-Hujran, Al-Debei, Chatfield, & Migdadi, 2015). On top of that, from the review of the literature, studies found that very limited work had been done specifically in the area related to the current study that considered attitude as the mediator. With regards to the issue, attitude was employed in past studies as the mediator primarily in studying e-government adoption, as opposed to its impact as a mediator in the relationship between e-government implementation and trust in public administration Therefore, this study attempted to further investigate the role of attitude as a mediator in e-government related activities and citizen trust relationship.

The conflicting outcome from previous works also led the study to test the role of gender as the moderator. On top of that, this current study shared a similar opinion with Alzahrani, Al-Karaghouli and Weerakkody (2018, 2017), on that little attention given to studies regarding the impact of gender on e-government-trust relationship, and this might also applied for adopting this variable as a moderator. Since the results from past findings were mixed and inconsistent, this study assumed that there was a third variable that might possibly moderate the relationship between e-government and

trust in public administration relationship. Hence, this study proposed sexual orientation of the respondent as the moderator of the study. Plus, very little evidence had been given on the effect of moderator in the e-government and trust relationship, despite the fact that the moderator can offer an extra insight on the liable result, in which the condition may be able to strengthen or weaken the impact on e-government and trust relationship.

Besides, there was a scarcity of work that focused on information communication technology in healthcare sectors as noted by Lee, Ramayah, and Zakaria (2012), even though this sector was considered a crucial sector to the country. Thus, this study decided to identify the result from the perspective of *e-notifikasi* users, the e-government related application used to record, manage, and control infectious diseases in Malaysia. Consequently, given the limitations occurring in the existing literature as mentioned earlier, this study intended to further examine the relationship between e-government activities and trust in public administration. Going beyond the existing literature, this study adopted and modified the research model by Belanche and Casalo (2015) to investigate the impact of e-service quality and Public Administration Communication on public administration trust.

Plus, to provide in-depth enlightenment on e-government activities and trust in public administration relationship, the study extended the model by investigating the mediating effects of attitude towards e-government on the relationship between e-service quality represented by E-S-QUAL and trust in public administration, as well as on the relationship between public administration communication and trust in public administration. Subsequently, the study also investigated the potential influence of gender as a moderator of this study. The research questions of the study are listed in the following subsection.

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1.4   Research Questions

To achieve the purpose of this study, the following research questions were asked.

1.   What is the effect of e-service quality measured by E-S-QUAL dimensions and public administration communication on trust in public administration among *e-notifikasi* users?

2.   Is there a mediating effect of attitude towards e-government on the relationship between e-service quality measured by E-S-QUAL and trust in public administration, as well as the relationship between public administration communication and trust in public administration among *e-notifikasi* users?

3.   Is there a moderating effect of gender on the relationship between e-service quality measured by E-S-QUAL and trust in public administration, as well as the relationship between public administration communication and trust in public administration among *e-notifikasi* users?

1.5   Research Objectives

The main intention of this research was to examine whether e-service quality measured by E-S-QUAL dimensions and public administration communications influenced public administration trust.   This study also intended to identify the mediator and moderator roles in identifying the relationship between the independent and dependant variables. The specific research objectives for this study are illustrated as follows;

1. To examine the effects of e-service quality measured by E-S-QUAL and public administration communication on trust towards public administration.

2. To examine the mediating effect of attitude toward e-government on the relationship between e-service quality measured by E-S-QUAL and trust in public administration.

3. To examine the mediating effect of attitude toward e-governnent on the relationship between public administration communication and trust in public administration.

4. To investigate the moderating effect of gender on the relationship between e-service quality measured by E-S-QUAL and trust in public administration.

5. To investigate the moderating effect of gender on the relationship between public administration communication and trust in public administration.

1.6   The Significance of The Study

Through the process of reviewing the literature, limited researches that had been done in the past to examine the impact of e-government on trust in public administration as well as the erratic results from previous works by the likes of West (2004), Kearns (2004), Belanche and Casalo (2015), Belanche et al., (2014), Mahmood (2019), Mahmood et al., (2019a), Grimmelikhuijsen (2010), Morgeson and Petrescu (2011), Mahmood et al., (2019b), Tolbert and Mossberger (2006) and Morgeson et al., (2011) made it clear that the research on the influence of e-government on trust has yet to be completely developed. Thus, through the study of the current extension research model, it has contributed to the existing literature in several ways.

First and foremost, Belanche and Casalo (2015), Tolbert and Mossberger (2006), Morgeson et al., (2011), Welch et al., (2005), Mahmood (2019), Mahmood et al., (2019a; 2019b) noted that there was insufficient work that observed the influence of the implementation of e-government and its related activities on trust in public administration. Nonetheless, the majority of the existing study focused more on the impact of citizen trust on the e-government adoption such as studies done by Carter and Belanger (2005) and Belanger and Carter (2008) as highlighted in Belanche and Casalo (2015). Thus, the result from the study provided a new insight particularly in the literature of this area. On top of that, this study can be considered as among the initial work that identified the relationship between e-government activities and trust in public administration, especially from Malaysia's perspective.

Therefore, it is hoped that the finding of the study is able to better inform the reader about the association between e-government activities and trust in public administration of Malaysia since the majority of previous researches related to this topic had only been done or implemented in other settings such as in Spain (Belanche & Casalo, 2015; Belanche et al., 2014), Netherlands (Beldad et al., 2012; Grimmelikhuijsen, 2010), Canada (Parent et al., 2005), United State of America (Welch et al., 2005; Morgeson et al., 2011; Tolbert & Mossberger, 2006), and Bahrain (Mahmood, 2019; Mahmood et al., 2019a; Mahmood et al., 2019b). Above all, since this research is focused solely on *e-notifikasi* users as the targeted respondents, this study could assist in producing a new finding as well as adding a new insight to the existing literature since very little work has been implemented to analyze the information and communication technologies combination in healthcare sector especially in Malaysia as noted by Lee et al., (2012). To date, this study can be considered as pioneer in investigating the relationship between e-government and

public trust targeted specifically on *e-notifikasi* users as the respondents in Malaysian context.

Secondly, the extension conceptual model used in this study also can be deliberated as a novel contribution to this research. Therefore, the present conceptual model can be employed for future reference, especially for prospective researchers who also plan to investigate the impact between all the variables involved as in the current study. The framework can also be used by other practitioners, policy makers, as well as the government to fully comprehend the possibility of using e-government activities such as e-service quality and public administration communication, the mediator role of attitude towards e-government, and the moderator role of gender with the purpose of enhancing trust in public administration.

Next, to correspond with the inconsistent results from past works on e-government and trust relationship as noted by past scholars, the study proposed attitude towards e-government as a possible variable that can mediate the relationship between e-service quality and trust in public administration as well as the relationship between public administration communication and trust in public administration. The employment of attitude toward e-government as the mediator variable was also led by a few reasons, and one of them is the scarcity of researches that investigated this variable as a mediator in the study of e-government and trust, particularly studies that considered trust the focus of the study. Therefore, the current study provided another significant outcome as it broadened the insight of this mediator variable into the existing body of knowledge. At the same time, this study also offered an empirical explanation of the impact of attitude towards e-government in enhancing the relationship between the independent and dependent variables involved.

Lastly, with the inconsistent results of past researches on e-government and trust in public administration, this study suggested the role of gender as a variable that possibly moderated the relationship between e-service quality and trust in public administration, as well as public administration and trust in public administration. Hence, through examining the moderating effects of gender between the relationships mentioned, this study also added to the existing body of work by understanding sexual differentiation and how it affects their perception of e-service quality and public administration communication, and their trust in public administration.

1.7   Research Setting and Scope

The current research chose Malaysia as the geographical setting and focused this study on the spesific public e-service which is the *e-notifikasi* system users. The selection was decided based on a few reasons.

Firstly, the framework of the current study was adapted and extended to a Malaysian setting since Carter and Weerakkody (2008) had justified that cultural difference could affect the implementation of e-government. In this instance, the implementation of e-government could influence how the citizen perceived e-government activities as well as it association with their trust level towards public administration. Moreover, Belanche and Casalo (2015) have also suggested that a study in a different setting with cultural differences and nationalities might result in a difference in outcome. Therefore, this idea became a direction for this study to be implemented in Malaysia as a location.

Secondly, with the realisation of the importance of the healthcare sector to the country, the study catered the users of *e-notifikasi* as respondents. The importance of

this sector was evidents the government's increasing yearly budget allocation for this particular sector. For example, in Malaysia's 2016 annual budget, the government of Malaysia allocated approximately RM 23.3 billion for this sector, and the amount has kept increasing yearly at RM 25 billion (2017), RM26.5 billion (2018), RM29 billion (2019) and RM30.6 billion (2020) (Malaysia Ministry of Finance, 2020). Moreover, little attention had been given by past studies to study the integration of Information and Communication Technology (ICT) particularly in Malaysia's healthcare sector (Lee et al., 2012).

Although this study was implemented to inspect the relationship between all the variables involved from the citizen's point of view, this study decided to gather the information from *e-notifikasi* system's users, a public servants who work with Ministry of Health of the country. They were assigned to record, monitor and control the infectious diseases using this system. The decision was made following the definition of citizen provided by Castelnovo (2013) and Twizeyimana and Andersson (2019). In this case, Castelnovo (2013) described a citizen as a person with a different role in the country. They can be policy makers, public servants, users of public services, tax payers, entrepreneurs, as well as regular citizens. Based on the definition, since *e-notifikasi* users were public servants and users of public service in this context, they can be considered citizens as well. Aside from that, *e-notifikasi* is one of the e-government-related applications available in Malaysia, and since the study intended to examine the research related to e-government activities, thus it was also appropriate for the study to focus on them as a respondent from their experience in handling the system. In this case, even though Roberts, Varki, and Brodie (2003) suggested that the respondents should select public e-services to evaluate e-government experience like study done by Belanche and Casalo (2015) that chose the respondents who have an

experience in using any e-government services provided by Spain government, current study focus solely on the user's experience in handling *e-notifikasi* system. This decision was similar to other study that focus on a spesific public e-services (e.g Tolbert & Mossberger, 2006; Belanche, Casalo, & Guinaliu, 2012; Belanche et al., 2014; Wu & Chen, 2005),

Moreover, the decision to focus on *e-notifikasi* users was directed mainly from the results of the preliminary interview with the Public Health Physician, Head Information and Documentation Sector in Disease Control Division under the Ministry of Health, Malaysia on 20th February 2017. Based on the interview, the implementation of *e-notifikasi* seemed to have some issues. Some of the issues occurred were related to the *e-notifikasi* system, such as when there were server failures and could not be accessed by the user. There were also problems from the users of the system themselves, namely a delay in notification of cases into the system. On top of that, Choon (2013), in the study investigating user acceptance of *e-notifikasi* using Technology Acceptance Model (TAM), also discovered the lack of *e-notifikasi* usage since it was launched. The statement by Choon (2013) supported the information from a published document by Jabatan Kesihatan Negeri Kelantan in 2011. In this document, it stated that there was the issue with measles, an example of an infectious disease that needed to be notified in the system. However, it had not been notified into the system within the given period of time (Niu Sue, 2011).

Likewise, incomplete cases and late investigation of the cases were also among the issues related to users of *e-notifikasi* as highlighted in that published document. The issues worsened when the same matters were also discovered from an interview with an informant who worked within the Ministry of Health and was directly involved with *e-notifikasi* systems. In this case, despite the spread of the

infectious diseases is still widespread, as noted by Mokhtar, Rahman, Haron and Rahman (2020) and need a proper attention from the responsible parties to control it, the problem with late notification of infectious diseases was still happened. This can be seen through the cases reported in the deparment where the informant worked. The cases are currently is in the prosess of prosecution. Since the issue is strictly confidential, the name of the informant has been kept confidential. Thus, it was believed that the study focusing on *e-notifikasi* users's level of trust towards public administration was important. In this case, more need to be discovered as there was a possibility that issues related to poor performance like this happened due to a link to the respondent's trust, since trust was discovered by past studies to have a positive association with job performance (Salamon & Robinson, 2008; Brown, Gray, McHardy & Taylor, 2015; Singh & Desa, 2018).

With the few issues related to the users of the system as highlighted in the previous paragraph, a study that focused on the users of the *e-notifikasi* system was deemed relevant. It was worthy to discover the outcome of this study, whether the issue that occured related to *e-notifikasi* users had an association with the users's level of trust towards the government administration. This is because in order to maintain the country's health status and its ability to provide quality health services to the public, it needed the cooperation from all parties. In this case, WHO (n.d, para. 2) has highlighted that *"Ministry of Health are important actors but so are other government department, donor organizations, civil society groups and communities themselves"*. On top of that, it was also believed that in order to thoroughly investigate whether the implementation of e-government can help to increase the level of trust towards public administration on a national level, the initial step should start with a specific group

such as *e-notifikasi* users. Thus, with all the reasons provided, it was appropriate for this study to focus on them as the scope of the study.

Accordingly, the *e-notifikasi* users who worked in the district health offices of five selected states in Malaysia which are Selangor, Federal Territory of Kuala Lumpur and Putrajaya, Johor, Sabah, and Sarawak were selected. They were selected based on two primary requirements set for this current study, which were having the highest number of infectious diseases reported between 2009 to 2016 and having recorded the highest numbers of *e-notifikasi* users compared to other states. In this regards, the statistics of the infectious disease were retrieved from *Penerbitan Utama KKM - Laporan Petunjuk Kesihatan Tahunan* provided in the website by Ministry of Health, Malaysia while the total number of the *e-notifikasi* users recovered from Disease Control Division of the Ministry of Health of Malaysia.

1.8 Operational Definition of the Key Variables

1.8.1 Public Administration

Even though Kernaghan (2015) posited that there was no generally accepted definition for public administration, Denhardt, Denhardt, and Blanc (2013) described public administration as the one responsible for managing public programmes while Macqueen (1935) defined public administration as the administration of government operations centrally or locally. On the other hand, Gayu (2011) defined public administration as the focus primarily on the management of government policices and programmes, as well as the conduct of public administrators who were usually are not selected through election. As for this study, the definition by Denhardt et al., (2013)

was adopted to describe the meaning of public administration in this research's context.

1.8.2 Trust

Offe (1999, p.47) *defined trust as the beliefs concerning the action that is to be expected from others. The beliefs in this case refer to probabilities that the other party will do certain things or refrain from doing certain things, which in either case affects the well-being of the holder of the belief, as well as possibly the well-being of others or relevant connectivity*. Dumouchel (2005) on the other side defined trust as the act of an individual in such a way as to give another individual power over them. Whereas Ba and Pavlou (2002) explained trust as the subjective evaluation done by one party that another party will perform according to their desires in a specific transaction and environment characterised by instability. In this context, level of trust is measured by focusing on the citizen's belief of overall trust in public administration. This followed Belanche and Casalo (2015), Belanche et al., (2014), Carter and Belanger (2005); Belanger and Carter (2008), and Welch et al., (2005).

1.8.3 E-government

According to Koh, Prybutok, and Zhang, (2008), e-government can be explained as a prominent strategy to change the government's administrative activities into one action to increase the quality of service delivery and decentralisation in public administration. On the other hand, Sprecher (2000) highlighted e-government as any means of technological innovation employed to disentangle and improve the exchanges among governments and its different users such as the constituents, businesses, and other government organisations. Meanwhile, e-government was

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defined by West (2004) is the medium where the information and services offered by the government were provided through the internet or any other digital platform. This definition proposed by West (2004) was used to define e-government throughout this study. Meanwhile, in the current study, the relationship between e-government and trust in public administration was measured based on two e-government activities, which were e-service quality and public administration communication. These variables were based on the original idea proposed by Belanche & Casalo (2015).

1.8.4   E - service quality

Zeithaml, Prasuraman, and Malhotra (2000) defined e-service quality as the extent to which the website helped in providing more efficient and effective shopping, purchasing, as well delivery of product and service experience to the customer. Whereas Rust & Oliver (1994) identified e-service quality as one of the key driving forces for sustainability of a business, and found it important to the firm's accomplishment. Parasuraman et al., (2005) indicated e-service quality was the best approach to evaluate e-service and commonly reflected the components such as efficiency, privacy, fulfilment, and system availability. Despite the varied scale of measurement used in previous researches to measure the quality of e-services, in this research, the study employed the scale measurement for e-service delivery introduced by Parasuraman et al., (2005) which was E-S-QUAL and its dimensions to define what e-service quality meant, namely efficiency, privacy, fulfilment, and system availability. The definition of the dimensions of E-S-QUAL were described in the following table.

Table 1.1:   Definition of E-S-QUAL dimensions

E-S-QUAL dimensions	Definition
Efficiency	Refers to the ease of use, and speed of accessing and using the site.
Privacy	Refers to the level to which the site is safe to be used and keeps customers' information
Fulfilment	Refers to the accurate display and description of the information so that what users receive is what they thought they ordered, and delivery of the right information within the period promised.
System availability	Refers to the correct technical functioning of the site.

Source: Parasuraman et al., (2005, p.8) and Wolfinbarger and Gilly (2003, p. 193)

1.8.5   Public Administration Communication (PAC)

Belanche and Casalo (2015) defined Public Administration Communication as the governmental communication actions directed toward citizen's awareness, knowledge, or perception of convenience of e-government services, such as governmental campaigns to promote the advantage of an e-tax payment and its use. PAC might influence trust in public organisations since the messages conveyed through PAC can be used by the citizen not only to shape beliefs about public e-services, but also about public administration because it focused on the public rather than self-interests (Belanche & Casalo, 2015). Similar to the commercial communication in profit oriented area, other scholars such as Bauer, Reichardt, Barnes, and Neumann (2005) referred public administration communication as a instrument used to deliver the influential information related to e-services. In this study, the research used the definition of public administration communication by Belanche and Casalo (2015) to define PAC.

1.8.6   Attitude towards e-government

There have been numerous definitions and meaning of attitude that had been defined by past scholars. For instance, Thurstone (1931) and Jain (2014) described attitude as a sense of like or dislike towards an objects. Fishbein and Ajzen (1975) posited attitude as the evaluation of the object by the individuals, while Kraus (1995) refers attitude as a continuing psychological construct used in numerious consumer behavior model, theories, and empirical studies. In addition Hoyer, MacInnis, and Pieters (2013) signified attitude as a continuing assessment of an object, issue, activity, or event, whereas Shaver (1977), cited in Belanche and Casalo (2015) mentioned citizen attitude as an *affective-evaluative predisposition to respond favourably or unfavourably toward an object or a target* (p.4). Meanwhile, attitude toward e-government were defined as an individuals inclination to react in a positive or negative way towards the website (Chen and Wells, 1999; Limbu, Wolf & Lunsford, 2012). As for this study, the definition of citizen's attitude towards e-government which was the mediator variable in this research is defined based on the definition given by Chen and Wells (1999) and Limbu et al., (2012). Meanwhile, it should be noted that attitude towards e-government in the current study represented the attitude towards the *e-notifikasi* system.

1.8.7   Gender

Gender was the proposed moderator variable for the current study. Gender was described by Al-Shafi and Weerakkody (2010) as a hierarchical separation between women and men embedded in both social institution and social practice. Meanwhile, the World Health Organization (WHO) defined gender as the socially constructed characteristics of women and men, such as norms, roles, and relationships of and

between groups of women and men. According to WHO, gender differed from one society to another, and it can be changed (World Health Organization, n.d). It consisted the beliefs about the physical appearance, capabilities and likely behaviours of both women and men (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2003).

1.9   Thesis structure

Chapter One: Introduction

This chapter presented an overview of the research, the background of the study, the problem statement as well as the research gap that led to the implementation of this research, research questions, research aims, and research objectives. This chapter also covered the significance of this research, research scope, research limitations, and definitions of key terms used in the study.

Chapter Two: Literature Review

Chapter Two covered the review of literature from past studies that were related to this one. This chapter started with an overall overview of the chapter and continued with the overview of trust in public administration. The chapter then continued with the overview of e-government, which was divided into two parts; e-government in global perspectives and Malaysian perspective respectively. The review of the relationship between e-government and trust in public administration were then uncovered in the following sections. This chapter continued with the elaboration of *e-notifikasi*, the example of e-government application available in Malaysia as the users of this system were targeted as the respondents of this study. The discussion of the