

**FACTORS INFLUENCING INTENTION TO USE
TAX E-FILING SYSTEMS: A STUDY ON
TAXPAYERS IN WEST MALAYSIA**

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**FACTORS INFLUENCING INTENTION TO USE TAX
E-FILING SYSTEMS: A STUDY ON TAXPAYERS IN
WEST MALAYSIA**

By

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**FAKTOR-FAKTOR YANG MEMPENGARUHI NIAT UNTUK
MENGUNAKAN SISTEM E-FILING CUKAI: SATU KAJIAN KE ATAS
PEMBAYAR CUKAI DI BARAT MALAYSIA**

ABSTRAK

Sejak kebelakangan ini, pelbagai manfaat teknologi maklumat telah dinikmati hasil usaha Kerajaan Malaysia dengan menaiktaraf perkhidmatan melalui kerajaan elektronik (E-government). Walaupun sejumlah besar dana telah dilaburkan dalam inisiatif E-kerajaan, namun kadar penggunaan dikalangan rakyat masih tidak seperti yang diharapkan. Sistem cukai e-filing merupakan salah satu perkhidmatan e-kerajaan yang kritikal kerana membantu pembayar cukai untuk memfailkan pulangan elektronik mereka setiap tahun sejak 2006. Penerimaan rakyat terhadap sistem cukai e-filing telah memainkan peranan yang penting bagi menentukan kejayaan sistem ini. Oleh itu, wujud satu keperluan untuk meramal faktor pendorong pengguna menggunakan sistem ini. Tinjauan telah dijalankan di kalangan pembayar cukai di Malaysia dengan tujuan untuk menyiasat hubungan antara persepsi keselamatan, persepsi peribadi, persepsi kualiti perkhidmatan, e-amanah, ke mesra alam dan keadaan yang memudahkan pembinaan teori asal gabungan Model Penerimaan Teknologi-Teori Tingkahlaku Terancang. Sejumlah 290 responden telah dikumpul dari lima bandar-bandar utama di Malaysia dianalisis dengan menggunakan Pemodelan Persamaan Berstruktur (Structural Equation Modeling). Hasil kajian yang didapati menyokong semua hipotesis kecuali hubungan antara persepsi kebergunaan dan sikap. Sikap dikaji sebagai pengantara hubungan antara mesra pengguna, e-amanah, persepsi kebergunaan dan persepsi kebolegunaan apabila ingin digunakan. Sikap dijadikan pengantara semua hubungan yang disebut di atas kecuali persepsi

kebergunaan dan persepsi kebolegunaan. Hasil kajian juga menunjukkan bahawa persepsi keselamatan, persepsi peribadi dan persepsi perkhidmatan membentuk e-amanah pengguna dalam konteks e-filing cukai. Selain itu, implikasi penyelidik dan pengamal telah dipersembahkan. Kajian ini melanjutkan literature yang wujud tentang kemudahan e-kerajaan dengan menambahkan faktor mesra alam kepada Model Penerimaan Teknologi Teori Tingkahlaku Terancang, mengkaji pembinaan persekitaran e-amanah dalam cukai e-filing dan menambahkan pemahaman persekitaran sistem cukai e-filing daripada perbezaan hipotesis faktor-faktor sosial dan teknologi.

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ABSTRACT

In recent years, Malaysian government has increasingly benefited from information technology to enhance their services, known as electronic government (e-government). However, despite considerable investment in e-government initiatives, citizens' adoption rate is still low. Tax e-filing system is one of the critical e-government services, which assist taxpayers in filing their tax returns electronically each year since 2006. Since citizens' acceptance of tax e-filing system plays an important role in the success of this system, there is a need to understand the factors that predict the users' intention to use tax e-filing system. This study, conducted a survey among taxpayers in Malaysia, aims to investigate the relationships between perceived security, perceived privacy, perceived service quality, e-trust, environmental friendliness, and facilitating conditions with the original constructs of combined Technology Acceptance Model-Theory of Planned behavior (Combined TAM-TPB). A total of 290 responses from five major states in Malaysia were analyzed in Smart PLS using Structural Equation Modeling (SEM). The results support all the hypotheses developed except the relationship between perceived usefulness and attitude. Attitude is also examined as a mediator for the relationships between environmental friendliness, e-trust, perceived usefulness and perceived ease of use with intention to use. Except for perceived usefulness and perceived ease of use, attitude is shown to be a mediator for all aforementioned relationships. The findings of this study also indicate that perceived security, perceived privacy and perceived service quality form users' e-trust in tax e-filing context. This study

extends the existing literature of e-government services by adding environmental friendliness factor to the combined TAM-TPB model, examines the construct of e-trust in tax e-filing system environment and extends the understanding of tax e-filing system environment by hypothesizing different social and technological factors.

CHAPTER ONE: INTRODUCTION

1.1 Introduction

In recent years, governments have increasingly benefited from information technology (IT) to improve their services which is known as electronic government (e-government). Scholars define e-government as the use of information and communication technology in government services; and particularly, the utilization of internet in order to facilitate the access and delivery of government's information, operations and services. As such, e-government services improve delivery of government services to citizens and organizations via electronic means and IT (T. S. H. Teo, Srivastava, & Jiang, 2008).

The main objectives of e-government initiatives are to build services with main focus on citizens' needs and to provide ease of access to the government services (Saha, 2008). E-government services increase the level of control over users' interactions with government by offering services at their preferred place and time instead of visiting a department at a specific location or a particular time (Kumar, Mukerji, Butt, & Persaud, 2007). As a result, e-government services improve convenience that matters for both government as a service provider and citizens as the service recipients. These services include but not limited to asking a simple question by citizens, paying bills and taxes, receiving payments, downloading documents and many other services. These services mainly aim to give citizens convenient access to the services through internet with no time limits.

Governments all over the world are trying to promote advanced technology and innovation to their citizens. Nowadays, one of the main concerns in internet-

based industries is to achieve advanced internet capabilities and higher speed. The address capacity of Internet Protocol version 4 (IPv4) which is being used now will soon be exhausted. Therefore, governments need to offer their services through a new internet protocol to cover all their users. Internet protocol version 6 (IPv6) has been introduced to generate a new prospect of business opportunities for all ICT sectors and departments. The government will take the lead in migrating to IPv6 and provide their services in both IPv4 and IPv6 in order to cover all their citizens. In addition to that, governments by introducing the Next Generation (NGI) initiative and Internet 2 projects are trying to achieve a goal of attaining the speed which is 100 to 1000 times faster than our current Internet.

Generally, the advantage of developing e-government services can be seen from two different perspectives. From economic perspective, the accessibility of government services without time and location constraints helps to mitigate the cost of transactions which is hidden in all types of government services (K. C. Lee, Kirlidog, Lee, & Lim, 2008). On the other hand, from the technical point of view, e-government can be perceived as utilizing new technology by government to improve simplification and automation of transactions between governments and other parties such as citizens, organizations, businesses or other governments (Chang, 2005; Sprecher, 2000).

According to Chang (2005), a well-established e-government can provide citizens with all the necessary information and transactions required, just like what businesses provide for their customers in e-commerce. Within information systems domain, there are different studies on users' technology acceptance behavior, but

research in e-government acceptance, despite its numerous benefits, is still rare (Anna A. Che Azmi, 2012; Idris, 2012). Increasing the investment in technology and e-government services in recent years, due to its aforementioned benefits, creates the need to understand determinants of citizens' acceptance of such technologies.

In this study, the researcher focuses on tax e-filing system as one of the important e-government services which is particularly of governments' interest because taxes form critical sources of the governments' revenue. As it is emphasized by Azmi and Kamarulzaman (2010), e-filing system for income tax is one of the prominent types of e-government services. E-filing system enables taxpayers to submit their tax returns electronically to the tax authorities (government). In addition, e-filing helps to prevent many mistakes which might occur by taxpayers in manual filing. Moreover, the data warehouse in e-filing allows tax authorities to analyze tax declarations more comprehensively that helps in managerial decision making. On the other hand, having this information, collected in one database, enables policy makers to develop more effective and fairer tax policies (Berdykhanova, Dehghantanha, & Hariraj, 2010).

In recent years, governments all around the world are increasingly utilizing information and communication technology (ICT) to gain benefits in their e-filing services. In Malaysia, Inland Revenue Board of Malaysia (IRBM) is responsible for administering, assessing and enforcing the tax returns. Before IRBM moves towards e-filing on SAS (Self-Assessment System), tax returns were manually collected and processed (MD. Aminul Islam, 2012). Since 10th of February 2006, IRBM has introduced and implemented e-filing system in order to make the process of tax

payment and filing quicker, more accurate, more convenient and more secure for taxpayers.

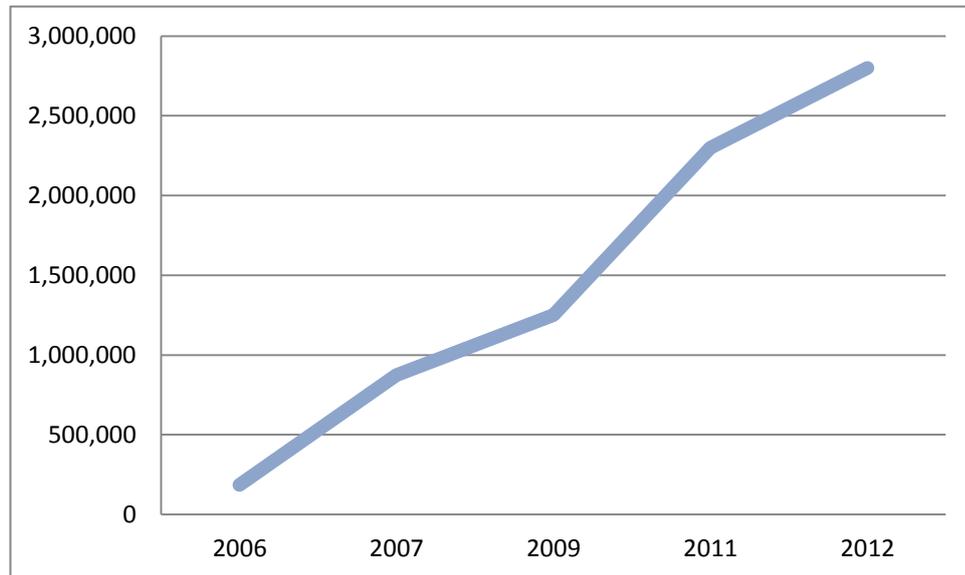


Figure 1-1 The growth of tax e-filing system users in Malaysia based on the annual report from IRBM

According to the latest report which appeared in the Sun newspaper on December 20th 2012, around 2.8 million people had filed their tax returns online in Malaysia in 2012(Loo, 2012). Although, this indicates a growth from 2.3 million participants in 2011(Loo, 2012), 1.25 million participants in 2009 (A. C. Azmi & Bee, 2010; Bernama., 2009), 874,841 participants in 2007 and 186,343 participants in 2006, the acceptance rate of this system is still low in Malaysia and there are rooms to improve (refer to Figure 1.1). According to Bernama (2009), there were 6.4 million eligible taxpayers in Malaysia in 2009 which shows that the users' percentage rate was almost 19%.

A study by Ramayah et al. (2008) emphasize the mentioned issue by reporting that many citizens in Malaysia yet prefer to use traditional way of filing. In another study conducted by United Nations, it is reported that Malaysia ranked 8th in e-government development index in Asia in 2012 and has also taken the 40th slot in the world e-government ranking which shows a fall from 2010 (Chin, 1998). Another example of tax e-filing system is from United States which is a pioneer country in tax e-filing implementation. E-filing was introduced in US in 1990. However, until 2007, 52% of taxpayers used e-filing (An, 2007) which was a slow adoption. This means that even in US, tax e-filing system have fallen short of its goal (Carter, Schaupp, & Evans, 2008).

So far, in Malaysia, IRBM has invested considerable amount of budget for developing e-filing system as one aspect of e-government services. For realizing the real rewards from this investment in e-filing, factors influencing taxpayers' adoption, needs to be investigated by researches and theories regarding this concept need to be developed (K. Azmi, Y., 2010). This research, conducting a survey study, will investigate the important factors affecting tax e-filing system among taxpayers in Malaysia.

1.2 What is E-filing?

E-filing system integrates internet and tax software to collect tax information from taxpayers, calculate it and eventually manage the payments of citizens' tax returns in one system. E-filing system enables taxpayers and tax practitioners to file their income tax returns electronically instead of physically visiting the tax office or

sending the application through mail. This makes the process of filing and payment easier and more comfortable for the users (ETAAC, 2010; Lai, Obid, & Meera, 2004). In addition, it also helps government to manage citizens' tax more efficiently by improving the entire tax filing process and reducing the cost of it for both tax collection agencies and taxpayers (Schaupp, Carter, & McBride, 2010).

In Malaysia, e-filing system has been launched since 10th February 2006 (see Figure 1.2). Basically, the process of e-filing compared to the traditional method is more accurate, faster, convenient and secure. Every user has to follow only few steps which include registration and verification of MyKad and digital signature into the reader. Then, they need to key in their gross earning, deductions and relief before the automated computation of the system. Finally, they need to submit all the information which will be received by IRBM. To confirm, IRBM will send the verification email to the users (Ilias, Razak, & Yaso, 2009; T. Star, 2006).

The screenshot displays the e-HASiL website interface. At the top, the logo 'e-HASiL' is visible with the URL 'https://e.hasil.gov.my'. Navigation links include 'Info E-Filing', 'Hubungi Kami', and 'Laman Utama'. The main content area is titled 'e-Filing : Mudah Tepat Selamat' and outlines a four-step process: 1. Login kali pertama (Gunakan No.PIN untuk daftar Sijil Digital), 2. Login e-Borang (Pilih borang dan isi maklumat), 3. Tandatangan Secara Digital dan Hantar, and 4. Pengesahan Penyermaan. Below this, 'Keperluan Sistem' lists requirements such as No. Cukai Pendapatan, No. PIN, Pentium III and above, Talian Internet, Internet Explorer 5.0 and above, Microsoft Windows 2000 (Service Pack terkini), and Microsoft Windows XP (Service Pack terkini). To the right, 'TARIKH AKHIR Penghantaran Borang dan Bayaran Baki Cukai' lists deadlines: e-BE and e-M on 30 April 2013 (Tiada punca perniagaan), and e-B, e-P, and e-M on 30 Jun 2013 (Ada punca perniagaan). A section for 'e-Filing Data Praisi' includes links for login and activation. At the bottom right, 'm-Filing' is advertised with the URL 'https://mfiling.hasil.gov.my' and an image of a mobile phone.

Figure 1-2 Tax e-filing website in Malaysia (<https://e.hasil.gov.my/>)

In 2011, the sixth year of implementing the system, 1.6 million users have submitted their returns through this service (Santhanamery & Ramayah, 2012). For utilizing this system, users are required to get a digital certificate from the IRBM which is considered as one of the security assurance of the system. In this regard, only users with valid digital certificate have the permission to access their tax filing. The feature of „move back and forth“ between pages also enhances the flexibility of this system. Moreover, the error hints in the website are somehow assisting users to ensure that the errors during key in process are minimized. For example, in the case that taxpayer enters the amount for personal reliefs which exceeds the threshold; the system gives warning. After the form is completed without any errors, the user can submit the form electronically by just one click.

1.3 Background of Study

The rapid growth and change in the political and societal environment, force governments to utilize information and communication technology to deliver their services to the citizens (Schaupp et al., 2010). Since using e-services has numerous advantages such as increasing quality of service and operation efficiency, accountability and accessibility of the system, governments need to encourage citizens to use such services (Saha, 2008; L. Wang, Bretschneider, & Gant, 2005).

The history of utilizing internet technology in tax e-filing systems in order to gain tax compliance and administrative orderliness goes back to 1990s where it was first introduced in the United States (ETAAC, 2010). According to the annual e-government survey that has been done for e-government websites evaluation among 198 countries, Malaysia scored 36.9. However, although this report shows an improvement in the score compared to the 20.8 in 2005, it is still unsatisfactory. Up to date, Malaysian e-government offers more than 3000 downloadable forms and more than 1000 online services. Among these services, the electronic tax filing is one of the most important e-government initiatives in Malaysia (A. C. Azmi & Bee, 2010).

In August 1996, establishment of Multimedia Super Corridor (MSC) was a major strategy and effective movement toward information age in Malaysia. In the same year, e-government was planned as one of the seven flagship applications with the aim of offering different services to benefit Malaysian citizens, businesses and the government itself. Seven pilot projects which are identified as the core of e-government projects were Project Monitoring System (PMS), Human Resource

Management Information System (HRMIS), Electronic Procurement (EP), Electronic Service Delivery (E-Services) such as tax filing, Electronic Labour Exchange (ELX), Generic Office Environment (GOE) and E-Syariah (Shafie, 2007). The objectives of these flagship applications were to become a regional hub for multimedia innovation, to improve national competitiveness, achieve Vision 2020 goals and eventually convert Malaysia into a knowledge-economy country (Ambali, 2009b).

Table 1.1 shows the Government E-Payment Adoption Ranking (GEAR) from the research conducted by the Economist Intelligence Unit. This research evaluated 62 countries in 2011 to measure the extent to which countries offer fundamental government electronic payment services with the online platform. In the Asian countries category, South Korea was ranked in 5th (88.6), Singapore in 7th (88.3), and Taiwan in 13th (84.4). As it can be seen from this ranking, government of these high-ranked countries, have paid more attention to the development of their electronic payment and online services in recent years. The report ranked Malaysia in 29th (69.3) in the world (Hurst, 2012) which indicates the potential improvement that can be made to reap the real benefits of e-services" utilization provided by the government.

Table 1-1 The overall rankings and scores of government e-payment adoption ranking (Hurst, 2012)

Rank	Country	Score	Rank	Country	Score	Rank	Country	Score
1	United States	93.6	11	France	86.0	21	Japan	78.5
2	United Kingdom	91.6	12	Netherlands	85.0	22	Spain	78.1
3	Norway	91.0	13	Taiwan	84.4	23	Italy	78.0
4	Germany	89.3	14	Czech Republic	82.8	24	Turkey	74.6
5	South Korea	88.6	15	Hong Kong	82.7	25	New Zealand	73.5
6	Australia	88.5	16	Canada	82.5	26	Chile	72.2
7	Singapore	88.3	17	Ireland	81.3	27	Mexico	72.1
8	Austria	88.2	18	Israel	80.5	28	Brazil	71.7
9	Denmark	87.6	19	Finland	80.1	29	Malaysia	69.3
10	Sweden	86.4	20	Hungary	79.1	30	Philippines	64.2

Ghasemzadeh and Safari (2002) discuss various objectives of e-government as follows; to improve delivery of government services to the public, to empower citizens by providing easy access to information, to improve interactions with industries and businesses, and to enhance the efficiency of government management. These benefits have direct effect on decreasing corruption, improving transparency, increasing convenience and reducing administrative and operational costs (Irani, Love, Elliman, Jones, & Themistocleous, 2005). However, despite worldwide general interest toward e-government, its realized benefits are far behind its potentials. This problem is even more tangible in developing countries, where e-Government initiatives success rate fall short of approximately 15 percent of the expected desirable outcomes (Heeks, 2003).

1.4 Problem Statement

E-government initiatives have proven to be extremely expensive operations but not yet successful (Schaupp et al., 2010). Despite many benefits of tax e-filing system for government and citizens, the implementation of these projects are accompanied with major challenges mainly due to citizens' low intention to use. There are many evidences that relate system failure to low rate of usage and many studies found taxpayers' resistance to use tax e-filing systems as a major impediment of system success (Chang, 2005; Tan Chee-Wee, Shan-Ling, & Lim, 2005; ETAAC, 2010; Hung, Chang, & Yu, 2006; Lai & Choong, 2010).

E-government initiatives in many developing countries are still in their infancy stages. The success of these initiatives not only depends on governments' support but also the adoption of these services by citizens (AlAwadhi & Morris, 2008; Carter & Belanger, 2004). In the context of developing countries the issue of acceptance rate is more severe, because among all e-government initiatives only 15% of them have been successful in achieving their major goals (T. S. H. Teo et al., 2008).

In Malaysia, the tax e-filing system is one of the most important e-government services which have been initiated since 2006. So far, several studies such as Lai, Normala, and Kameel (2005) and Lai and Choong (2010) emphasized that tax e-filing system is far behind its target in Malaysia. Inland Revenue Board Malaysia (IRBM) as tax authority has invested a huge amount of money and resources to implement the tax e-filing system in order to provide taxpayers a convenient way for their tax assessments and payment.

In a very recent study conducted by United Nations (see Table1.2), it is somewhat noteworthy that Malaysia ranked 8th in e-government development index in Asia in 2012 and has taken the 40th slot in the world e-government ranking which shows a fall from 2010 which Malaysia was on 32th (Chin, 1998). Therefore, as emphasized by Kamarulzaman and Azmi (2010), investigating the factors affecting intention to use tax e-filing system among taxpayers plays an important role in preventing the failure of these systems and can contribute to the success of this project to reap the real benefits of these investments.

Table 1-2 E-government leaders in Asia (Nations, 2012)

Rank	Country	E-government development index		World e-government development ranking	
		2012	2010	2012	2010
1	Republic of Korea	0.9283	0.8785	1	1
2	Singapore	0.8474	0.7476	10	11
3	Israel	0.8100	0.6552	16	26
4	Japan	0.8019	0.7152	18	17
5	United Arab Emirates	0.7344	0.5349	28	49
6	Bahrain	0.6946	0.7363	36	13
7	Kazakhstan	0.6844	0.5578	38	46
8	Malaysia	0.6703	0.6101	40	32
9	Saudi Arabia	0.6658	0.5142	41	58

10	Cyprus	0.6508	0.5705	45	42
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In addition, there is a lack of empirical studies on users' acceptance with regard to e-government services worldwide particularly in the context of Malaysia and tax e-filing system (Idris, 2012; Saha, 2008; Suki & Ramayah, 2010; L. Wang et al., 2005). Therefore, it gave rise to the question that "what are the factors affecting intention to use tax e-filing in Malaysia?" to be studied and answered.

Although these systems provide convenience, accuracy and time saving for the services, citizens might encounter various difficulties associated with unfamiliarity with these systems. The low users' intention can be from many reasons such as their unfamiliarity with these kinds of systems, their indirect communication with tax personnel, and also the extra effort that is needed for learning how to use the system (K. Azmi, Y., 2010).

In addition, issues such as lack of privacy, security, service quality and flaws on performance of the system, need to be considered otherwise they will endanger users trust (Chin, 1998). If tax authorities are not able to overcome these challenges and issues in providing tax e-filing system, taxpayers might not be willing to redirect their filing to the tax e-filing system (K. Azmi, Y., 2010). As emphasized by Schaupp (2010), users' acceptance does not necessarily depend on the design of the system but it also depends on the extent to which the system meets the users' requirements.

Over the last few decades, concerns about environmental issues have progressively increased among consumers (Kalafatis, Pollard, East, & Tsogas, 1999; Laroche, Bergeron, & Barbaro-Forleo, 2001). These concerns are due to the environmental disasters which are mainly caused by the usage of environmental unfriendly services and products (Easterling, Kenworthy, & Nemzoff, 1996). Star newspaper has reported the increase in paper consumption over the years in Malaysia (about 380,000 tons of paper every year as well as 115 billion sheets of paper for the computer usage) (Star, 2009). Recycling 1 short ton (0.91 t) of paper brings many benefits for the world such as saving 17 mature tree, 2 barrels of oil, 3 cubic yards of landfill space, and 4100 kilowatt-hours (15GJ) of electricity which is enough to supply the energy to power the average home for almost six months (Sea Malaysian Newsprint Industries, 2007).

Given the fact that online systems benefit environment in many ways and considering the environmental-friendly aspects of any online-based services, environmental aware users are likely to utilize this kind of services which favor their environmental friendliness attitude (Umberson, 2008). Considering the importance of this issue, this study also investigates the role of environmental friendliness on intentions to use tax e-filing system.

The research problem can be summarized as below:

- Low adoption rate of these services by citizens in Malaysia (Lai & Choong, 2010).
- Far behind its target (Malaysian Vision 2020)(Lai & Choong, 2010).

- Fall in ranking this year in e-government development index (Nations, 2012).
- Lack of empirical studies in e-government adoption and particularly in tax e-filing (Suki, Sabah, & Ramayah, 2010).

1.5 Research Objectives

This research will fulfill the following objectives:

- To identify the factors that affect intention to use tax e-filing system among taxpayers in Malaysia
- To investigate the following relationships incorporating the combined Technology Acceptance Model (TAM) -Theory of Planned Behavior (TPB) model:
 - a) The relationships between perceived security, perceived privacy, and perceived service quality toward e-trust
 - b) The relationships between environmental friendliness, e-trust, perceived usefulness, and perceived ease of use toward attitude
 - c) The relationships between facilitating conditions and perceived behavior control
 - d) Investigating the mediating role of attitude in the relationships of environmental friendliness, e-trust, perceived usefulness, and perceived ease of use toward intention to use.
 - e) The relationships between attitude, subjective norms and perceived behavioral control toward intention to use.

1.6 Research Questions

To achieve the objective of the study, the following research questions are proposed:

- a) What are the factors that affect intention to use tax e-filing system among taxpayers in Malaysia?
- b) Do perceived security, perceived privacy, perceived usefulness and perceived service quality have positive impact on e-trust?
- c) Do environmental friendliness, e-trust, perceived ease of use, and perceived usefulness have a positive effect on users' attitude toward tax e-Filing system among taxpayers in Malaysia?
- d) Do facilitating conditions have positive effect on perceived behavioral control?
- e) Does attitude mediate the impact of environmental friendliness, e-trust, perceived usefulness and perceived ease of use on intention to use tax e-filing system among taxpayers in Malaysia?
- f) Do attitude, perceived behavioral control and subjective norms have positive effect on intention to use tax e-filing system among taxpayers in Malaysia?

1.7 Significance of the Study

The significance of this study emanates from its expected theoretical contributions to knowledge and practical contributions to government and policy makers as follows.

1.7.1 Theoretical Contributions

Due to the increasing importance of utilizing information and communication technology (ICT) in government services and particularly in collection of taxes recently, this research is timely for extending the understanding of this matter. Many

scholars emphasized the significance of conducting research to investigate the factors that influence intention to use tax e-filing systems. For instance, AlAwadhi and Morris (2008) and Carter and Belanger (2004), argued that one of the main challenges of tax e-filing system is increasing the adoption of these services among citizens.

Although there is a general agreement on the importance of tax e-filing system as a new dimension of e-government, limited studies have been conducted in the context of tax e-filing system, particularly in developing countries. In addition, this study extends the combined TAM-TPB model in tax e-filing environment. On top of that, this study also integrates the factor of environmental friendliness in the online technology context for the first time.

1.7.2 Practical Contributions

In terms of practical contributions, these kinds of studies would help system developers to assess their capabilities in delivering such services. This study can provide critical understanding for government and policy makers to identify factors that influence taxpayers' intention to use tax e-filing system in Malaysia. Since the usage of tax e-filing system is completely voluntary, the result of this study would add value to future government plans and strategies to improve the usage level of tax e-filing system.

1.8 Definition of the Key Terms

1.8.1 E-government

E-government has been defined as the utilization of information and communication technology (ICT) and internet for delivering government services to stakeholders (Lambrinouidakis, Gritzalis, Dridi, & Pernul, 2003; Srivastava & Teo, 2007). E-government website is basically a medium to serve citizens, business and government agencies in an optimized way (Al-Rashidi, 2010).

1.8.2 Tax E-filing System

Tax e-filing system integrates internet and tax software to collect tax information from citizens, calculate it and eventually manage the payments of citizens in one system. E-filing system enables taxpayers and tax practitioners to file their income tax returns electronically rather than physically visiting the tax office or through mail. This makes the process of filing and payment easier and more comfortable for the users (ETAAC, 2010; Lai et al., 2004).

1.8.3 Technology Acceptance Model (TAM)

TAM suggests that when a new technology, for instance a new software package or website services presented to the users, a number of variables would affect users decisions to use and adopt that particular system. There are two major variables namely perceived ease of use and perceived usefulness (Davis, 1989) which are proposed to be fundamental determinants of user intentions to use.

1.8.4 Perceived Ease of use

Perceived ease of use is defined as the degree to which a person believes that taking advantage of a particular system would be hassle free (Davis, 1989).

1.8.5 Perceived Usefulness

Perceived usefulness is defined as the degree to which a user believes that using a new technology would enhance his/her performance (Davis, 1989).

1.8.6 Theory of Planned Behavior (TPB)

TPB is proposed to investigate and illustrate human behavior patterns such as leisure activities. TPB encompasses three main factors namely attitude, subjective norms and perceived behavioral control which are predictors of behavioral intention followed by actual behavioral (Ajzen, 1991).

1.8.7 Attitude

Ajzen and Fishbein (2000) define attitude as an individual's level of favorableness and unfavorableness feeling to an object.

1.8.8 Perceived Behavioral Control

Perceived behavioral control is defined by Ajzen (1991) as the reflection or the self-estimation of human beliefs toward the opportunities and resources which are needed to accomplish a behavior.

1.8.9 Subjective Norms

Subjective norms is defined by Fishbein and Ajzen (1975, 1980) as the degree to which an individual believes that others (significant referents) around him/her who are important in his/her life think that he/she should (or should not) perform a specific behavior.

1.8.10 The Combined TAM-TPB Model

The Combined TAM-TPB model (C-TAM-TPB) employs TPB together with TAM to enhance the predictive power of the model which helps to better understand usage intention (Taylor & Todd, 1995).

1.8.11 Environmental Friendliness

Psychological responses of humans as individual consumers toward the environment are titled as “environmental friendliness attitude” (Gagnon Thompson & Barton, 1994; Wesley Schultz, 2001).

1.8.12 E-trust

E-trust refers to the online consumers’ beliefs and expectations regarding the trust-related characteristics of the online service provider (Gefen, Karahanna, & Straub, 2003).

1.8.13 Perceived Security

Perceived security refers to the protection of the systems or information from attacks which aim to break down the system and steal the information (Berdykhanova et al., 2010; McLeod & Pippin, 2009).

1.8.14 Perceived Privacy

Perceived privacy is defined by Jarvenpaa and Todd(1996) as “the possibility that online companies collect data about individuals and use them inappropriately”.

1.8.15 Perceived Service Quality

Perceived service quality reflects the subjective evaluation of consumers between the actual quality of service they received and what they expect (Pitt, Watson, & Kavan, 1995).

1.8.16 Facilitating Conditions

Venkatesh, Morris, Davis, & Davis(2003) defined facilitating conditions as “the degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system”.

1.9 Organization of Chapters

The thesis is organized as follows:

Chapter one is introductory chapter aims to provide general idea about the research problem, background of study, objectives, theoretical and practical contributions.

Chapter two provides a comprehensive literature review that explains electronic government and tax e-filing system, and clarifies their drivers, and the utilized theories in this study. At the end of chapter two, the research model and proposed hypotheses will be discussed.

Chapter three describes research method that includes research design, specifying population of sample, and developing measures and scales for the variables of the study. The chapter then explains questionnaire design and statistical technique to be used in analysis.

Chapter four reports the results of data analysis which were conducted via SmartPLS.

Chapter five drives conclusion based on results from data analysis and provides discussion of the results and implications for practitioners, policy makers and researchers. In addition, the chapter presents limitations of the study and suggestions for future research.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter reviews previous studies related to the topic for intention to use tax e-filing system. The chapter includes theories and comprehensive discussion about tax e-filing system and most important factors influencing intention to use of this system. In addition, this study examined the mediating effects of attitude in the relationships of perceived usefulness, perceived ease of use, e-trust and environmental friendliness with intention to use. Moreover, in this study the effect of service quality, security and privacy on e-trust will be investigated.

2.2 Electronic Government (E-government)

The concept of Electronic government was initiated since the early 1990s (HO, 2002). E-government has been defined as the utilization of information and communication technology (ICT) and internet for delivering government services to stakeholders (Lambrinouidakis et al., 2003; Srivastava & Teo, 2007). E-government website is basically a medium to serve citizens, business and government agencies in an optimized way (Al-Rashidi, 2010).

Different scholars have defined e-government differently. Generally, the notion of e-government definitions is the online application of government operation initiatives (Cohen & Eimicke, 2002; Jorgensen & Cable, 2002). The most recognized definition of e-government has been proposed by West (2000) as the way in which government delivers information and services through the media of internet. This study also uses this definition. Previous research studied e-government from different perspectives such as public administration management (Commission, 2003),

transparency issues (Moon, 2002), and also efficiency (Carter & Bélanger, 2005). This study will look at the acceptance of tax e-filing system as one of the most important e-government services.

E-government activities are categorized into three categories; which include Government-to-Citizen (G2C), Government-to-Government (G2G) and Government-to-Business (G2B) (Brown & Brudney, 2001). However, e-government services mostly address citizens' needs. So far, despite allocating lots of resources to implement these initiatives, the success rate was low due to the reluctance of citizens in using these services (Heeks, 2003). Therefore, to better understand e-government usage behavior, it is aspiring to explore key factors that affect citizens' intention to adopt these services (belanche, casalo, & flavian, 2009).

2.3 E-government in Malaysia

Seeking to enhance accessibility, convenience and quality of communications and interactions with citizens and businesses, Malaysian government initiated the project of implementing e-government in 1996 by Multimedia Super Corridor (MSC). These e-government systems also help governments to improve information flow and processes, improve coordination, and enhance the speed and quality of policy development. All these advantages of e-government systems will lead to more responsive government (Suki & Ramayah, 2010).

In Malaysia, e-government flagship has been designed with seven main projects known as the heart of the Malaysian government applications. These E-government projects include Project Monitoring System (PMS), Electronic