Factors Influencing E-Filing Usage Among Malaysian Taxpayers: Does Tax Knowledge Matters?

(Faktor-faktor yang Mempengaruhi Penggunaan E-filing dalam Kalangan Pembayar Cukai Malaysia: Perlukah Ada Pengetahuan Cukai?)

Affiza Mohd Tallaha
(Astin College, Malaysia)
Zaleha Abdul Shukor
Norul Syuhada Abu Hassan
(Faculty of Economics and Management, Universiti Kebangsaan Malaysia)

ABSTRACT

The present study investigates whether tax knowledge influences the level of intention of individual taxpayers to use E-filing after four years of its implementation (2006 to 2009) in Malaysia. The study examines factors that might influence taxpayers' level of intention to use E-filing based upon the theoretical framework of technology acceptance model (TAM); the theory of planned behavior (TPB); and the concept of tax knowledge. The survey was conducted on 228 individual taxpayers within the city of Kuala Lumpur in 2011 and shows that respondents have a high level of intention to use E-filing (4.34 out of 5). Empirical findings show that perceived usefulness, perceived ease of use and perceived subjective norms are positively associated, but perception on behavioral control and tax knowledge are not significantly associated with taxpayers' intention to use E-filing. Since the Inland Revenue Board Malaysia (IRBM) is currently promoting the use of E-filing, the results may assist the IRBM to plan a more effective strategy of promoting E-filing usage among individual taxpayers in Malaysia.

Keywords: E-filing; technology acceptance model; theory of planned behavior; tax knowledge

ABSTRAK

Kajian ini bertujuan mengenalpasti sama ada pengetahuan cukai boleh mempengaruhi tahap kecenderungan pembayar cukai individu untuk menggunakan E-filing setelah empat tahun pelaksanaannya (2006 hingga 2009) di Malaysia. Berdasarkan kerangka teori model penerimaan teknologi (TAM), teori tingkah laku terancang (TPB), dan konsep pengetahuan cukai, kajian ini menyelidik faktor-faktor yang mungkin mempengaruhi tahap kecenderungan pembayar cukai untuk menggunakan E-filing. Kaji selidik terhadap 228 pembayar cukai individu di bandaraya Kuala Lumpur pada tahun 2011 menunjukkan responden mempunyai tahap kecenderungan yang tinggi untuk menggunakan E-filing (4.34 daripada 5). Dapatan empirikal menunjukkan tanggapan kebergunaan, tanggapan mudah digunakan dan tanggapan norma subjektif berhubung secara positif, namun tanggapan kawalan tingkah laku dan pengetahuan cukai tidak menunjukkan hubungan signifikan, dengan kecenderungan pembayar cukai untuk menggunakan E-filing. Memandangkan Lembaga Hasil Dalam Negeri Malaysia (LHDNM) sedang giat mempromosi penggunaan E-filing, dapatan kajian mungkin boleh membantu LHDNM untuk merancang strategi yang lebih efektif untuk meningkatkan penggunaan E-filing dalam kalangan pembayar cukai individu di Malaysia.

Kata kunci: E-filing; model penerimaan teknologi; teori tingkahlaku terancang; pengetahuan cukai

INTRODUCTION

Tax is a source of income for governments to ensure continuous economic development within the country. Being the entity that collects direct taxes for the government, the Inland Revenue Board of Malaysia (IRBM) has the responsibility of maximizing the collection of taxes for the benefit of the country. The IRBM introduced the Self Assessment System (SAS) in 2004 for individual taxpayers. Under the SAS, the burden of tax management has been transferred from the IRBM to the taxpayers, whereby taxpayers are fully responsible to calculate, determine, file and pay their income taxes. The aim of the SAS is to reduce the processing costs for tax collection; to

increase tax compliance; and to increase the effectiveness of tax enforcement through the overall enhancement of the tax administration system (IRBM 2007).

Since the tax burden has been transferred directly to the taxpayers, the IRBM tries their best to provide a proper channel to ease the tax management of the taxpayers. In 2006, the IRBM introduced an electronic application for the filing and payment of taxes known as E-filing. The E-filing application fits well with the SAS implementation in encouraging higher voluntary tax compliance. Following the first year of its implementation in 2006, the increase in the usage of E-filing was more than 368% in 2007 compared to 2006 (IRBM 2006, 2007). Furthermore, the increase continued at an average of approximately 20%

per annum between 2007 and 2010 (IRBM 2007-2010). The IRBM's proposal to discontinue printing tax return forms beginning in 2007 is resisted by many consumer bodies that argue the action will jeopardize taxpayers who are still computer illiterate, particularly those who are living in remote areas and without access to computers and/or internet service (Mohamad-Fikri 2006). Until the end of the period of this study in 2012, IRBM still allowed for the filing of tax returns through both manual and electronic forms.

IRBM actually targets an 80% E-filing usage rate among all taxpayers by 2011 (NST 2007). However, the E-filing usage rate was only approximately 34% for individual taxpayers and 33% for all taxpayers in 2011 (IRBM 2011), which is much lower than the target and reflects a tendency for rejection among taxpayers in Malaysia (Yusri 2008; Azmi & Bee 2010). Similar problems were also faced by developed economies during the early implementation of E-filing, including Taiwan (Wang 2002; Fu, Farn & Chao 2006; Hung, Chang & Yu 2006), Singapore (Thompson & Poh 2005) and the US (Schaupp, Carter & McBride 2010). E-filing usage only recently reached the expected level of above 80% among taxpayers in the US (IRS 2012) and Singapore (IRAS 2012). Australians E-filing usage is still below 80% (ATO 2012). Therefore, it should come as no surprise that the low E-filing usage rate among taxpayers is still an issue in developing economies such as Malaysia. The problem with the relatively low level of acceptance of the E-filing system among taxpayers in Malaysia needs to be addressed by the IRBM to ensure that the huge investment in the information system is not wasted.

The present study proposes the possibility that tax knowledge may be an additional factor that influences E-filing usage since tax knowledge has been found to influence tax compliance in many countries (e.g., Nero & Amrizah 2005; Mohd-Rizal 2005; Alm et al. 2010). Since the implementation of E-filing is primarily to increase tax compliance, it is critical to understand whether tax knowledge influences E-filing usage among taxpayers and potential taxpayers. Unfortunately, prior studies have yet to provide concrete evidence on the issue of tax knowledge relationship with usage of E-filing as a media to increase tax compliance (see Yusri 2008; Azmi & Bee 2010; Idawati 2012).

The aim of the present study is to examine the level of intention to use E-filing after four years of its implementation (2006 is the first assessment year and 2009 is the latest assessment year in this study) among individual taxpayers. Subsequently, the present study investigates factors that influence taxpayers' intention to use E-filing, extending prior studies by adding the tax knowledge variable as an additional input. The present study combines the technology acceptance model (TAM); the theory of planned behavior (TPB); and a variable of tax general knowledge (TGK) in one framework to explain factors influencing taxpayers' intention to use E-filing. The TGK variable is used to explain other issues relating

to taxes, but, to date, not in relation to the issue of E-filing (Eriksen & Fallan 1996; Yaniv 1999; Nero & Amrizah 2005; Mohd-Rizal 2005; Alm et al. 2010). Since the IRBM is currently promoting the usage of E-filing, results from the present study may assist the IRBM in planning for a more effective strategy to promote E-filing usage among individual taxpayers in Malaysia.

The remainder of the present paper is structured as follows. Section two presents a review of literature concerning E-filing and the hypotheses developments. Section three presents the methodology adopted in the present study. Section four presents the results and discusses the findings. Finally, section five concludes the paper.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

The main reason the IRBM introduced the E-filing system is to reduce incomplete forms that rampantly occurred when manual tax returns are utilised. Until 2008, the IRBM reports that more than 80% of manual tax return forms received were incomplete (IRBM 2008). Incomplete tax forms results in an increase in the processing and management costs for tax refund activities at the IRBM. As such, it is hoped that the E-filing system will result in taxpayers submitting tax returns that are correctly prepared since the E-filing system is designed to ensure taxpayers do not overlook mandatory information before they proceed to the next step in the tax filing system. Furthermore, E-filing provides an automatic calculation for the amount of tax to be paid (IRBM 2007), hence reducing the tendency of any miscalculations. However, the important features of the E-filing system do not guarantee that taxpayers will determine the correct and most beneficial tax payment if they do not have sufficient tax knowledge.

Findings from prior studies show that the low acceptance of E-filing in its initial implementation throughout the world is not specific to any country or region (Thompson & Poh 2005; Hung et al. 2006; Azmi & Bee 2010; Schaupp et al. 2010). In the East Asian region, Singapore seems to show the highest level of usage of E-filing (IRAS 2012) in comparison to Malaysia and other countries. Indonesia only initiated an E-filing system in 2011, while Thailand only adopted the system in 2013. The phenomenon of relatively low acceptance of E-filing usage in the early years of implementation baffles tax regulators in Malaysia (IRBM 2010). Hence, more studies need to be performed to continue searching for additional factors that may trigger low acceptance from taxpayers.

Irrespective of whether taxpayers use manual or E-filing applications under an SAS, taxpayers still need sufficient tax knowledge to assist them in filing their tax returns. Prior studies concerning E-filing issues only investigate factors related to the system itself, such as perceived usefulness and perceived ease of use (Wang 2002; Fu et al. 2006). With a medium level of tax

knowledge being the norm among Malaysian taxpayers (Abdul-Latiff 2005: Nero & Amrizah 2005) and the relatively low acceptance level of E-filing even after six years of its implementation (IRBM 2011), a question arises concerning whether tax knowledge is an additional factor that can contribute towards the intention to use the E-filing in Malaysia. In the absence of clear evidence concerning this possibility (Yusri 2008; Azmi & Bee 2010; Idawati 2012), the present study aims to fill this gap in existing literature.

As highlighted earlier, the TAM is used alongside TPB and TGK to provide the conceptual framework of the present study. As such, the hypotheses are developed based upon the same theoretical arguments. TAM proposes that the perception of usefulness (Hu et al. 1999; Chau & Hu 2002; Venkatesh et al. 2003) and the perception of ease of use (Venkatesh, Morris & David 2003; Park et al. 2009) are expected to be associated with the tendency for taxpayers to use a new system in place. TPB proposes that the taxpayers' intention to use a new system can be influenced by their perception of subjective norms (Taylor & Todd 1995; Venkatesh & Davis 2000) and perception of behavioral control (Chau & Hu 2002; Hung et al. 2006; Yusri 2008).

PERCEIVED USEFULNESS

Perceived usefulness (P-USEFUL) is defined as the level of taxpayers' perception of how far E-filing can increase their work performance (Davis 1989). Prior studies provide evidence that perceived usefulness consistently shows a positive association with someone's intention to use an information technology (Hu et al. 1999; Chau & Hu 2002; Venkatesh et al. 2003). The existence of the perception of usefulness itself can be influenced by other factors, such as satisfaction; experience; the time taken to use an application; the image on the computer screen; and other factors related to the use of the system (Agarwal & Prasad 1999; Saade & Bahli 2005).

In the case of E-filing, easing tax filing and tax payment management are among the reasons why taxpayers are expected to use such a system. Based on an online survey, Schaupp and Carter (2009) find US taxpayers' intention to use E-filing is influenced by their perception of its usefulness. Wang (2002) and Fu et al. (2006) also present similar findings in the case of Taiwanese taxpayers with regards to E-filing usage. In Malaysia, several studies also find that perceived usefulness is a significant factor influencing taxpayers' intention to use E-filing (Lai, Siti-Normala & Meera 2005; Yusri 2008; Azmi & Bee 2010). Since E-filing is expected to assist taxpayers not only in terms of the application of tax filing, but also with regards to settling tax payment through the internet, perceived usefulness is expected to influence taxpayers' intention to use E-filing. Hence, the first hypothesis is as follows:

H_1 Perceived usefulness is positively associated with the intention to use E-filing.

PERCEIVED EASE OF USE

Perceived ease of use (P-EASEUSE) is defined as the level at which someone believes he or she can use information technology with ease and without any problem (Venkatesh & Davis 2000). Davis (1989) suggests that the perceived ease of use has a small impact, but is still significant and can change over time in terms of its influence toward someone's intention to use a system. Hung et al. (2006) find perceived ease of use has a significant association with someone's intention to use information technology. Other prior studies also find that perceived ease of use has a significant relationship with someone's intention to use information technology, whether directly or indirectly through the factor of perceived usefulness (Agarwal & Prasad 1999; Venkatesh & Davis 2000; Chau & Hu 2002).

Apart from reducing time during the tax filing process, in regards to not having to go to the tax office to submit tax returns, E-filing is developed with features that can assist taxpayers in many areas of calculating tax items during the management of their tax files (IRBM 2010). Based upon the many supporting features available within the E-filing system, the IRBM expects taxpayers will not feel threatened when using it (IRBM 2010). Extant studies generally find the intention to use E-filing is associated with the perception of ease of use, such as in the case of Taiwan (Wang 2002), the US (Schaupp & Carter 2009) and Malaysia (Azmi & Bee 2010). However, other studies do not find that the perception of ease of use influences taxpayers' intention to use E-filing (Fu et al. 2006; Yusri 2008). The contradictory finding could be due to taxpayers who are already comfortable with using the E-filing, hence the perception of ease of use is no longer an important factor. On the other hand, taxpayers may still be too new to the E-filing system and unable to appreciate the ease of use aspect of the system.

Since the perception of ease of use factor is expected to contribute to a higher intention to use E-filing among taxpayers, as documented in majority of prior studies, hypothesis two is as follows:

H_2 Perceived ease of use is positively associated with the intention to use E-filing.

PERCEIVED SUBJECTIVE NORM

A perceived subjective norm (PSNORM), or social norm, is a situation where an action becomes a norm in a community to the extent that it becomes part of the culture and eventually influences others in that community to do the same (Ajzen 1991; Taylor & Todd 1995). Social norms are found to be an important factor that can influence a specific behavior (Venkatesh & Davis 2000). Social norms usually start from the action of an influencing individual character in a society. The personal factor of an individual could influence others to repeat such an action. The personal factor is found to be important in explaining someone's intention toward a certain action (Ajzen 1991; AlAwadhi & Morris 2009). Prior

studies also find individual differences can influence taxpayers' reaction toward technology acceptance, such as cognitive, personality and demography (Agarwal & Prasad 1999; Wang 2002; Lai & Siti-Normala 2004). Even though the actual association between individual differences and information technology usage is still not clear (Alm et al. 2012), the issue is not within the scope of this study. On the other hand, the influence of perceived subjective norms is clearer and found in prior studies to be positively associated with the intention to use a system (Venkatesh & Davis 2000; Wang 2002; Schaupp & Carter 2009).

A subjective norm is social in nature, referring to someone's behavior that depends, upon or being influenced by, the perception of those close to them (Pons 2004). It is expected that social pressure can influence the usage of E-filing since the system is introduced to all Malaysians and not to any specific group. Several prior studies find perceived subjective norms are positively associated with taxpayers' intention to use E-filing (Wang 2002; Schaupp & Carter 2009). However other studies do not find any significant association between perceived subjective norms and E-filing usage (Fu et al. 2006; Yusri 2008). Since E-filing has been implemented for at least four years during the time period of the present study, it is expected that social norms could influence someone's intention to use E-filing. For example, if an employer or a colleague at the office believes the E-filing system is useful (since they do not have to take time off to submit their tax returns), their perception may influence others around them to repeat such an action as suggested in prior studies (Venkatesh & Davis 2000; Pons 2004). Hence, the third hypothesis is as follows:

H_3 Perceived subjective norms are positively associated with the intention to use E-filing.

PERCEIVED BEHAVIORAL CONTROL

Perceived behavioral control (P-BCONT) is someone's belief of his or her self ability in the existence or absence of sources or opportunities needed to implement a task or action (Ajzen 1991). As such, perceived behavioral control is expected to influence someone's behavior. Venkatesh and Davis (2000) suggest that both internal control (cognitive) and external control are strong factors affecting the perception of ease of use. Chau and Hu (2002), Hung et al. (2006) and Yusri (2008) also find perceived behavioral control influences behavioral intention. Individuals who can fully control their ability when using an information technology application will perceive the application to be easy to use. However, for those without experience handling an application may feel threatened and eventually avoid use the application; or continue to use the application, but with the help of experts (Venkatesh & Davis 2000; Pons 2004).

In the context of E-filing, if someone believes that they are capable of handling E-filing on their own, the person is expected to perceive E-filing to be easy to use or

difficult otherwise. Similarly, if there is a lack of external sources (such as internet line, computers, or technical assistance), the situation may reduce someone's intention to use any application (Venkatesh & Davis 2000). Hence, it is expected that the same situation applies to the case of E-filing usage among taxpayers. If taxpayers are equipped with enough computers and internet service, there may be a higher tendency they will decide to use E-filing. Since about 61.7% of Malaysians were internet users by December 2011 (Internet World Stats 2012), it is expected that Malaysians will have high perceived behavioral control in regards to the internet, which could positively influence the behavioral intention to use E-filing. As such, the fourth hypothesis is as follows:

H_4 Perceived behavioral control is positively associated with the intention to use E-filing.

TAX GENERAL KNOWLEDGE

Ajzen et al. (2011) finnd that knowledge on a specific issue can affect behavior related to that specific issue either positively or negatively depending upon the accuracy of the knowledge concerning the specific issue. The change from the Formal Assessment System (FAS) to the Self Assessment System (SAS) creates a new requirement on the part of taxpayers to have enough and appropriate knowledge of the tax law. This requirement ensures taxpayers are able to provide the correct information and calculate the correct amount of their taxable income in order to increase compliance voluntarily (Mohd-Rizal 2005, 2010; Alm et al. 2010).

The SAS indirectly emphasizes the aspect of knowledge to understand tax terminology used by the tax authority and the most basic knowledge includes the ability to know the right item for income tax' allowable deductions; exemptions; and claimable rebates (Nero & Amrizah 2003; Mohd-Rizal 2010). However, if there are changes in the tax law, taxpayers need to know about it in order to maintain their knowledge to complete tax forms (Barjoyai 1992), especially in the case of SAS (Loo & Ho 2005; Mohd-Rizal 2005). As such, it is expected that having knowledge concerning tax law becomes compulsoryfor taxpayers to increase their intention and behavior towards tax compliance. Prior studies find that the higher the tax knowledge, the lower the tendency that a person will avoid tax and the higher the tendency for tax compliance (Eriksen & Fallan 1996; Mohd-Rizal 2010).

Yaniv (1999) finds a low level of tax knowledge makes respondents avoid the complexity of calculating tax on their own and increases the tendency to hire advisors or tax practitioners to settle their tax forms. Tax complexity arises due to too many laws that need to be complied with; the use of language that is hard to understand; vague terminologies; and multiple categories of income tax forms (Alm et al. 2010). Therefore, it is expected that the more complicated is a tax system, the lower taxpayers' voluntary tax compliance will be.

Prior studies also find that tax knowledge among Malaysian taxpayers are at a medium level, even though they have at least a tertiary level education (Nero & Amrizah 2005; Ern & Juan 2005; Mohd-Rizal 2010). Such a weakness could affect the accuracy of tax returns (Mohd-Rizal 2005). The IRBM developed E-filing to reduce mistakes and increase the accuracy of tax filing by individuals. TGK refers to someone's ability to fill and complete tax returns and to calculate tax liability without having to depend on others (Barjoyai 1992). Under an SAS, taxpayers are responsible for calculating their own tax liability, implying that they must have knowledge about the basic information concerning tax, such as taxable income; allowable deductions; and claimable exemptions (Nero & Amrizah 2003).

Basic knowledge concerning tax can change depending upon available current policies (IRBM 2010). Hence, taxpayers must always be alert with and prepare themselves with the latest information relating to tax issues, such as changes in the rebate amount and changes in type of exemptions (Yaniv 1999). Tax function might fail if taxpayers do not update themselves (Barjoyai 1992). Prior studies find individual differences can influence taxpayers' reactions toward technology acceptance (Agarwal & Prasad 1999; Wang 2002; Lai & Siti-Normala 2004). Individual differences regarding TGK are also found to be associated with tax compliance (Mohd-Rizal 2010).

E-filing was developed as an alternative to hard-copy paper-based tax returns. Nonetheless, the functions of E-filing and hard copy tax returns are still the same since taxpayers must first fill in the correct information in the proper sub-areas available in the electronic tax return before the system can automatically calculate the correct tax amount to be paid (IRBM 2010). Failure on the part of taxpayers to provide the correct input can result in the wrong tax calculation. If taxpayers have a low level of tax knowledge, they may refuse to use an E-filing system because of the concern that they may make mistakes while providing the required input to the system. On the other hand, taxpayers with enough tax knowledge would have a higher tendency to use E-filing. As such, the final hypothesis is as follows:

H_5 Tax general knowledge is positively associated with the intention to use E-filing.

METHODOLOGY

SAMPLE

The sample for this study consists of individual taxpayers within the city of Kuala Lumpur, Malaysia. Based upon IRBM information, the total taxpayer population in Kuala Lumpur consists of approximately 1.15 million persons that submit tax returns to four of IRBM branches. Sekaran (2003) suggests that for a population of over 1 million, a sample size of 384 is acceptable. The present study targets a sample of 2,000 respondents, specifically 500 taxpayers from each branch. Questionnaires are distributed by hand to taxpayers visiting the four branches. Respondents are initially approached to ensure they have submitted tax returns at least once before. The respondents are then given the questionnaires to answer immediately in the presence of one of the researchers. Apart from the researchers, the questionnaires are also left with IRBM officers at the branches to be forwarded to other taxpayers on behalf of the researchers. No issue of response bias exists when respondents answer the questionnaires because in both scenarios (i.e., in the presence of a researcher or the IRBM officer), respondents are given equal time to complete the questionnaires.

QUESTIONNAIRE

The questionnaire is designed based upon prior studies utilizing constructs under the TAM, specifically P-USEFUL or perceived usefulness and P-EASEUSE or perceived ease of use; and TPB, specifically P-SNORM or perceived subjective norm and P-BCONT or perceived behavioral control. The additional construct incorporated is TGK. The questions asked in each construct are listed in Appendix A. A pilot study of the questionnaire is undertaken with 22 respondents who include academicians; postgraduate students; and employees of public and private sectors. The pilot study is performed to ensure the clarity of questions; and the reliability and internal validity of the items in the questionnaire.

FINDINGS AND DISCUSSION

The distribution of the 228 respondents (in Table 1) shows that 55.7 percent of them are female and 44.3 percent are male. The age of the respondents is quite evenly spread between 25 years and 55 years, with those above 30 years comprising 74.6 percent of the respondents. The academic levels of the respondents are also quite high, with respondents having at least a diploma or higher comprising approximately 78 percent of the sample. Similarly, those respondents employed at the level of executive officer or higher comprise 89 percent of the sample. The majority of the respondents (59%) have an average salary of RM3,000 per month or above. In regards to relevant experience, the respondents have an average of at least 5 years experience using computer and internet.

With regards to facilities, the majority of the respondents (79.8%) have computer and internet service at home. Hence, the respondents are believed to represent an appropriate sample for the present study. The reasons provided by respondents regarding why they did not use E-filing previously (open ended question) included issues such as not knowing how to use the E-filing system; not being aware of the existence of the E-filing system; or living close to a tax authority office and prefering to manually submit tax returns as a result. In the present

TABLE 1. Respondents profile (N = 228)

Category	No. of respondents	Percentage (%)
Gender		
Male	101	44.3
Female	127	55.7
Age		
20 – 30 years	58	25.4
31 – 40 years	83	36.4
41 – 50 years	48	21.1
51 years and above	39	17.1
Marital Status		
Married	163	71.5
Single & Others	65	28.5
Education		
Diploma & above	178	78.0
Certificate & below	50	22.0
Employment		
Executive level & above	203	89.0
Own business	25	11.0
Monthly Salary		
RM1,000 – RM3,000	94	41.2
RM3,001-RM6,000	108	47.4
RM6,001-RM10,000	25	11.0
Above RM10,000	1	0.4
Computer & Internet at home		
No computer	16	7.0
Computer without internet	30	13.2
Computer with internet	182	79.8
Experience using computer		
None	5	2.2
1 – 3 years	29	12.7
4 – 6 years	42	18.4
7 years & above	152	66.7
Experience using internet		
None	12	5.3
1 – 3 years	50	21.9
4 – 6 years	65	28.5
7 years & above	101	44.3
Choose E-filing method		
Assessment year 2006	85 from 228	37.3
Assessment year 2007	116 from 228	50.9
Assessment year 2008	163 from 228	71.5
Assessment year 2009	208 from 228	91.2

sample, a total of 91.2 percent of the respondents file tax returns using E-filing.

As stated earlier, a pilot study involving 22 respondents was undertaken to ensure the questions asked in the questionnaire are clearly understood. Respondents are asked to answer the questions on a five-point Likert scale, where 5 represents "strongly agree" and 1 represents "strongly disagree" for four constructs. In regards to the TGK construct, respondents are asked to answer based on a scale where marks are given only for correct answers. Each correct "yes" or 'no' answer is given one mark. All wrong and "do not know" answers are given a zero mark. Hence, the maximum mark for the TGK construct is 14 (refer to Appendix A).

Modifications were made to the questionnaire based upon suggestions and comments from the pilot study. For the actual survey, a total of 232 questionnaires out of 2,000 were collected between December 2010 and February 2011. Four questionnaires are excluded due to incomplete data. The final sample comprises 228 questionnaires, which is 11.4 percent (228 out of 2,000) of the targeted sample. Cooper and Schindler (2003) suggest that a sample comprising more than 200 respondents can be considered appropriate in a study utilizing survey questionnaires.

The internal consistency of constructs is tested using a factor analysis (Pallant 2007). Changes are made in regards to the perceived behavioral control variable and involve two questions being dropped from further analysis because they create another sub component. Factor analysis concerning the TGK variable results in five components. However, all questions under this variable are utilized because the findings do not change even when any of the questions are included or excluded. Furthermore, questions asked under this variable are taken from reliable sources (i.e., prior studies and IRBM website only).

Table 2 shows that all variables have a Cronbach alpha of above 0.7, which is considered appropriate, except for variable TGK, which obtains a Cronbach alpha of 0.612 but is still acceptable for the present study (Sekaran 2003). The test for the normal distribution of data indicates that the data is normally distributed (not reported) where mean and median of all variables are close to each other (Shannon & Davenport 2001). The skewness and kurtosis of variables also have values between +2 and -2, which also indicates normality of data (Garson 2010).

Table 3 presents the descriptive statistics of the variables. The minimum value (e.g., 1.20 for INT-USE) and maximum value of each variable is based upon the

TABLE 2. Factor analysis of variables (N = 228)

Variables	No. of Items	Cronbach Alpha
Intention to use E-filing (INT-USE)	5	0.932
Perceived usefulness (P-USEFUL)	5	0.875
Perceived ease of use (P-EASEUSE)	4	0.909
Perceived subjective norm (P-SNORM)	3	0.802
Perceived behavioral control (P-BCONT)	5	0.770
Tax general knowledge (TGK)	14	0.612

average Likert scale value assigned by respondents for all questions in each variable (or construct). As such, the minimum and maximum values may not always be a pure Likert scale number. In Table 3, the mean score of variable INT-USE (intention to use E-filing) is 4.34 out of 5.00, indicating that respondents have a higher tendency to use E-filing. The mean score of variable P-USEFUL (perceived usefulness) is 4.23 and indicates a higher tendency among respondents to perceive E-filing as being useful. However, the P-EASEUSE (perceived ease of use) variable is 3.22, which suggests respondents do not perceive E-filing to be an easy system to use. The P-SNORM and P-BCONT variables, which obtain mean values of 3.67 and 3.65, respectively, suggest respondents do not perceive that internal or external factors influence their actions or behaviors. Finally, the TGK variable is 7.81 out of 14.00, which suggests the respondents do not have high tax knowledge and is consistent with findings from prior studies (Nero & Amrizah 2005; Ern & Juan 2005).

The potential existence of multicollinearity issues is tested based upon correlations between independent variables. Table 4 shows that the highest correlation (0.72) is between P-USEFUL and P-EASEUSE, which is lower than 0.8. The results indicate that multicollinearity is not a problem (Cooper & Schindler 2003).

The five hypotheses are tested using multiple regression analysis following prior studies on tax issues (Schaupp & Carter 2009; Azmi & Bee 2010) and based upon the following model:

INT-USE = β_0 + β_1P-USEFUL + β_2P-EASEUSE + β_3P-SNORM + β_4P-BCONT + β_5TGK + e

where;

INT-USE	=	intention to use E-filing,
P-USEFUL	=	perceived usefulness,
P-EASEUSE	=	perceived ease of use,
P-SNORM	=	perceived subjective norm,
P-BCONT	=	perceived behavioral control,
TGK	=	tax general knowledge, and
e	=	error in this regression.

Table 5 present the results from the multiple regression analysis. The results show that the P-USEFUL variable (β = 0.646, $p < 0.000$) and the P-EASEUSE variable ($\beta = 0.359$, $p < 0.000$) are positively associated with INT-USE in the sample, which supports the first and second hypotheses (i.e., H1 and H2). Both findings are consistent with prior studies, such as Wang (2002), Hung et al. (2006) and Fu et al. (2006). The P-SNORM variable (β = 0.092, p < 0.05) is also positively associated with INT-USE in the sample, which supports the third hypothesis (i.e., H3). The finding is consistent with prior studies, such as Hung et al. (2006) and Schaupp and Carter (2009).

The P-BCONT and TGK variables do not show any significant association with INT-USE in the sample. Hence, the fourth and fifth hypotheses (i.e., H4 and H5) are not supported. Nonetheless, the findings are consistent with prior studies, such as Fu et al. (2006) and Suki and Ramayah (2010). One possible explanation concerning the lack of association between perceived behavioral control (P-BCONT) and intention to use E-filing (INT-USE) is that the respondents in the sample do not need their self ability in order to use E-filing. The use of computer and internet is already part of their daily life. It does not matter whether it is E-government,

TABLE 3. Descriptive statistics of variables (N = 228)

Variables	Minimum	Maximum	Mean	Std dev
Intention to use E-filing (INT-USE)	1.20	5.00	4.34	0.76
Perceived usefulness (P-USEFUL)	1.80	5.00	4.23	0.67
Perceived ease of use (P-EASEUSE)	1.00	4.00	3.22	0.61
Perceived subjective norm (P-SNORM)	1.00	5.00	3.67	0.90
Perceived behavioral control (P-BCONT)	1.40	5.00	3.65	0.75
Tax general knowledge (TGK)	0.00	14.00	7.81	2.49

TABLE 4. Spearman correlation among variables (N = 228)

Variables	(2)	(3)	(4)	(5)	(6)
(1) Intention to use E-filing (INT-USE)	0.779***	0.678***	0.386***	0.526***	0.113*
(2) Perceived usefulness (P-USEFUL)		0.720***	0.377***	0.610***	0.140**
(3) Perceived ease of use (P-EASEUSE)			0.436***	0.689***	0.208***
(4) Perceived subjective norm (P-SNORM)				0.476***	0.092
(5) Perceived behavioral control (P-BCONT)					0.186***
(6) Tax general knowledge (TGK)					

Note: Asterisks ***, ** and * indicate significance at $p < 0.01$, $p < 0.05$ and $p < 0.10$, respectively.

TABLE 5. Multiple regression of INT-USE on independent variables (N = 228)

Variables	Expected Sign	Coefficient	Std error	t-statistic
Intercept		0.244	0.210	1.165
P-USEFUL	+	0.646	0.064	10.074***
P-EASEUSE	+	0.359	0.077	4.689***
P-SNORM	+	0.092	0.037	2.495**
P-BCONT	+	-0.034	0.056	-0.618
TGK	+	-0.018	0.168	-0.109
Adj. R^2			0.671	
F-statistic			93.654	
p-value			0.000	

Note: Asterisks ***, ** and * indicate significance at $p < 0.01$, $p < 0.05$ and $p < 0.10$, respectively.

E-filing or E-commerce, they would be able to handle those systems if they wanted to use them. Even though Yusri (2008) finds that perceived behavioral control is significant, the survey employed was undertaken a year after E-filing was implemented. After four years of E-filing implementation, P-BCONT is no longer important in influencing taxpayers' intention to use E-filing. This could be due to the fact that the IRBM has also been aggresively giving talks and conducting workshops on E-filing application since 2006.

With regards to the variable of interest (i.e., TGK), the lack of association with intention to use E-filing could be due to the fact that the respondents in the sample have TGK, but only at a medium level (i.e., 7.81 out of 14 maximum) (refer Table 3). Hence, it may be concluded that tax knowledge may not be important to taxpayers in their decision to choose either E-filing or other methods of tax filing. Alternatively, with the latest E-filing system having many features to assist taxpayers, such as automatically providing individual mandatory self-deduction amounts without taxpayers having to remember the amount, E-filing is manageable for most people, even with minimum tax knowledge (IRBM 2012).

Nevertheless, the ability to use E-filing does not necessarily mean taxpayers have filed their tax-returns correctly, especially those lacking appropriate tax knowledge. Since the IRBM is currently focusing more on the issue of audit and investigation after the implementation of SAS and E-filing, it is expected that the number of audit and investigation cases may increase (Razilina, Zaleha & Norsiah 2012). SAS and the E-filing system could result in taxpayers taking advantage of the system if proper monitoring from the IRBM is not in place. Hence, the promotion of E-filing use, on its own, would not solve issues of tax compliance faced by the IRBM if taxpayers are not being equipped with appropriate knowledge about tax rules and regulations.

CONCLUSION

Even though E-filing is seen as not only providing greater advantages to the tax authority, but to the taxpayers as well,

its usage is still low in developing countries, including Malaysia. The present study investigates factors that may influence E-filing among individual taxpayers in Malaysia between the implementation of the system in 2006 and 2009. The study examines whether tax general knowledge may influence taxpayers' intention to use E-filing in light of the fact that tax knowledge is important to ensure that tax returns are completed correctly and reflect a correct tax liability figure.

The results from this study suggest that E-filing is a computerized system, just like any other system, where taxpayers' intention to use it is also influenced by constructs within the technology acceptance model and the theory of planned behavior. Even though tax general knowledge is argued to be important in many prior studies regarding tax filing activities, the use of E-filing does not seem to be influenced by taxpayers' tax general knowledge in the present study.

Notwithstanding the findings concerning the insignificant effect of tax knowledge on E-filing usage, caution should be taken with regards to the generalizability of the findings. The fact that, apart from the limited sample size and sampling frame, the questions on tax knowledge are designed based upon prior studies concerning tax compliance issues and not concerning knowledge about system usage is acknowledged. While prior studies find a positive association between tax knowledge and tax compliance, the present study finds an insignificant association between tax knowledge and E-filing usage. Another way to capture respondents perceptions concerning whether tax knowledge affects their E-filing usage could include asking them direct questions rather than testing the extent of their tax knowledge. Therefore, future studies could follow up on this suggestion to find further evidence on the issue of the effect of tax knowledge on E-filing usage.

The present study is important since issues concerning the relatively low usage of E-filing, especially in Malaysia, remain contentious. Even though the IRBM has invested a lot of effort to encourage the use of E-filing in Malaysia, it is still not widely used among taxpayers. Nonetheless, the findings suggest that the IRBM should continue to attempt to increase taxpayers' intention to use E-filing, especially

by further enhancing the management of their E-filing system overall. At the same time, future studies may want to examine other factors that could influence E-filing or utilize other methodologies. One possibility involves using the experimental method to gauge respondents' intention to use E-filing when they are given hands-on training on how to use E-filing; and subsequently conducting a survey to obtain responses from respondents, such as the survey undertaken by Alm et al. (2012).

REFERENCES

Abdul-Latiff, A.R., Amin-Nordin, B.A., Che-Omar, M.R. & Harijito, D.A. 2005. Tax literacy rate among taxpayers: Evidence from Malaysia. *Jurnal Akuntasi & Auditing Indonesia* 9(1): 1-11.

Agarwal, R. & Prasad, J. 1999. Are individual differences germane to the acceptance of new information technologies? *Decision Sciences* 30(2): 361-391.

Ajzen, I. 1991. The theory of planned behavior. *Organizational Behavior and Human Decision Processes* 50: 179-211.

Ajzen, I., Joyce, N., Sheikh, S. & Cote, N.G. 2011. Knowledge and the prediction of behavior: The role of information accuracy in the Theory of Planned Behavior. *Basic and Applied Social Psychology* 33: 101-117.

AlAwadhi, S. & Morris, A. 2009. Factors influencing the adoption of E-government services. *Journal of Software* 4(6): 584-590.

Alm, J., Cherry, T., Jones, M. & McKee, M. 2010. Taxpayer information assistance services and tax compliance behavior. *Journal of Economic Psychology* 31: 577-586.

Alm, J., Cherry, T., Jones, M. & McKee, M. 2012. Social Programs as positive inducements for tax participation. *Journal of Economic Behavior & Organization* 84(1): 85-96.

Australian Tax Office (ATO). 2011-2012. Annual Report. http://annualreport.ato.gov.au/

Azmi, A.C. & Bee, N.G. 2010. The acceptance of the e-Filing system by Malaysian taxpayers: A simplified model. *Electronic Journal of e-Government* 8(1): 13-22.

Barjoyai, B. 1992. Tax illiteracy in Malaysia: Problems and solutions. *ACCAMADIA*, *Journal of Faculty of Accountancy, Faculty of Accountancy, UiTM Shah Alam* 11(2): 6-35.

Chau, P.Y.K. & Hu, P.J.H. 2002. Information technology acceptance by individual professionals: A model comparison approach. *Decision Science* 32(4): 699-719.

Cooper, D.R. & Schindler, P.S. 2003. *Business Research Methods*. 6th Edition. Singapore: Irwin/Mcgraw Hill.

Davis, F.D. 1989. Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly* 13(3): 318-339.

Eriksen, K. & Fallan, L. 1996. Tax knowledge and attitudes towards taxation: A report on quasi-experiment. *Journal of Economic Psychology* 17: 387-402.

Ern, C.L. & Juan, K.H. 2005. Competency of Malaysian salaried individuals in relation to tax compliance under self assessment. *eJournal of Tax Research* 3(1): 45-62.

Fu. J.R., Farn. C.K. & Chao. W.P. 2006. Acceptance of electronic tax filing: A study of taxpayer intentions. *Information and Management* 43: 109-126.

Garson, D. 2010. Testing statistical assumptions. North Carolina State University. Available at http://www.statisticalassociates.com/assumptions.pdf

Hu, P.J., Chau, P.Y.K., Sheng, O.L. & Tam, K.Y. 1999. Examining the technology acceptance model using physician acceptance of telemedicine. *Journal of Management Information Systems* 16(2): 91-112.

Hung, S.Y., Chang, C.M. & Yu, T.J. 2006. Determinants of user acceptance of the e-Government services: The case of online tax filing and payment system. *Government Information Quaterly* 23: 97-122.

Idawati, I. 2012. Factors underpinning usage behaviour of an electronic filing system: The case of Malaysian personal taxpayers. *Proceedings of the 2012 Australian Tax Teachers Association (ATTA) Conference*, 16-19 January. Sydney, Autralia.

Inland Revenue Authority of Singapore (IRAS). 2012-2013. Annual Report. Available at http://www.iras.gov.sg/irasHome/page.aspx?id=15206

Inland Revenue Board Malaysia (IRBM). 2010. Available at http://www.hasil.gov.my

Inland Revenue Board Malaysia (IRBM). 2012. Available at http://www.hasil.gov.my

Inland Revenue Board Malaysia (IRBM). 2006. *Annual Reports*. http://www.hasil.gov.my/pdf/pdfam/AR2006_2.pdf

Inland Revenue Board Malaysia (IRBM). 2007. *Annual Reports*. http://www.hasil.gov.my/pdf/pdfam/AR2007_2.pdf

Inland Revenue Board Malaysia (IRBM). 2008. *Annual Reports*. http://www.hasil.gov.my/pdf/pdfam/AR2008_2.pdf

Inland Revenue Board Malaysia (IRBM). 2008. *Annual Reports*. http://www.hasil.gov.my/pdf/pdfam/AR2008_2.pdf

Inland Revenue Board Malaysia (IRBM). 2009. *Annual Reports*. http://www.hasil.gov.my/pdf/pdfam/AR2009_2.pdf

Inland Revenue Board Malaysia (IRBM). 2010. *Annual Reports*. http://www.hasil.gov.my/pdf/pdfam/AR2010_2.pdf

Inland Revenue Board Malaysia (IRBM). 2011. *Annual Reports*. http://www.hasil.gov.my/pdf/pdfam/AR_2011_BI.pdf

Internal Revenue Service (IRS) Oversight Board. 2012. *Annual Report*. Available at http://www.treasury.gov/irsob/reports/2013/IRSOB~Annual%20Report%202012.pdf

Internet World Stats. 2012. Available at http://www.internetworldstats.com/stats3.htm

Lai, M.L. & Siti Normala, S.O. 2004. Towards an electronic filing system: A Malaysian survey. *eJournal of Tax Research* 2(1): 100-112.

Lai, M.L., Siti Normala, S.O. & Meera, A.K. 2005. Tax practitioners and the electronic filing system: An empirical analysis. *Academy of Accounting and Financial Studies Journal* 9(1): 93-107.

Loo, E.C. & Ho, J.K. 2005. Competency of Malaysian salaried individual in relation to tax compliance under self assessment system. *eJournal of Tax Research* 3(1): 45-62.

Mohamad-Fikri, R. 2006. FOMCA, PPIM tidak setuju pelaksanaan penuh e-Filing (*FOMCA, PPIM disagree on full implementation of e-Filing*). *Utusan Malaysia*, 1 May. http://www.utusan.com.my/utusan/info.asp?y=2006&dt=0502&pub=Utusan_Malaysia & sec=Muka_Hadapan&pg=mh_02.htm

Mohd-Rizal, P. 2005. Does tax knowledge matters in self-assessment systems? Evidence from Malaysian tax administrative. *The Journal of American Academy of Business Cambridge* 6(2): 80-84.

Mohd-Rizal, P. 2010. *Tax knowledge and tax compliance determinants in self assessment system in Malaysia*. Unpublished Thesis, The University of Birmingham.

Nero, M. & Amrizah, K. 2003. Are salaried individuals in Sarawak ready for self-assessment System in 2004? Working paper, Universiti Teknologi MARA.

Nero, M. & Amrizah, K. 2005. Tax literacy and tax awareness of salaried individuals in Sabah and Sarawak. *National Accounting Research Journal* 3(5): 71-89.

New Straits Times (NST). 2007. Board surpasses target for online filing of returns.

Pallant, J. 2007. *SPSS Survival Manual*. Maryborough: Open University.

Park, N., Roman, R., Lee, S. & Chung, J.E. 2009. User acceptance of a digital library system in developing countries: An application of the Technology Acceptance Model. *International Journal of Information Management* 29: 196-209.

Pons, A. 2004. E-government for Arab countries. *Journal of Global Information Technology Management* 7(1): 30-46.

Razilina, A.R., Zaleha, A.S. & Norsiah, A. 2012. The effect of audit and investigation activities on individual tax compliance: Evidence from Malaysia. *Malaysian Accounting Review* 11(1): 123-153.

Saade, R. & Bahli, B. 2005. The impact of cognitive absorption on perceived usefulness and perceived ease of use in on-line learning: An extension of the technology acceptance model. *Information and Management* 42(2): 317-328

Schaupp, L.C. & Carter, L.D. 2009. Antecedents to e-file adoption: The U.S. citizen's perspective. *Ejournal of Tax Research* 7(2): 158-170.

Schaupp, L.C., Carter, L. & McBride, M.E. 2010. E-file adoption: A study of U.S. taxpayers' intentions. *Computers in Human Behavior* 26: 636-644.

Sekaran, U. 2003. *Research Methods for Business: A Skill-Building Approach*. 3rd edition., New York: John Wiley & Sons, Inc

Shannon, D.M. & Davenport, M.A. 2001. *Using SPSS to Solve Statistical Problems: A Self-Instruction Guide*. Upper Saddle River, N.J: Prentice Hall.

Suki, M.N. & Ramayah, T. 2010. User acceptance of the E-government services in Malaysia: Structural equation modelling approach. *Interdisciplinary Journal of Information, Knowledge and Management* 5: 395-413.

Taylor, S. & Todd, P.A. 1995. Understanding information technology usage: A test of competing models. *Information Systems Research* 6(2): 144-174.

Thompson, S.H.T. & Poh, K.W. 2005. Implementing electronic filing of tax returns: Insights from the Singapore experience. *Journal of Information Technology Case and Application Research* 7(2): 3-18.

Venkatesh, V. & Davis, F.D. 2000. A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science* 46(2): 186-204.

Venkatesh, V., Morris, M.G. & David, B.G. 2003. User acceptance of information technology: Toward a unified view. *MIS Quarterly* 27(3): 425-478.

Wang, Y.S. 2002. The adoption of electronic tax filing systems: An empirical study. *Government Information Quarterly* 20: 333-352.

Yaniv, G. 1999. Tax compliance and advance tax payments: A prospect theory analysis. *National Tax Journal* 52(4): 753-764.

Yusri, Y. 2008. Factors affecting taxpayers' acceptance E-filing system. In *Selected Readings in Accounting*, edited by N.A. Abu Kasim & H. Ismail. Serdang: UPM Press.

Affiza Mohd Tallaha
Astin College
101-105 & 121, Jalan Kenari 23
Bandar Puchong Jaya
47100 Puchong, Selangor, MALAYSIA.
E-Mail: affiza_mt@yahoo.com

Zaleha Abdul Shukor (corresponding author)
Faculty of Economics and Management
Universiti Kebangsaan Malaysia
43600 UKM Bangi, Selangor, MALAYSIA.
E-Mail: zbas@ukm.edu.my

Norul Syuhada Abu Hassan
Faculty of Economics and Management
Universiti Kebangsaan Malaysia
43600 UKM Bangi, Selangor, MALAYSIA.
E-Mail: syuhada@ukm.edu.my

Questions Asked Under Each Construct

Behavioral Intentions

1. If I have access to E-filing system, I intend to use it.
2. I use E-filing system to file my income tax return this year.
3. In choosing filing methods for my income tax return, E-filing is my priority.
4. I will continue using E-filing in the future.
5. I would recommend E-filing to my relatives and friends.

Note: Questions adopted and adapted from Fu et al. (2006) and Hung et al. (2006).

Perceived usefulness

1. Using E-filing will speed up my tax filing process.
2. Using E-filing will improve my understanding in preparing my income tax return.
3. Using E-filing would help me reduce errors in preparing my income tax return.
4. Overall the advantages of E-filing will outweigh the disadvantages.
5. E-filing will give no benefit to me.

Note: Questions adopted and adapted from Fu et al. (2006) and Hung et al. (2006).

Perceived ease of use

1. I find E-filing an easy system to learn.
2. I find E-filing an easy system to use.
3. It is not easy to become skillful in using E-filing.
4. It is easy for me to key in and make data corrections when using E-filing.
5. E-filing instructions are easy to follow.

Note: Questions adopted and adapted from Fu et al. (2006) and Hung et al. (2006).

Subjective norms

1. My superior/s encourages me to use E-filing.
2. My officemate encourage me to use E-filing.
3. My family members encourage me to use E-filing.

Note: Questions adopted and adapted from Fu et al. (2006) and Hung et al. (2006).

Perceived behavioral control

1. I feel comfortable using E-filing on my own.
2. I am able to use E-filing even when there is no one to assist me on how to use it.
3. I could prepare my income tax return using E-filing if there is someone to show me how to do it first.
4. I find it easy to handle equipments like computer and internet for E-filing if I wanted to do so.
5. I find computers and internet at work is not enough for my E-filing purposes.
6. I find computers and internet at home is not enough for my E-filing purposes.
7. It is easy for me to get help when I have problems using E-filing at work.
8. It is easy for me to get help when I have problems using E-filing at home.

Note: Questions adopted and adapted from Fu et al. (2006) and Hung et al. (2006).

Tax general knowledge

1. Are the following items deductible on your tax returns?
   - Installments for own education loan.
2. - Interest on housing loan.
3. - Expenses on your child's textbooks.
4. Are the following items need to be included as part of your taxable income?
   - Additional income of RM500 (other than employment income).
5. - Cash income received without any document as a receipt.
6. - Cash rewards from a contest such as a lucky draw or word puzzle.
7. Individual tax rate for year of assessment 2009 filed in current year 2010 is 28%
8. Taxpayer must keep records of income/expenses details to fulfill the tazation law.
9. Due date for submission of tax return for individual taxpayer who do not have business income is on 30th June.
10. IRBM will audit all taxpayers.
11. Failure to submit the tax return is a criminal offence.
12. Penalty will be imposed if you are late in submitting the Income Tax Form.
13. Every taxpayer must inform about their change of address to IRBM.
14. Payment of taxes can be made at any IRBM branches in Malaysia.

Note: Questions adopted and adapted from Eriksen and Fallan (1996) and Frequently Asked Questions (FAQ) found on the website of IRBM at http://www.hasil.gov.my.