# E-Government Services Online: An Exploratory Study on Tax E-Filing in Malaysia.

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## ABSTRACT

*E-filing is a new service launched in the year 2005 by the Malaysian Inland Revenue Board. This is in line with the government's vision to leverage on the Internet technology in extending its services to the citizens and to further embrace the cutting-edge technology in the information age. Via this system, the citizens or taxpayers are able to complete an electronic application form and the necessary payment details with a few keystrokes and hence complete their revenue declaration within minutes. The purpose of e-filing service is to encourage every taxpayer to submit their income tax returns through an online system, thus reducing the manual paper-based submission method. This paper examines taxpayers' intention to use the e-filing system in Malaysia. The paper analyses the factors that contribute towards adoption of such system in Malaysia based on three models, namely, the Technology Acceptance Model (TAM), Diffusion of Innovation (DOI) and Technology Readiness Index (TRI). Our findings suggest that taxpayers have intention to use the e-filing systems as they perceive that tax submission method via internet is more convenient than submission by post or by hand and that perceived readiness towards using this technology is paramount to their belief for using e-filing systems.*



Keywords: e-filing, Malaysia, e-government, tax payers, online services,


## 1. INTRODUCTION

Tax filing whether done manually or via digital means is an important phenomenon for most income earners and business entities. Governments worldwide are moving towards utilizing the power of information, communication and technology (ICT) by embarking into the new dimension which is electronic filing (henceforth referred to as e-filing). Governments worldwide are leveraging ICT in many ways to tap the potential cost saving and efficiency in providing online services to the citizens (Sahu and Gupta, 2007). Malaysia too is in this bandwagon. However, low system acceptance by the end-users is

one of the major hurdles to the proliferation of e-government projects (Sahu and Gupta, 2007).

This paper discusses the relationship between four major factors that are affecting the behavioural intention of tax e-filing systems users in Malaysia in adopting this method in contrary to the manual submission method. Using three of the important theories on assessing users' behaviour against ICT system usage, Technology Acceptance Model (TAM), Technology Readiness Index (TRI) and Diffusion of Innovation (DOI), this study analyses and discusses the relationship between perceived ease of use, perceived usefulness, perceived readiness, and complexity in using the e-filing system in Malaysia.

The academic nature of this paper stresses on how (ICT), manifesting itself in the form of e-filing system, can enhance e-government efforts in providing fast and efficient service to its citizens. The paper is written based on our involvement with prior work that pertains to the use of e-government services. Understanding how and why people accept or reject an information system has proven to be one of the most challenging issues in information system research (Delone and McLean, 1992). Having invested huge amount of capital in ICT for better info-structure and infrastructure, governments will benefit from this nature of study to assess the intention to use and factors affecting the usage of such systems.

**Scope of Study**

In Malaysia, the government's Multimedia Super Corridor (MSC) project has been instrumental in providing necessary platform for change or transformation. As one of the

seven MSC flagships, E-government will contribute to the nation's rapid development. E-filing in this context, is expected to be widely used by the Malaysian citizens. However, despite all the efforts aimed at developing better and efficient tax filing system, the e-filing system remained unnoticed by many citizens and still seriously underused in spite of their availability (Wang, 2002). There is very little research done on this area due to infancy of e-filing in Malaysia. This is due to insufficient evidence to date pertaining e-filing system associated to Malaysian tax settings (Lai, Sheikh Obid, and Meera, 2005). In fact, there was lack of ability to obtain certain information relevance on these studies in Malaysia. In addition, there is still ambiguity on whether Malaysian tax practitioners are prepared to embrace the e-filing system (Lai at al., 2005). Lai at al. (2005) examined the level of technology readiness and intention to use among Malaysian tax practitioners. This research reveals what and how Malaysians are in relation with the e-filing systems adoption.

This study makes an attempt to examine the determinants of behavioural intention to the use of e-filing systems in the case of tax submission in Malaysia. The significance of this study is two-fold. First, this study provides vital information for government to identify factors influencing taxpayers towards e-filing systems adoption. Malaysian government will be able to use the result of this study as a guide to plan its strategies to improve the usage level of e-filing systems. Since usage of e-filing systems is at present completely voluntary, the challenge that Malaysian government has to face is to encourage the tax payers to use online submission instead of manual submission by highlighting the benefits of such systems and by making them realize the simplicity of the online process.

Second, this study has significantly integrated three theories to describe a new technology acceptance, e-filing systems in the case of tax return submission among individual tax payers in Malaysia.

## 2. E-FILING- THE MALAYSIAN CHAPTER

Initially, this application was introduced to corporate taxpayers in 2003 and later it was expanded to individual taxpayers in 2004. The Inland Revenue Board (IRB), the agency in charge for tax filing took this challenge to reshuffle the tax filing process by utilising ICT to embrace an electronic income tax filing systems (Malaysian Institute of Accountants (MIA), 2000). The intention of launching the e-government in Malaysia is to pilot the country into the information age and to further guarantee the materialisation of knowledge society.

Recently, the Inland Revenue Board (IRB) has surpassed its target on electronic submission of e-filing returns forms. At the end of March 2007, there were 70,000 people who sent in return forms through e-filing system compared to the previous year results which is only 4,500 people used until end of March 2006 (Hamid, 2007). On April 30, 2007, nearing the deadline of tax return form submission, a total of 569,990 taxpayers have sent in their return forms through e-filing system (Hamid, 2007). CEO of IRB, Hasmah Abdullah, the nation top taxwoman had initially targeted 360,000 people to use e-filing in year 2007 which is double of the previous year's actual online tax returns,

180,000. (Hamid, 2007). There was a 60 percent rise to 1.2 million users in year 2008 as compared to about 800,000 in year 2007 ("IRB confident of collecting," 2008).

Based on senior officials from IRB, the 180,000 taxpayers have utilized the e-filing systems in the last years can considered as a "good rate" (Hamid, 2007). The result reveals that about seven per cent of total taxpayers had utilised e-filing systems when newly introduced in Malaysia. In comparison with United Kingdom (UK), when the system was newly introduced, UK could only achieve one percent usage rate among taxpayers. Surprisingly, Malaysia has fetched far higher usage rate compared in the UK (Hamid, 2007). The Deputy Finance Minister, Datuk Dr. Awang Adek Hussin anticipated about 80 per cent of taxpayers to use e-filing system in the next five years (Hamid, 2007).

In the effort to boost the e-filing usage, the IRB officials made numerous visits to companies and government departments nationwide to brief and enlightened the private and public sector employees on how to use e-filing. In addition, handouts on how to utilize the e-filing system were distributed in the shopping malls and public places. Interestingly, the IRB has added a new feature to the e-filing system known as "e-bayaran" or e-payment. The e-bayaran allows the taxpayers to pay tax online through Internet banking for the account holders of the banks which are members of Financial Process Exchange (FPX). This includes CIMB Bank, Public Bank, Hong Leong, Maybank2U and Bank Islam.

The current development of e-filing system in Malaysia enables the taxpayers to submit their tax return forms online conveniently and hence expedite the tax refunds if any. The e-filing system provides easy, accurate, safe and fast processing compared to manual tax return form submission. Another significant benefit for Malaysians is that the system imposes no risk of lost of mails and produce high accuracy rate as the e-filing computes the tax for taxpayers.

## 3. E-GOVERNMENT DEFINED

E-government refers to the automation of government-to-government and government-to-citizen interactions (Dan, 2000). Collaborative software, broadband, and other supporting web-enabled technologies are expected to help make transactions with government agencies much faster and more efficient (Dwivedi and Irani, 2009). E-government is a way for governments to use the new technologies to provide people with more convenient access to government information and services to participate in our democratic institutions and processes (State Service Commission (SSC), 2006). Information technology (IT) initiatives in government services known as electronic government, or e-government, are changing the way the government works and interacts with citizens, businessmen, its employees, and other governments (Sahu and Gupta, 2007). The purpose of e-government is to bring people together and for that to happen, the government must plan e-government in such a way that conventional means to access to government are maintained for those people who need them; community access to the Internet is available for those people who, for any reason, cannot access it from their

homes; educational and public information programmes are used to help citizens in using the new technologies; review and strengthen where necessary, all legislation designed to protect people's privacy and provide safeguard around the sharing of people's personal information among government agencies.

The use of Information and Communications Technology (ICT) in general, has also changed government service delivery process, business models and people's expectations of the quality and efficiency of information sharing and service delivery. Successful implementation of various e-government initiatives worldwide (e.g. e-Seva and e-Bhoomi initiatives in India, e-Citizen initiative in Singapore and e-firstgov.com in the USA) are being touted as the next wave of creating innovative supply chain management processes in the context of the civil/public sector worldwide (Maniam, 2007).

**E-Filing System- Stylized Facts**

E-filing or sometimes referred as eTax is a new service provided by Inland Revenue Board (in Malaysia) to enable citizens or in particular taxpayers to complete an electronic tax filing form and the necessary payment details via Internet. Fu, Farn, & Chao (2006) define e-filing as an important application that automates tax related processes in an attempt to improve efficiency in assessing and collecting tax information. The e-filing service improves tax-filing service while reducing costs to both taxpayers and tax collecting agencies and emphasizes the effective and efficient use of IT and networks to achieve paperless culture (Fu, Chao and Farn, 2004).

Benefits of e-filing systems are five fold.

i. On time submission

The e-filing system encourages taxpayers to submit their returns on time, although most of the submissions are done at the eleventh hour. Unlike the manual submission, e-filing system improves the convenience and flexibility besides providing ubiquity for users.

ii. Streamline procedures

The moment data or figures are entered in the system, it is sent to the central database or server. Thereafter, the process of revision or refund can be carried out efficiently and again the bottom line is speed.

iii. Provision of evidence

When someone makes an e-filing, the users will be receiving verification which provides significant evidence that the IRB has received the return.

iv. Reduction in error rate in the tax returns processing.

According to the finding, over 18% of tax returns prepared on paper have numerous errors, which mostly arise from miscalculations (Hwang, 2000). It is proven that only 1% of taxes prepared electronically have errors (Hwang, 2000). In tax years 1996 and 1997, the US tax statistical records demonstrated that the preliminary error rate in e-filing tax returns is about 1% to 3% compared to approximately 16% to 20% for paper filing returns (Wongtrakool, 1998). Other experience showed that the error rate for electronically filed income tax returns was less than 1% versus 20% for paper returns (Fletcher, 2002).

However, in the case of UK, Barnes and Vidgen (2007), in their survey on the users' perception of online self-assessed tax return of UK's Inland Revenue, found that the system interactors indicated lower quality of the site. Key problems affecting the perceptions of the interactive users are the usability of the self-assessment facility and difficulty communicating with the organisation (Barnes and Vidgen, 2007). Age is also a possible factor that can influence the adoption of new technologies such as e-filing (Choudrie and Dwivedi, 2005; 2006). Nevertheless, the latest information from the Inland Revenue shows that there has been a major increase in take up in the year ended April 5, 2003, when 329,420 users accessed the system to submit their tax return (Barnes and Vidgen, 2007).

**Global Scenario**

Singapore is an excellent example on e-filing implementation. The Inland Revenue Authority of Singapore (IRAS) launched in 1992 to remove the bureaucratic red tape by restructuring the taxation system (Lim, Wee and Pan, 2007). The desirability of the e-filing system was reflected in a 2001 survey where 94.1% of individual taxpayers, 89.6% of corporate taxpayers, and 94.6% of goods and services taxpayers expressed high levels of satisfaction with the refurnished tax services (Lim et al, 2007). Out of the 1,510,020 individual income tax returns issued for year 2007, close to 93 per cent of the year 2007 returns were received by the filing due date last year. This is a 1 per cent point improvement from 92 per cent for year 2006 (Lim et al, 2007). By 31 March 2007,

1,462,017 returns were submitted, representing 96.8 per cent of the total returns issued (Lim et al., 2007). The high compliance rate could be attributable to the ease of e-filing through *myTax* Portal, the new "No-Filing Service", and timely reminders to taxpayers to file on time through publicity in newspapers and outdoor advertisements. As at the close of the e-filing deadline of 18 April 2008, 87 per cent taxpayers e-filed their taxes, or close to nine out of ten. This is a remarkable increase of 7 per cent points as compared with the 80 per cent who e-Filed last year.[1]

Taiwan is another well-known case in the e-filing plan with its online tax filing system and tax tracking system. The online tax filing and payment system (OTFPS) allows Taiwan taxpayers to submit tax returns using online ID and electronic transaction authentication mechanisms. The OTFPS provides various reports on income tax withholding (exemption) data, online filing and payment of general income tax, online filing and payment of business income tax, online payment of business tax, and online payment of taxes owed following a tax audit (Hung, 2006). Tax e-filing was launched and available nationwide in 1998 with the usage of 18,000 to over 2.1 million representing 43.5 per cent of total taxpayers in 2003 (Fu et al., 2006).

## 4. RESEARCH MODEL

This study was conducted using a quantitative-theory testing approach. A survey was used as the instrument to gather data.

[1] IRAS Annual Report, 2008
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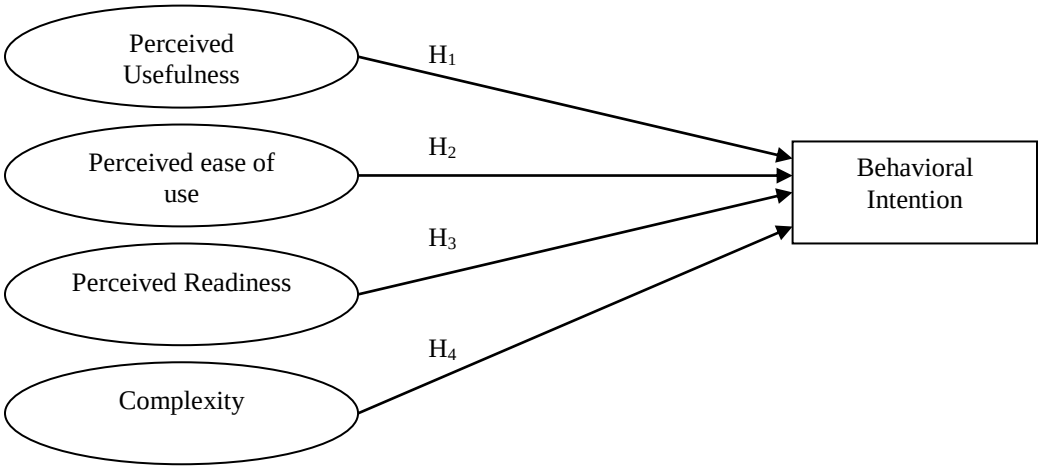
i) TAM (Davis, 1989), [which includes perceived usefulness (PU) and perceived ease of use (PEOU) of the tax filing systems as operational measures]

ii) Technology Readiness Index (TRI) (Parasuraman, 2000) which is the base for perceived readiness (PR) in this study.

iii) DOI (Rogers, 1995) were used by selecting only one of its construct which is complexity (C).

Figure 1 illustrates the research framework that was used to develop the survey instrument, which is an adaptation of three theories namely:

Figure 1: The research model




This study has attempted to analyze the behavioral intention of tax e-filing users' perception by integrating constructs from Davis (1989) Technology Acceptance Model (TAM), Rogers (1995) Diffusion of Innovations Theory (DOI) and Parasuraman (2000)

Technology Readiness Index (TRI). Findings of TAM suggest that IT acceptance is determined by person's perceived usefulness (PU), the user's "subjective probability that using a specific application system will increase this or her job performance" (Davis, 1989; Venkatesh, Brown, 2001; Brown and Venkatesh, 2005) and perceived ease of use (PEOU), "the degree to which the user expects the target system to be free of effort". Fu et al., (2004, 2006) pointed out that TAM is useful in evaluating application in organisational context. It may not reflect the variety of user task environment beyond organisational dimension. Given this backdrop, we hypnotize that:

- $H_1$ : Perceived Usefulness has a significant correlation with behavioral intention of using e-filing in Malaysia.

- $H_2$ : Perceived Ease of Use has a significant correlation with behavioral intention of using e-filing in Malaysia.

Through TRI, the technology-readiness construct refers to people's propensity to embrace and use new technologies for accomplishing goals in home life and at work (Parasuraman, 2000). Four main components of TR are optimism, innovativeness, discomfort and insecurity. This study had devised items from these components to represent the construct perceived readiness which reflect the readiness of user towards usage of new technology. Parasuraman (2008) ascertains that the extant literature pertaining to adoption of new technologies and people-technology interactions strongly suggests that consumers simultaneously harbor favorable and unfavorable views about

technology-based products and services. The two components optimism and innovativeness are the drivers of technology readiness, whereas discomfort and insecurity are inhibitors. The perceived readiness is wider than TR (Chang, Ching and Chao, 2007). The PR is kind of belief that is an individual's self-confidence in his/her ability to perform a behavior (Bandura, 1977).In this context, we hypnotize that:

- $H_3$ : Perceived Readiness has a significant correlation with behavioral intention of using e-filing in Malaysia

DOI theory sees innovations as being communicated through certain channels over time and within a particular social system (Rogers, 1995). Individuals are seen as possessing different degrees of willingness to adopt innovations (Rogers, 1995). The rate of adoption of innovations is impacted by five factors: relative advantage, compatibility, trialability, observability, and complexity (Rogers, 1995). This study only uses the complexity of technology construct. The complexity is generally negatively correlated with rate of adoption (Rogers, 1995). We dropped four other constructs under DOI as the emphasis of our study is more on examining end user adoption of the e-filing system from a technology acceptance and complexity dimension.

- $H_4$ : Complexity has significant a correlation with behavioral intention of using e-filing in Malaysia.

## 5. RESEARCH METHODOLOGY

### Survey and Instrumentation

A self-administered questionnaire-based survey was conducted in Klang Valley. Klang Valley is an area in Malaysia comprising Kuala Lumpur (the capital city of Malaysia) and its suburbs, and adjoining cities and towns in the state of Selangor. It is the heartland of Malaysia's industry and commerce with the population of 5.2 million in 2006. The unit of analysis is individual taxpayers. A total of 200 taxpayers' responses were collected using convenient sampling method. We used this sampling method to gather data in this study for the following reasons. Firstly, the process of tax filing in Malaysia is kept confidential by the Inland Revenue Department in Malaysia. In this context, we were unable to obtain a sample frame that would allow us to proceed with randomization sampling method based on probability structures. Secondly, given the unavailability of a proper sampling frame and we needed to talk to Malaysians if they had used e-filing or otherwise, our next best option was to administer the survey by talking to people on the street directly. Stated differently, given limited access to privy information, we decided to use the convenient sampling method.

The development of the constructs and the measures used to measure them were consistent with the literature. The measurements for independent variables; perceived

ease of use and perceived usefulness were adapted from Davis (1989), whereas, input items measuring perceived readiness (with wording changes from technology readiness) were adapted from Parasuraman (2000), and input items for complexity of technology were adapted from Rogers (1995). Measurements for behavioural intention were derived from Davis (1989). The details of the measures for each constructs are given in the Appendix 1.

The constructs were measured using a seven-point Likert-scaling with anchors ranging from "strongly disagree" to "strongly agree". The analyses encompassed descriptive statistics, reliability test, correlations and regression.

## 6. RESULTS AND DISCUSSIONS

### Demographic profile

As given in Table 1 below, in terms of gender, male accounted for 56 per cent and female accounted for 44 per cent. The age groups; below 20, 21-30, 31-40, 41-50 and above 50 were 0.5 per cent, 39.5 per cent, 29 per cent, 17 per cent and 14 per cent respectively. Meanwhile, 40 per cent (80) of the respondents were still single, 59.5 per cent (119) were married and only 1 respondent (0.5 per cent) was divorced. In terms of education, 2 per cent and 43 per cent of the respondents were from primary school secondary school, 39 per cent and 19 per cent were with bachelors and masters (or above) degrees. Where income groups are concerned, 64 per cent of the respondents were earning up to RM50,

000, 22.5 per cent were earning between RM50, 000 and RM100,000 and only 4 per cent were earning above RM100,000 in a year, however, 16 cases were considered as systems missing.

**Table 1: Demographic Profile**

| Profile | Frequency | Percentage (%) |
|---|---|---|
| **Gender** | | |
| Male | 112 | 56.0 |
| Female | 88 | 44.0 |
| Total | 200 | 100.0 |
| **Age** | | |
| <20 | 1 | 0.5 |
| 21-30 | 79 | 39.5 |
| 31-40 | 58 | 29.0 |
| 41-50 | 34 | 17.0 |
| >50 | 28 | 14.0 |
| Total | 200 | 100.0 |
| **Marital** | | |
| Single | 80 | 40.0 |
| Married | 119 | 59.5 |
| Divorced | 1 | 0.5 |
| Total | 200 | 100.0 |
| **Education** | | |
| Primary school | 4 | 2.0 |
| Secondary school | 86 | 43.0 |
| Bachelors degree | 72 | 36.0 |
| Masters and above | 38 | 19.0 |
| Total | 200 | 100.0 |
| **Income (per year)** | | |
| RM50,000 or below | 129 | 64.0 |
| RM50,001- RM100,000 | 47 | 22.5 |
| > RM100,000 | 8 | 4.0 |
| Systems Missing | 16 | 8.0 |
| Total | 200 | 100.0 |

**Statistical Analysis**

Some important statistical techniques were adopted; reliability test, correlation and regression analyses. The reliability test (Table 2) is essentially important to evaluate the successfulness of the constructs considered in the study. The correlation results (Table 2) reveal the relationships among the variables considered in the study and the regression analysis explains the effect of the factors affecting the behavioural intention with regard to e-filing operations.

The regression model is obtained using the OLS (ordinary least squares) estimators but since, all the variables were strongly correlated, we even conducted a diagnostic test on the multi-collinearity effect, and it was verified that the VIFs (Variance-inflating factors) for all the four independent variables (PU = 1.66, PEOU = 3.15, PR = 2.87 and C = 1.40) were within the acceptable range. Thus, the model shown below is free from multi-collinearity effect.

**Table 2: Reliability tests**

| Variables | Cronbach's Alpha | No of items | No of cases |
|---|---|---|---|
| Behavioural Intention (BI) | 0.882 | 4 | 200 |
| Perceived Usefulness (PU) | 0.903 | 4 | 200 |
| Perceived Ease of Use (PEOU) | 0.915 | 4 | 200 |
| Perceived Readiness (PR) | 0.877 | 4 | 200 |
| Complexity (C) | 0.929 | 4 | 200 |

Table 2 shows that the Cronbach's Alpha value for behavior intention is *0.882,* perceived usefulness is *0.903,* perceived ease of use is *0.915.,* perceived readiness is *0.877*, and the value of complexity is *0.929*. All of the constructs obtain Cronbach's Alpha value is

exceeding recommended value of 0.70. Therefore, this signifies the measures used to measure the constructs are relevant and these constructs can later be used for other types of analyses (correlations and regressions).

**Table 3: Mean, standard deviation and bivariate correlation results**

| | Mean | Std D | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| 1.Behavioural Intention (BI) | 5.09 | 1.36 | 1 | | | | |
| 2.Perceived Usefulness (PU) | 5.39 | 1.18 | **.0704**** | 1 | | | |
| 3.Perceived Ease of Use (PEOU) | 4.83 | 1.27 | **.660**** | **.621**** | 1 | | |
| 4.Perceived Readiness (PR) | 4.64 | 1.32 | **.659**** | **.543**** | **.793**** | 1 | |
| 5.Complexity (C) | 4.67 | 1.37 | **.457**** | **.380**** | **.487**** | **.510**** | **1** |

* $p < 0.05$, ** $p < 0.01$

The mean, standard deviations and correlation are coefficients shown in Table 3 above. As for correlation analysis, behavioural intention is positively and significantly correlated with all other variables at 0.01, but however, the strongest correlation is found with perceived ease of use, ($r = 0.660$, $p < 0.01$). Though, even all independent variables are significantly correlated, however, highest correlation coefficient exists between perceived ease of use and perceived readiness ($r = 0.793$, $p < 0.01$).

Table 4 shows the regression model on the behavioural intention. It seemed that Perceived Usefulness (PU) and Perceived Readiness (PR) significantly affected behavioural intention at 0.01, meanwhile complexity was also found to correlate with behavioural intention but at 0.1. Thus, we came to know that perceived ease of use did not have any impact on behavioural intention though it appeared to be significantly

correlated with behavioural intention in the earlier discussion. Thus, hypothesis 1 and 3 are supported at 0.05, and hypothesis 2 and 4 are statistically not supported. Meanwhile, the model is significant at 0.01(F-test = 2.456) and it seems 60.4 per cent of the variation in the dependent variable (behavioural intention) is explained by the model.

**Table 4: Regression results for predicting Behavioural Intention (BI)**

| | **Behavioural Intention (BI)** | | |
|---|---|---|---|
| | Beta | Adj $R^2$ | F |
| Constant | -0.003 | 60.6 % | 77.68*** |
| | (-0.010) | | |
| **Perceived Usefulness (PU)** | 0.508*** | | |
| | (7.728) | | |
| **Perceived Ease of Use (PEOU)** | 0.137 | | |
| | (1.613) | | |
| **Perceived Readiness (PR)** | 0.277*** | | |
| | (3.581) | | |
| **Complexity (C)** | 0.088* | | |
| | (1.685) | | |

* p < 0.1, ** p < 0.05, *** p < 0.01
t-statistics are given in parentheses.

Overall, the findings revealed that in order to attract more users to use e-filing systems, it is not enough to develop a useful system. Developing a useful system is hence about getting the technology ready for the public use. The real task is to attract more users to use the e-filing system which touches the behavioural part of the users. This study indicates that the paramount reasons that correlate with the intention to use of the e-filing systems are that perceived usefulness where the use of this system will be beneficial for users and perceived readiness reflects that users feel that they are somehow ready and have knowledge to use the e-filing systems.

Based on these findings, government of Malaysia can use these two factors, the PU and PR to formulate activities, strategies, campaign and policies to encourage the usage level of tax e-filing systems. As suggested by TAM, PRI and DOI, these factors could improve positive psychological inclination towards embracing new technologies and belief that it be fruitful if being used whether it is for their personal or work use. Wang (2002) recommends government authorities to employ training and promotion approaches to develop people's beliefs of usefulness, ease of use and credibility, which in turn influence their behavioural intentional to adopt e-filing systems.

## 7. IMPLICATIONS

The findings of this study impacts both research and practice. Research on e-filing in Malaysia is still at an infant stage given that the system was only introduced few years ago. The model used in the study suggests that the constructs PU and PR are vital in addressing e-fling adoption issues in Malaysia. These constructs and model therein increases our understanding of e-filing utilization and adoption in the context of Malaysia. This model can be used as a basis for future work. Researchers can incorporate other dimensions or constructs into the model for example examining issues pertaining to performance and effort expectancy (Schaupp and Carter, 2008; Ojha, Sahu and Gupta, 2009), personal innovativeness in information technology (Ojha et al, 2009), role of social norms and value systems, as well as perhaps issues pertaining to regulation and government incentives for using e-filing systems in Malaysia. Other studies can also examine e-filing

adoption issues with an emphasis on ascertaining demongraphic influnces (e.g. age, technology access, income/education levels etc) on e-filing adoption.

In terms of practice, this study can be used by the relevant government authorities to incorporate PU and PR issues in the context of larger scale systems implementation within the broad-based e-Government initiative in Malaysia. Specifically, the Inland Revenue department in Malaysia (Lembaga Hasil Dalam Negeri) should be aware that greater acceptance of e-filing systems is influenced by citizens' perception about technology vis-à-vis is usefulness, and use. In addition the department must also conceptualize how e-filing can be rolled out to rural areas in Malaysia where access to and awareness of technology and e-filing is limited. In addition, vendors appointed by the government in improving the e-filing system should ensure that all future enhancements to the system in terms of its functionality and use, is kept relatively simple (Schaupp et al. 2008) to ensure that citizens can readily accept and use the system (Bandura 1977, Barnes, and Vidgen, R. 2007).

## 8. LIMITATIONS

Several limitations must be addressed here. Firstly, the number of respondents is insufficient. This study only collected 200 questionnaires and in a specific location which is Klang Valley. This may not be sufficient to generalize the result to the overall behavioural intention of Malaysian tax payers. Nevertheless, this is a preliminary study which is aimed to role out the coverage to every e-filing tax payers in the future studies

with the cooperation of IRB. Secondly, the researchers understand that different working groups may have different perception. Thus, this study may not be generalized for all groups of workers and have different levels of involvement in ICT related services. Future research should segment the respondents into different working groups and different ICT knowledge level to extract more accurate scenario of e-filing intentions and usages. Thirdly, application of DOI theory should not be limited to only one component rather should include all the important components under this theory.

## 9. CONCLUSIONS

TAM, PRI and DOI are the central models tested in this research and have been successfully integrated to predict and to understand the critical factors influencing the taxpayers' perception to accept or neglect the e-filing systems. The critical factors included perceived usefulness, perceived ease of use, perceived readiness, and complexity were examined and statistically tested in regards to identification of the causal relationships with behavioural intention, divulged that the behavioural intention to use the e-filing systems could be explained by perceived usefulness and perceived readiness. The Constructs PU and PR have produced important implications for the Malaysian government in successfully attracting the individual tax payers to effectively make use of the e-filing systems. In conclusion, applying TAM, PRI and DOI to the e-filing system studies could lead to an understanding of public acceptance to the system and shed some light on research of the G2C e-government system in the future.

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**Appendix 1**

| Behavioral intention | Perceived Usefulness | Perceived ease of use | Perceived readiness | Complexity |
|---|---|---|---|---|
| I intend to use Internet facility for my income tax submission. | Using electronic tax filing systems enables me to finish income tax computation quickly. | Learning to use electronic tax filing systems would be easy for me. | I have basic knowledge and opportunities to use an electronic tax filing systems. | Electronic tax filing is difficult to learn compared to manual tax computation methods. |
| Tax submission method via internet is more convenient than submission by post or by hand | Using electronic tax filing systems can improve income tax computation more accurately. (calculation is computed by the system itself) | I find that electronic tax filing systems is easy to use. | There is no barrier for me to utilize electronic tax filing. | Electronic tax filing is difficult to utilize compared to manual tax computations methods. |
| I would like to recommend electronic tax filing systems to my relatives and friends | Using electronic tax filing systems can enhance income tax computation efficiency. E.g. save time and cost. | It is easy for me to input and modify data when I use electronic tax filing systems | I have access to the information and instructions that I need for using the electronic tax filing systems. | Electronic tax filing systems is difficult to set up compared to manual tax computations methods. |
| I will use other E-government service provide by government. E.g. check and pay traffic summons. | Using electronic tax filing systems makes the income tax computation easier. | The instructions provisions for utilizing an electronic tax filing systems are clear and understandable | I would be able to use electronic tax filing systems in irrespective of time and location. | Electronic tax filing takes a lot of efforts to learn. |

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