

Perceived Risk and the Adoption of Tax E-Filing

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Abstract: Many countries have introduced e-filing of tax returns to help citizens fulfill their responsibilities toward the government. However, despite the presence of such e-services, researchers argue e-filing of taxes is not popular among the public, especially in developing countries like Malaysia, because of the high perceived risk associated with the service. The lack of coordinated efforts on the part of the service provider to counter individual perceptions of risk further discourages the adoption of the tax e-filing service. The paper uses the technology acceptance model to understand how perceived risk and its facets influence the adoption behavior of consumers. By analyzing data from 249 Malaysian taxpayers, the authors found that facets of perceived risk have a positive relationship with the adoption of tax e-filing whereas perceived ease of use of the system does not have a positive relationship with the adoption of tax e-filing. The model suggests that different risk facets may influence the adoption of tax e-filing and perceived usefulness of the system differently.

Key words: E-government • Taxation • E-filing • Risks • SEM • TAM

INTRODUCTION

Governments around the world are increasingly relying on information and communication technologies to improve the delivery and dissemination of services and information to the public. While the governments have adopted a proactive approach, the success of e-government also depends on the citizens' view of the convenience and usefulness of such services. E-filing of income taxes, for instance, is an e-government service that has been introduced in many countries. It allows taxpayers to file their tax returns electronically to the tax authorities. However, this system has been slow in gaining acceptance among taxpayers. For example, in the US, which introduced the system in 1986, only 52% of the taxpayers were using e-filing in 2007 [1].

Recently, the system of e-filing tax returns has been introduced in Malaysia. E-filing is one of the most important and advanced e-government services in the country, as it allows taxpayers to conveniently assess and pay their taxes. The tax authority in Malaysia, the Inland Revenue Board (IRB) has invested a substantial sum of money and resources to develop the e-filing system.

According to the IRB's 2012 report, 2.1 million taxpayers have e-filed their tax returns in Malaysia [2]. To ensure returns on its investment in the e-filing system, Malaysia should focus on improving the acceptance of the system among its taxpayers. Malaysia was rated as the 2nd highest country in South East Asia which deploys information technology to improve its public services among citizens; however, e-participation index dropped from 0.66 (in 2010) to 0.5 (in 2012) [3].

One of the key benefits of online activities is that it allows consumers to conduct transactions with a few mouse clicks [4-6]. This convenience can serve as a key driver of e-filing adoption. E-filing offers many convenient features to taxpayers (i.e., time to file, place of filing, ease-of-use, information searching and online transactions) that are not quite available in the traditional channels. E-filing also offers the flexibility of time and minimizes errors in the calculation of tax returns. Further, e-filing offers many benefits to the service providers or the tax authorities. It reduces the authorities' workload and operational cost by converting the submission of tax returns into a paperless process. It also reduces the costs of processing, storing and handling of tax returns.

Despite these benefits, tax authorities continue to face major challenges in the implementation of the e-filing system. One such challenge is the public perception of e-filing. An e-filing system does not provide consumers the familiar comfort of directly communicating with a tax personnel or seeing/touching the tax forms, which may be perceived as a service drawback. Further, taxpayers may be burdened by the time and effort needed to learn the new system and accommodate any service failure. Although investments of time are non-monetary and vary among individuals, researchers have found that consumers/users consider time as a cost that must be incurred for use of products/services [7].

Another main challenge is ensuring that the system runs smoothly and efficiently during the annual tax filing period. The computer and information systems utilized for e-filing should be stable enough to handle heavy user traffic, especially during the period close to the deadline. The service provider has to ensure that the e-filing system is capable of accurate data processing during the month of the tax submission. Another critical factor is ensuring the confidentiality of the information submitted through the e-filing system.

If tax authorities are unable to develop an e-filing system that can overcome these challenges, taxpayers might be reluctant to adopt the system. Issues such as loss of valuable time or information and glitches in the system's performance, if not strategically addressed, could be perceived as risks by current and potential adopters. Thus, perceived risk of e-filing is defined as the overall level of uncertainty or anxiety that an individual associates with e-filing. It is very important for the tax authorities to understand these perceived risks and to ensure that they are minimized for successful implementation of an e-filing system.

This paper proposes a model that adopts and extends the technology acceptance model (TAM) to include the different facets of perceived risk associated with e-filing. The contribution of the proposed model can be summarized as follows. Firstly, this study adds to the existing e-service and e-government literature by focusing on the significance of the perceived risk associated with e-filing of taxes. Secondly, the research provides useful insights to tax authorities by categorizing the type of risks that the taxpayers perceive. This model can guide service providers in their strategic development or improvement of the e-filing system.

This rest of the paper is organized as follows. The next section reviews existing literature. This is followed by a description of the proposed model and a set of research

hypotheses based on the theories in the preceding section. The data collection and analysis as well as the results are presented in subsequent sections. Finally, the paper concludes with a discussion on the implications of the research and future research directions.

Literature Review on Adoption of E-Filing: Few studies have focused on the adoption of e-filing system. Most of the existing literature applies and extends one of the following to assess the adoption intention of the e-filing system: TAM, proposed by Davis [8] [9-11]; theory of planned behavior (TPB) by Fishbein and Ajzen [12, 13, 14] and a unified model of both theories [15]. Other studies [16] have used the unified theory of acceptance and use of technology (UTAT) or the innovation diffusion theory to examine the adoption of e-filing among taxpayers [17].

In studies based on TAM and TPB, the determinants of the variables Perceived Usefulness (PU) and Perceived Ease of Use (PEU) were identified and measured. For example, Wang [17] examined the effect of computer self-efficacy on PU and PEU while Fu, Farn [15] studied the effect of compatibility of adopters' work experience, practices and needs to PU and PEOU. Chang, Li [10] examined the effect of quality antecedents of PEU and PU, such as information system quality, information quality and perceived credibility, on adoption intention.

Perceived risk was also included as a variable in these models [11, 13, 15, 16]. The results showed that perceived risk significantly affects the behavioral intention of current and potential users of the e-services. However, the perceived risk variable in these studies only measured the effect of overall risk on behavioral intention. Featherman and Pavlou [18] argued that a multi-dimensional perceived risk variable may offer better insights into the risk factors that are important for potential users. Accordingly, Rotchanakitumnuai [19] investigated the effect of three risk factors-privacy risk, performance risk and the fair financial audit risk-on the tax e-payment system in Thailand. Results showed that only performance risk and the fair financial audit risk were significant to the adoption of the e-payment method.

Research Framework: This conceptual paper proposes an e-filing adoption model that is derived from the theoretical foundations of prior research as well as TAM. TAM, proposed by Davis [8], is widely used to explain the relationship between perceptions and the use of technology. The two main constructs that influence behavioral intention are PU and PEU. PU is defined as the user's perception of the degree to which using the system

will improve his or her performance in the workplace. PEU is defined as the user's perception of the amount of effort needed to use the system. Studies based on TAM have consistently shown a positive relationship between PU and PEU [20]. Empirical evidence of the significant effects of PEU and PU on behavioral intention (BI) is also available in literature [21-23]. In this model, attitude as a construct has been not included because it is not a significant mediator in the relationship between beliefs and behavioral intention[24]. On the basis of the above definitions and findings from previous literature, the following research hypotheses are developed.

H1: Perceived usefulness of e-filing will have a positive effect on the adoption of e-filing.

H2: Perceived ease of use of e-filing will have a positive effect on the adoption of e-filing.

H3: Perceived ease of use of e-filing will have a positive effect on the perceived usefulness.

This paper proposes a model that examines how PEU, PU and perceived risk of the e-filing service affect taxpayers' adoption behavior. Existing literature on e-services [18, 25] confirms the effect of perceived risk on behavioral intention. Researchers such as Featherman and Pavlou [18], Cunningham [26], Bellman, Lohse [27] have identified different types of risks that influence behavior. For example, Featherman and Pavlou [18] proposed a seven- facet risks model. This model is highly suited to evaluating the e-filing adoption behavior because it is comprehensive, based on TAM and developed specifically for e-service applications.

In line with Featherman and Pavlou [18] recommendations, this study proposes that, apart from the TAM constructs, five facets of perceived risk influence an individual's decision to adopt or reject the e-filing system: performance risk, time risk, psychological risk, privacy risk and overall risk. Financial risk and social risk were not included in this study as these items were not deemed relevant to the Malaysian e-filing context. In the Malaysian e-filing system, tax, calculated using the e-filing system, is paid through a separate system, referred to as the *e-bayaran* system. Hence, taxpayers do not typically perceive a financial risk. Featherman and Pavlou [18] defined social risk as that associated with "potential loss of status in one's social group." We believe that this risk is minimal in the Malaysian context because the system ensures secrecy of information exchanged during e-filing. On the basis of the

above discussion, the following additional hypotheses are developed:

H4: Perceived risk of e-filing adoption will be affected by performance risk, time risk, psychological risk, privacy risk and overall risk.

H5: Perceived risk of e-filing will have a negative effect on perceived usefulness.

H6: Perceived risk of e-filing will have a negative effect on the adoption of e-filing.

H7: Perceived ease of use of e-filing will have a negative effect on the perceived risks of e-filing.

This paper investigates the influence of Malaysian taxpayers' perceived risk on adopting the e-filing system. Drawing on available literature, this paper attempts to study the relationships between PU, PEU and perceived risk facets, which represents a novel approach. As discussed earlier, perceived risk appears to be a key factor that affects public trust in e-filing system and guides the service provider's relationship with the stakeholders. While the service provider's perceptions of e-filing have been addressed, very few studies have focused on the effect of users' perceived risk on e-filing adoption [11, 15, 28]. This paper examines the influence of perceived risks on public adoption of e-filing through the use of the higher-order constructs of PU and PEU. The study aims to contribute to the existing literature by developing a new model for predicting e-service adoption, which uses a multi-dimensional construct of perceived risk.

MATERIALS AND METHODS

Sample: Seven hundred and fifty users of the e-filing system in Malaysia were selected through convenient sampling. Data were collected via a traditional survey from the users of the e-filing system that visited two of Inland Revenue Board Malaysia's Kuala Lumpur branches. Only 249 questionnaires were received from respondents. This translated into a response rate of 33%, which is rather high for consumer-based study. Table 1 presents the demographic details of the respondents. The sampled population was fairly young, with more than 75% of the respondents below the age of 40 years. Majority of the respondents had more than 4 years of experience in using the Internet. Of the total, 94% received income from employment while only 5% were self-employed.

Table 1: Selected demographic attributes of the respondents

Demographics		Frequency	Percent (%)
Gender	Men	115	47.1
	Women	129	52.9
Age	Less than 30 years	74	30.3
	30-39 years	165	67.6
	40-55 years	0	0.0
	56-65 years	5	2.0
Years of Internet Use	None	11	4.5
	1-3 years	41	16.8
	4-6 years	147	60.2
	7-9 years	45	18.4
Type of Taxpayer	Employed	229	94.6
	Self-employed	13	5.4

Measures: A structured questionnaire was used to collect data from the participants. Constructs were measured using multiple-item scales, derived from pre-validated measures used in previous studies. Items for PU, PEU and adoption of tax e-filing systems were adapted from studies by Davis [8] and Chau and Hu [29]. Items for measuring the five risk facets were adapted from Featherman and Pavlou [18]. All constructs were measured on a 5-point Likert scale with anchors ranging from strongly disagree to strongly agree.

Data Analysis: The procedure for developing the measures was based on the guidelines proposed by Churchill [30]. First, the measurement items were refined and validated using a reliability test. They were then re-validated using confirmatory factor analysis (CFA), with the help of a structural equation modeling (SEM) software, AMOS 20.0. SEM was used to evaluate how well the proposed conceptual model of e-filing adoption, containing observed indicators and hypothetical constructs, explains or fits the collected data [31, 32]. SEM enables simultaneous examination and explanation of the inter-dependent relationships among constructs [33]. It also allows measurement of the structural relationships between sets of unobserved (latent) variables, while clarifying unexplained variance [32, 34, 35]. The goodness-of-fit (GFI) and adjusted goodness-of-fit (AGFI) were used to evaluate how well the proposed model fits the sample data, while root mean square error of approximation (RMSEA) was used to evaluate how well the model, with unknown but optimally chosen parameter estimates, would fit the populations covariance matrix [34]. An RMSEA value between 0.08 to 0.10 indicates a mediocre fit and that below 0.08 shows a good fit [36, 37].

RESULTS AND DISCUSSION

We tested the hypotheses to identify the structural relationships between the constructs and the e-filing adoption behavior, as shown in Figure 1. The relationships between the constructs were examined based on the t-values associated with path coefficients between the constructs.

A two-step method was used for the SEM analysis [38], where “the measurement model is first developed and evaluated separately from the full SEM” (p.191). Accordingly, the first step in the data analysis was to establish the unidimensionality, reliability, convergent and discriminant validity of the constructs using CFA. All the measured constructs conformed to the acceptable thresholds for CFA. Table 2 presents the descriptive measures of the research variables. Two indicators each for PU, PEU and overall risk were excluded. All other indicator factor loadings in CFA exceeded 0.5 and were significant at $p = 0.001$. The Cronbach’s alpha coefficients of the variables ranged from 0.83 to 0.977, while the composite reliabilities of the constructs ranged from 0.832 to 0.977 (Table 2). Average variance extracted (AVE) by each construct ranged from 0.745 to 0.983; all exceeded 0.5. Thus, the conditions for convergent validity were met.

The square root of AVE for each construct confirmed that the test for discriminant validity was met (Table 3). According to Chin [39], the test for discriminant validity is met when the square root of AVE for each construct is greater than its correlation with other constructs.

The full proposed structural model was estimated using the refined measurement models. The fit indices were below the acceptable thresholds, indicating adequate fit with the data ($\chi^2 = 524.424$; $df = 264$; $GFI = 0.859$, $AGFI = 0.826$, $NFI = 0.909$ and $CFI = 0.953$, $RMSEA = 0.63$). Figure 2 schematically represents the study results.

Judging from the significance of the values in the proposed model, five paths were found to be relevant to the hypothesized directions. Consistent with other TAM research, PU ($b = 0.283$, $p < 0.01$) was positively related with tax e-filing adoption; thus, H1 was supported. PEU ($b = 0.48$, $p < 0.01$) was also positively related to PU; thus, H3 was supported. However, PEU ($b = 0.09$) had no significant relationship with e-filing adoption; hence, H2 was rejected. This possibly suggests that the decision to adopt e-filing is influenced by mediating variable, which could be PU in this case.

Table 2: Results of the SEM analysis of the variables

Variable	Mean	SD	Cronbach's Alpha	Composite reliability	AVE
Performance risk (PFMR)	9.70	2.915	0.832	0.884	0.745
Time risk (TMR)	8.76	3.095	0.893	0.897	0.909
Psychological risk (PYCR)	4.41	1.545	0.862	0.863	0.933
Privacy risk (PRVR)	8.20	2.904	0.908	0.907	0.935
Overall risk (OVR)	8.89	2.517	0.894	0.907	0.918
Perceived usefulness (PU)	7.90	1.580	0.889	0.889	0.946
Perceived ease of use (PEU)	11.73	2.285	0.914	0.917	0.942
Adoption intention (ADPI)	10.02	4.011	0.977	0.977	0.983

Table 3: Square root of AVE for each variable

	PFMR	PYCR	PRVR	TMR	OVR	PU	PEOU	AADPI
PFMR	0.863							
PYCR	0.721	0.933						
PRVR	0.846	0.602	0.935					
TMR	0.740	0.810	0.669	0.910				
OVR	0.755	0.734	0.773	0.860	0.918			
PU	-0.441	-0.496	-0.420	-0.532	-0.607	0.946		
PEOU	-0.312	-0.334	-0.359	-0.418	-0.474	0.654	0.942	
ADPI	0.035	0.158	-0.043	0.069	-0.028	0.198	0.165	0.983

Note: Performance risk (PFMR), Time risk (TMR), Psychological risk (PYCR), Privacy risk

Table 4: Results of hypotheses testing

Hypotheses	Results
H1: Perceived usefulness of e-filing will have a positive effect on the adoption of e-filing.	Supported
H2: Perceived ease of use of e-filing will have a positive effect on the adoption of e-filing.	Rejected
H3: Perceived ease of use of e-filing will have a positive effect on perceived usefulness.	Supported
H4: Perceived risk of e-filing adoption will be affected by performance risk, time risk, psychological risk, privacy risk and overall risk.	Supported
H5: Perceived risk of e-filing will have a negative effect on perceived usefulness.	Supported
H6: Perceived risk of e-filing will have a negative effect on the adoption of e-filing.	Rejected
H7: Perceived ease of use of e-filing will have a negative effect on the perceived risks of e-filing.	Supported

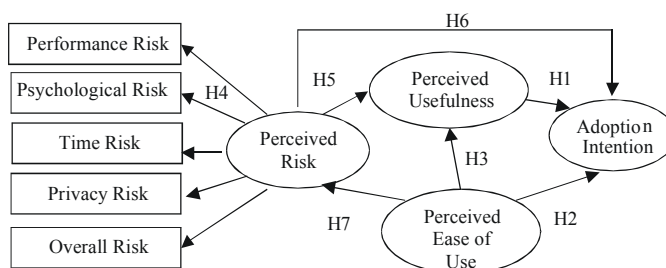
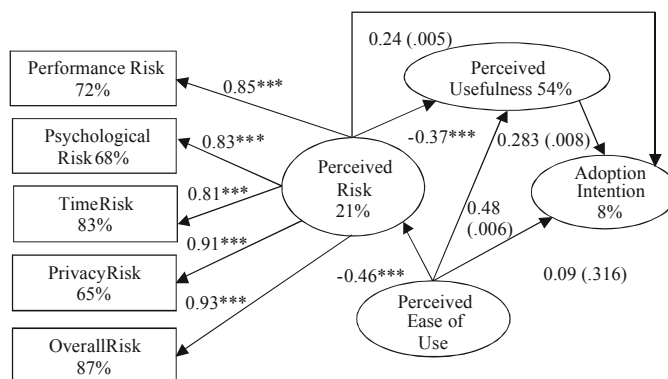


Fig. 1: Research Framework



Note: ***p < 0.001

Fig. 2: Research results

H4 was supported as performance risk ($b = 0.85$), time risk ($b = 0.83$), psychological risk ($b = 0.68$), privacy risk ($b = 0.65$) and overall risk ($b = 0.93$) had a significant ($p < 0.001$) and positive association with the perceived risk variable. The impact of perceived risk ($b = -0.37$, $p < 0.001$) on PU was found to be significant and negative; thus, H5 was supported. However, H6 was rejected because perceived risk ($b = 0.024$, $p < 0.01$) was found to have a positive and significant relationship with the adoption of e-filing. Hirunyawipada and Paswan [40] investigated the impact of perceived risk on adoption of innovative products. They found that different facets of perceived risk had a different effect on the acquisition of new information associated with the product. This possibly explains why perceived risk has a positive relationship with the adoption of e-filing behavior. H7 is supported as PEU ($b = -0.46$, $p < 0.001$) has a negative and significant relationship with perceived risk. Table 4 summarizes the results of this study. All the variables except perceived risk influenced user adoption of e-filing in the hypothesized direction (Table 3). By clarifying the relationships between the variables, this study has highlighted its contributions to literature, theories and practitioners.

The final model explains three most significant relationships between factors that influence adoption of e-filing by taxpayers. These relationships were compared with other research findings to ensure that the findings could be generalized. The present study presents a conceptual framework that explains how PU, PEU and perceived risk affect consumer adoption of the tax e-filing service in Malaysia. Results of the data analysis support the proposed model, with direct paths linking PU, PEU and perceived risk with consumer adoption. Results also confirm that perceived risk of e-filing adoption is affected by performance risk, time risk, psychological risk, privacy risk and overall risk.

In general, the results support most of the hypothesized relationships. The study contributes to existing knowledge by confirming that usefulness, ease of use and risks as perceived by consumers play a role in the use of tax e-filing services. E-filing service providers should specifically focus on managing consumer risk, given that different types of risks may affect consumer behavior. In this study, we found that the different facets of perceived risk have contributed to the positive relationship between perceived risks and the adoption of e-filing and that PEU does not have a significant relationship with tax e-filing adoption. This finding is in contrast with an earlier report [28] on the Malaysian tax

e-filing system. The earlier study found that perceived risk is negatively related to e-filing adoption and that perceived ease of use has a positive significant relationship with e-filing adoption. The differences in the results could be attributed to the following reasons. First, the age of the respondents in this study (mostly above 40 years) could have led them to perceive risk positively. Second, different facets of risk may have different associations with the adoption of e-filing. For instance, Hirunyawipada and Paswan [40] found that the different facets of perceived risk (e.g. financial risk, performance risk) have a different relationship (i.e., positive or negative) with consumer adoption of high technology products.

The findings of this study contain implications for developing a user-friendly e-filing system. The high cost incurred in developing a tax e-filing system makes it necessary to ensure that the system is user friendly. E-service providers should focus on designing easy-to-use, useful and reliable systems that are capable of gaining the customers' trust. From a managerial perspective, the findings of this research can be used by personnel at the IRB and policymakers as a guideline to determine the success of tax e-filing in Malaysia. Our findings suggest that perceived risk, when divided into different facets, is seen as a significant negative influence on the usefulness of the e-filing system but it effects the adoption of e-filing positively among the younger generation of Malaysians. The service providers should devise strategies that optimally balance the different facets of risks in the e-filing system to encourage adoption among younger generations of Malaysians.

Conclusion and Future Research: Previous studies have highlighted the importance of perceived risk in the adoption of e-filing. This study provides insights into the particular facets of risks that influence the adoption of the e-filing system by users. For instance, tax authorities can use these findings to develop risk-reducing strategies such as improved security features on the user interface. They can also identify groups with higher or lower inherent e-filing risks and target their communication accordingly.

Future research could be expanded to include different types of respondents such as paid tax preparers and different types of taxpayers. Paid tax preparers are file tax returns on behalf of their clients. They use the e-filing system for different types of clients and are more frequent users of the e-filing system than taxpayers who file their own returns. It would be interesting to understand the

facets of risks that they consider important. Further, companies, which engage in complex transactions, may focus on different risk facets than individual taxpayers, when e-filing tax returns.

REFERENCES

1. The Internal Revenue Service, 2007. Another Record-Breaking Number of Taxpayers Choose to Electronically File in 2007, 2007.
2. Bernama, 2012. 15 per cent increase in e-filing, says LHDN, in *News Straits Times* 6 June 2012.
3. (UNeGovDD), T.U.N.E.-G.D.D. Global E-Government Development Report 2012. 2012; Available from: <http://www2.unpan.org/egovkb/datacenter/CountryView.aspx>.
4. Hoffman, D.L., T.P. Novak and P. Chatterjee, 1995. Commercial scenarios for the Web: Opportunities and challenges. *Journal of Computer-Mediated Communication*, 1(3).
5. Alba, J., *et al.*, 1997. Interactive home shopping: consumer, retailer and manufacturer incentives to participate in electronic marketplaces. *The Journal of Marketing*, pp: 38-53.
6. Peterson, R.A., S. Balasubramanian and B.J. Bronnenberg, 1997. Exploring the implications of the Internet for consumer marketing. *Journal of the Academy of Marketing Science*, 25(4): 329-346.
7. Sweeney, J.C., G.N. Soutar and L.W. Johnson, 1999. The role of perceived risk in the quality-value relationship: a study in a retail environment. *Journal of Retailing*, 75(1): 77-105.
8. Davis, F.D., 1989. Perceived usefulness, perceived ease of use and user acceptance of information technology. *MIS Quarterly*, pp: 319-340.
9. Wang, Y.S., 2003. The adoption of electronic tax filing systems: an empirical study. *Government Information Quarterly*, 20(4): 333-352.
10. Chang, I., *et al.*, 2005. An empirical study on the impact of quality antecedents on tax payers' acceptance of Internet tax-filing systems. *Government Information Quarterly*, 22(3): 389-410.
11. Gallant, L.M., M.J. Culnan and P. McLoughlin, 2007. Why People e-File (or Don't e-File) Their Income Taxes, in *System Sciences*, 2007. HICSS 2007. 40th Annual Hawaii International Conference on. pp: 107-107.
12. Fishbein, M. and I. Ajzen, 1975. *Belief, attitude, intention and behaviour: An introduction to theory and research* 1975: Addison-Wesley.
13. Hsu, M.H. and C.M. Chiu, 2004. Predicting electronic service continuance with a decomposed theory of planned behaviour. *Behaviour and Information Technology*, 23(5): 359-373.
14. Hung, S.Y., C.M. Chang and T.J. Yu, 2006. Determinants of user acceptance of the e-Government services: The case of online tax filing and payment system. *Government Information Quarterly*, 23(1): 97-122.
15. Fu, J.R., C.K. Farn and W.P. Chao, 2006. Acceptance of electronic tax filing: A study of taxpayer intentions. *Information and Management*, 43(1): 109-126.
16. Carter, L., L.C. Schaupp and A. Evans, 2008. Antecedents to E-File adoption: The US perspective, in *Hawaii International Conference on System Sciences*, Proceedings of the 41st Annual, pp: 216-216.
17. Wang, H.C., H.S. Doong and F.C. Lin, 2007. Determinants of E-Government Service Adoption: An Innovation Diffusion Perspective, in *Wireless Communications, Networking and Mobile Computing*, 2007. WiCom 2007. International Conference On, pp: 3458-3461.
18. Featherman, M.S. and P.A. Pavlou, 2003. Predicting e-services adoption: a perceived risk facets perspective. *International Journal of Human-Computer Studies*, 59(4): 451-474.
19. Rotchanakitumnuai, S., 2007. The important risk factors of e-government service adoption, in *Wireless Communications, Networking and Mobile Computing*, 2007. WiCom 2007. International Conference On, pp: 3657-3660.
20. Venkatesh, V. and F.D. Davis, 2000. A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, 46(2): 186-204.
21. Venkatesh, V. and F.D. Davis, 1996. A model of the antecedents of perceived ease of use: Development and test*. *Decision Sciences*, 27(3): 451-481.
22. Davis, F.D., R.P. Bagozzi and P.R. Warshaw, 1989. User acceptance of computer technology: a comparison of two theoretical models. *Management Science*, pp: 982-1003.
23. Agarwal, R. and J. Prasad, 1999. Are individual differences germane to the acceptance of new information technologies? *Decision Sciences*, 30(2): 361-391.
24. Venkatesh, V., 1999. Creation of favorable user perceptions: Exploring the role of intrinsic motivation. *MIS Quarterly*, 23(2): 239-260.

25. Bahli, B. and Y. Benslimane, 2004. An exploration of wireless computing risks: Development of a risk taxonomy. *Information Management and Computer Security*, 12(3): 245-254.
26. Cunningham, S.M., 1967. The major dimensions of perceived risk. *Risk Taking and Information Handling in Consumer Behavior*, pp: 82-108.
27. Bellman, S., G.L. Lohse and E.J. Johnson, 1999. Predictors of online buying behavior. *Communications of the ACM*, 42(12): 32-38.
28. Che Azmi, A. and L.B. Ng, 2010. The Acceptance of the e-Filing System by Malaysian Taxpayers: A Simplified Model. *Electronic Journal of e-Government*, 8(1): 13-22.
29. Chau, Y.K. and J.H. Hu, 2001. Information technology acceptance by individual professionals: A model comparison approach. *Decision Sci.*, 32(4): 699-718.
30. Churchill, G.A., 1979. A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, pp: 64-73/.
31. Bollen, K.A., 1989. A new incremental fit index for general structural equation models. *Sociological Methods and Research*, 17(3): 303-316.
32. Hoyle, R.H., 1995. *Structural equation modeling: Concepts, issues and applications 1995*: SAGE Publications.
33. Reisinger, Y. and L. Turner, 1999. A cultural analysis of Japanese tourists: challenges for tourism marketers. *European Journal of Marketing*, 33(11/12): 1203-1227.
34. Byrne, B.M., 1998. *Structural equation modeling with LISREL, PRELIS and SIMPLIS: Basic concepts, applications and programming* Lawrence Erlbaum.
35. Turner, L.W. and Y. Reisinger, 2001. Shopping satisfaction for domestic tourists. *Journal of Retailing and Consumer Services*, 8(1): 15-27.
36. MacCallum, R.C., M.W. Browne and H.M. Sugawara, 1996. Power analysis and determination of sample size for covariance structure modeling. *Psychological Methods*, 1(2): 130.
37. Chen, F., *et al.*, 2008. An empirical evaluation of the use of fixed cutoff points in RMSEA test statistic in structural equation models. *Sociological Methods and Research*, 36(4): 462-494.
38. Anderson, J.C. and D.W. Gerbing, 1988. Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, 103(3): 411.
39. Chin, W.W., 1998. Issues and opinion on structural equation modelling. *MIS Quarterly*, 22(1): 7-16.
40. Hirunyawipada, T. and A.K. Paswan, 2006. Consumer innovativeness and perceived risk: implications for high technology product adoption. *Journal of Consumer Marketing*, 23(4): 182-198.
41. Ghozali, I., 2011. *Model Persamaan Struktural Konsep and aplikasi dengan program AMOS 19.02011*, Semarang, Indonesia: Universitas Diponegoro.