

The Effect of Trust in the System and Perceived Risk in Influencing Continuance Usage Intention of an E-Government System

T. Santhanamery¹, T. Ramayah²

¹Faculty of Business Management, Universiti Teknologi MARA, Permatang Pauh, Penang, Malaysia

²School of Management, Universiti Sains Malaysia, Gelugor, Penang, Malaysia

Received: January 7, 2016

Accepted: March 2, 2016

ABSTRACT

Malaysian government has spent a huge amount of money in developing the e-filing system which is receiving much attention and there has been an upward trend in the adoption of the system in the recent years. However, while initial acceptance is very important in realizing information system success but its eventual success depends on its continued use rather than first time use. As such, the purpose of this paper is to examine the effect of trust in the system variables (correctness, response time and security) and perceived risk in influencing the attitude of taxpayers in influencing the continuance usage intention of e-filing system. The study was done in the 2 urban cities in the northern region of Malaysia which covers Penang and Perak. A set of 550 questionnaires were distributed to the taxpayers in Penang and Perak and a total of 253 questionnaires were returned with 235 complete and usable questionnaires. Data was analyzed using the partial least squares (PLS) software. The result shows a significant relationship of trust in the system variables; correctness and response time towards taxpayers' attitude and an insignificant relationship of security towards attitude. Surprisingly, perceived risk was also found to be insignificantly related to attitude. Hence, the Inland Revenue Board of Malaysia (IRBM) must enhance the trust factors of the e-filing system to attract more taxpayers to believe and utilize the system and to create strategies to further boost the trust of the taxpayers.

KEYWORDS: Correctness, Response Time, Security, Perceived Risk, Attitude, Continuance Usage Intention, E-Filing System.

INTRODUCTION

Information and Communication Technology (ICT) is changing the way the society functions. Internet is one of the biggest revolutions in human history. The impact of ICT can be felt in all economic and social activities in a very conceivable manner [54]. The increasing number of internet users has actually led many private organizations in utilizing the internet as a new way of conducting business, known as "e-commerce". The speedy growth in the use of the internet and the emergence of e-commerce has eventually increased the pressure on the government to administer to citizens' needs via this new medium which is known as "e-government" [60].

E-government is a technological innovation that offers citizens improved and more reasonable access to government services [4]. The incredible ICT development has encouraged more countries to focus in providing e-government services to achieve maximum cost savings and provide better services. Ultimately, the adoption and success of e-government services depends on various factors. For instance, in the case of Singapore, its e-government success which was ranked first in the world by Waseeda University [65] are primarily due to its systematic and efficient attention in addressing the dimensions of trust which includes "citizen trust"; citizen trust of the government and citizen trust in the technology [55]. Trust appeared with the kindness and the development of collective interaction. Almost every aspect of a person's life is connected to trust in one way or another [17]. The concept of trust is closely linked to risk and expectations: trust is used as a substitute for risk [11]. In [49] convinced that trust is crucial in any long term relationship and it is even more critical wherever risk, uncertainty and interdependence exist because it alleviates risk. Therefore, taking into consideration the importance of trust, the objective of this paper is to evaluate the role of trust in the system and perceived risk towards the attitude in influencing the continuance usage intention of e-government services in Malaysia focus on the e-filing system.

* **Corresponding Author:** T. Santhanamery, Faculty of Business Management, Universiti Teknologi MARA, Permatang Pauh, Penang, Malaysia. E-mail: santha190@ppinang.uitm.edu.my

E-Filing System in Malaysia

E-Filing system in Malaysia which was introduced in 2006 as a whole integrates tax preparation, tax filing and tax payment which serves as a major advantage over traditional manual procedure [5]. The adoption of the e-filing system in Malaysia has shown a tremendous increase since its introduction particularly for individual taxpayers. The number of submissions grew year by year from 186,271 (2006) to 873,095 (2007) [9] and 1,171,105 (2008) to 1,466,507 (2009) [8] to 1,666,134 [7]. In total, it shows that 33% of the total registered individual taxpayers (5,040,782) have filed their income taxes via e-filing in 2010 [7]. A further increase was also observed in 2011 and 2012 whereby the number of submissions increased to 1,914,110 and 2,268,258 respectively (Jali, M.A., May 3, 2013. IRBM, e-mail communication).

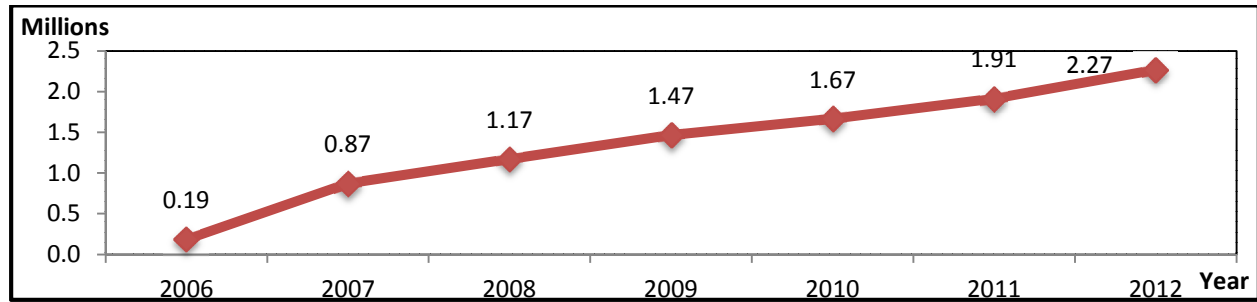


Figure 1: Submission via e-filing

THEORETICAL BACKGROUND AND THE RESEARCH MODEL

Based on the evaluation of the theoretical finding from previous literatures as well as the recommendations from previous researches, the research model as illustrated in Figure 2 were constructed to explore the relationship expected in this study. Basically, the theoretical framework proposed that there exist a direct relationship of attitude towards e-filing continuance usage intention and also the indirect effect of trust in the system (correctness, response time and security) and perceived risk through attitude. The major area of this study is the continuance usage intention, whereby customers' repurchasing or loyalty is critical to the success and profitability of online stores [15]. Significantly, while there has been encouraging interest shown in determining continuance usage intention, however, very little effort is undertaken in determining the effect of trust in the system, perceived risk and attitude on the continuance usage intentions particularly in e-government perspectives. Therefore, this study intends to fill the aforementioned gap. Figure 2 represents the theoretical model.

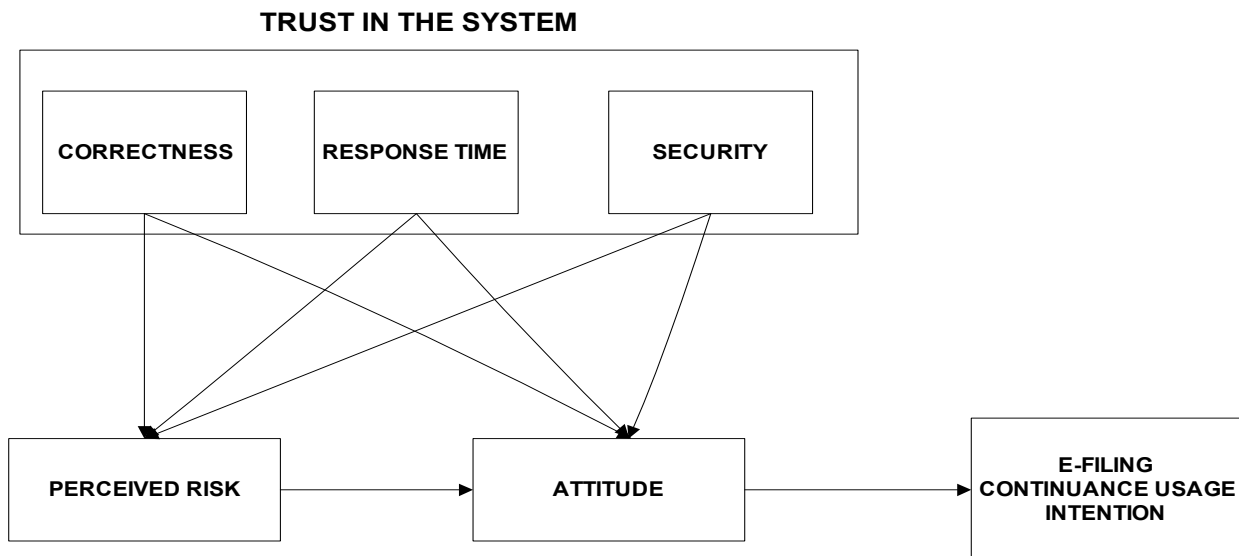


Figure 2: Proposed research model

LITERATURE REVIEW

Continuance Intention

Continuance intention is defined as one's intention to continue using a service in the post acceptance stage it is similar to one's repurchase decision as both decisions are influenced by initial usage [10]. Research with the continuance usage intention have been examined by both at the organizational and individual level of analysis [43]. The individual level of analysis assumes that information system (IS) continuance behavior is the continued usage of IS by the adopters, which following an initial acceptance decision [32]. However, unlike initial acceptance decision, IS continuance depends on various factors that affect the individuals' decision to continually using a particular system [44].

Attitude

Attitude refers to "the degree of a person's favorable and unfavorable evaluation or appraisal of the behavior in question". Attitude plays an important role in predicting and explaining human behavior [1]. Previous researches such as [39, 40, 37, 12, 27] have proven this relationship. According to [66], attitude is nurtured by experiences in life such as learning and influence by people surrounding the consumers. Motivation, perception of learning and attitude is the major psychological factor that affects a consumer's decision making. Attitude further serves as the link that connects consumers' background characteristics and their satisfaction towards the utilization. Since attitude is something that is hard to change [66], understanding the effect of attitude on the continuance usage intention will enable to predict the success of the system provided.

Trust in the System

In [49] has emphasized that consumer's trust in the service provider is considered as an important antecedent for the continuation of exchange relationships, where such belief depends on the perceived risk with the service provider by the consumers. In electronic commerce, trust is important when there is a risk of negative outcomes especially when financial transaction or personal information is involved [33]. Nevertheless, the role of trust in e-government services is even more significant and critical because citizens using e-government websites are unable to find alternative websites serving the same purpose. As such, in the absence of sufficient trust in the e-government websites, users may be motivated to revert to the traditional way of interacting with the government [57].

Perceived Risk

Perceived risk is defined as "the expectation of losses associated with purchase and acts as an inhibitor to purchasing behavior" [51] and "the citizen's subjective expectation of suffering a loss in pursuit of a desired outcome" [63]. Further, perceived risk was also defined as "the potential loss in the pursuit of a desired outcome of using an e-service" [20]. In [35] on the other hand defined perceived risk as "a fear of losing personal information and fear of being monitored on the internet". They further elaborate that perceived risk is negatively related to adoption.

HYPOTHESES DEVELOPMENT

Attitude and Continuance Intention

Studies have found that there exists a significant relationship between attitude and continuance intention. In [29] based on their study on online gaming communities reveals that attitude plays an important role in influencing the intention to continue playing the online game. This is supported by [37] whose study also found a significant relationship between attitude and users' continuance intention toward e-learning. Similarly, the individuals' attitude was proven to positively influence the individual's future purchase intentions in e-commerce environment particularly for experienced customers [26].

In the same way, positive attitude towards using the online booking system was found to be the major reason for customers to continually purchase their airline tickets online [34]. Indeed, in [29] found that attitude exhibits a stronger influence on continuance intention compared to other antecedents in shaping continued ICT usage intention. The study also suggested that attitude will have a stronger impact on continuance intention when the individuals have prior experience. Thus, it is hypothesized that:

H1: Attitude has a direct positive relationship towards continuance usage intention

Trust and Attitude

Although attitude in the initial adoption of online shopping was found to be jointly predicted by trust, perceived usefulness and perceived ease of use, however the effect of trust on attitude was found to be the most significant

[64]. Similarly, in [19] disclosed that in explaining the attitude towards the use of EHCR system among medical professionals, the institutional trust plays an important role. Further, in [46] revealed that trust based on vendor, internet and third parties positively influences attitude towards online purchasing. This finding is supported by [24] who found that in understanding consumers' acceptance of e-shopping, attitude is significantly affected by the trust. Trust was also found to have a significant impact on attitude towards adopting online banking [3]. Moreover, in addressing the role of online trust in internet stores, it was revealed that a higher level of trust in the internet store will enhance the positive attitude towards willingness to buy [18]. Thus, it is hypothesized that:

- H2a: Correctness has a direct positive relationship on attitude towards continuance usage intention
- H2b: Response Time has a direct positive relationship on attitude towards continuance usage intention
- H2c: Security has a direct positive relationship on attitude towards continuance usage intention

Trust and Perceived Risk

Although trust is crucial in any long term business relationship, but its contribution is even more critical wherever risk, uncertainty and interdependence exist because it alleviates risks [49]. Consumers' trust in the web vendor is considered as an important precursor for the continuation of exchange relationships, where such belief depends on the perceived risk with the web vendor by the consumers' [49]. Thus, in the electronic commerce environment, trust is considered as an important predictor when there is a risk of negative outcomes especially when financial transaction or personal information is involved [33]. In addition, in [46] explores the role of trust towards online purchasing and discover that in a business to consumer relationships trust in the vendor is vital for the consumer to accept any risk related to the transaction. Further, in [58] discovered a strong negative relationship between trust and perceived risk, whereby their study confirmed that high level of trust will decrease the perception of risk in an online purchasing environment. Thus, it is hypothesized that:

- H3a: Correctness has a direct negative relationship on perceived risk towards continuance usage intention
- H3b: Response Time has a direct negative relationship on perceived risk towards continuance usage intention
- H3c: Security has direct negative relationship on perceived risk towards continuance usage intention

Perceived Risk and Attitude

Perceived risk also was found to have a negative relationship towards attitude of consumers. Perceived risk was found to have a negative relationship towards the attitude in determining social network loyalty among residence in Spain [50] and towards street food [16]. Apart from that, perceived risk also was found to have a negative relationship towards attitude of consumers. Perceived risk was found to have a negative relationship towards the attitude in determining social network loyalty among residence in Spain [50] and towards street food [16]. Thus, it is hypothesized that:

- H4: Perceived Risk is negatively related to attitude towards continuance usage intention

RESEARCH METHOD

Data Collection Method

A total of 550 questionnaires were distributed among the taxpayers in two urban states in the north of Peninsular Malaysia which is Penang and Perak using self-administered questionnaire. A total of 253 questionnaires were returned and out of it, 235 were completed whereas the other 15 were incomplete. As such, the response rate was 42.7%. The questionnaire consists of 6 sections. The first section elicited the screening questions, the second section collected the demographic data, the third section extracted information on trust in the system dimensions, section four measured the perceived risk, section five on the user attitude and last section measured continuance intention. The sample selected were taxpayers who had used the e-filing system before at least once as the measures required them to express the trust in the system, perceived risk, attitude and continuance intention based on their previous usage.

Measures

The measures were all adapted from the published literature. The measures for continuance intention were from [10]. Attitude measures were adapted from [42] measure of perceived risk were adapted from [23], whereas measures for correctness were adapted from [47], security from [52] and response time from [45].

Sample Profile

The demographic of the respondents were derived from descriptive analysis. The majority of the age group (21.3%) was in the category of 30-34 years old. Male (51.1%) outnumbered the females (48.5%). In terms of ethnicity, the majority of the respondents were Malays (59.6%), followed by Chinese (20.4%) and Indians (19.6%) which somewhat reflects the ethnic group distribution in Malaysia. About 35.3% of the total respondents are highly educated with Master degree and followed by Bachelor degree. The majority of the respondents (34%) are earning within RM3000-RM3999 per month with the majority (79.6%) are married respondents. Lastly, about 81.3% and 55.7% of the respondents claimed to have experience in computer usage and internet usage approximately 10 years and above respectively.

Table 1: Demographic of the respondents

Age	Frequency	Percent
20-24 years	2	0.9
25-29 years	30	12.8
30-34 years	50	21.3
35-39 years	33	14.0
40-44 years	39	16.6
45-49 years	31	13.2
50-54 years	37	15.7
55 years and above	13	5.5
Gender		
Male	121	51.5
Female	114	48.5
Ethnicity		
Malay	140	59.6
Chinese	48	20.4
Indian	46	19.6
Others	1	0.4
Education		
Diploma/ College Level	51	21.7
Bachelor Degree	59	25.1
Masters Degree	83	35.3
Doctoral Degree	8	3.4
Others	29	12.3
Income		
RM2000-RM2999	39	16.6
RM3000-RM3999	80	34
RM4000-RM4999	51	21.7
RM5000-RM5999	29	12.3
RM6000-RM6999	17	7.2
RM7000-RM7999	8	3.4
RM8000-RM8999	5	2.1
RM9000-RM9999	2	0.9
RM10000 and above	2	0.9
Marital Status		
Single	45	19.1
Married	187	79.6
Others	3	1.3
Computer Usage		
1-3 years	7	3
4-6 years	13	5.5
7-9 years	23	9.8
10 years and above	191	81.3
Internet Usage		
1-3 years	11	4.7
4-6 years	46	19.6
7-9 years	47	20
10 years and above	131	55.7

DATA ANALYSIS

Smart partial least squares (PLS) version 2.0, a variance based Structural Equation Modelling (SEM) was used to analyze the hypotheses generated. The reasons for using this technique are as follows:

- a. PLS is known for its ability to handle both reflective and formative measures
- b. PLS places a minimal restriction on the sample size [14]

The two step analytical procedures suggested by [6] were adopted to analyze data whereby the measurement model was evaluated first and then followed by the structural model. Also following the suggestion of [14], the bootstrapping method (500 resample) was done to determine the significant level of loadings, weights and path coefficients. Figure 3 shows the Research Model.

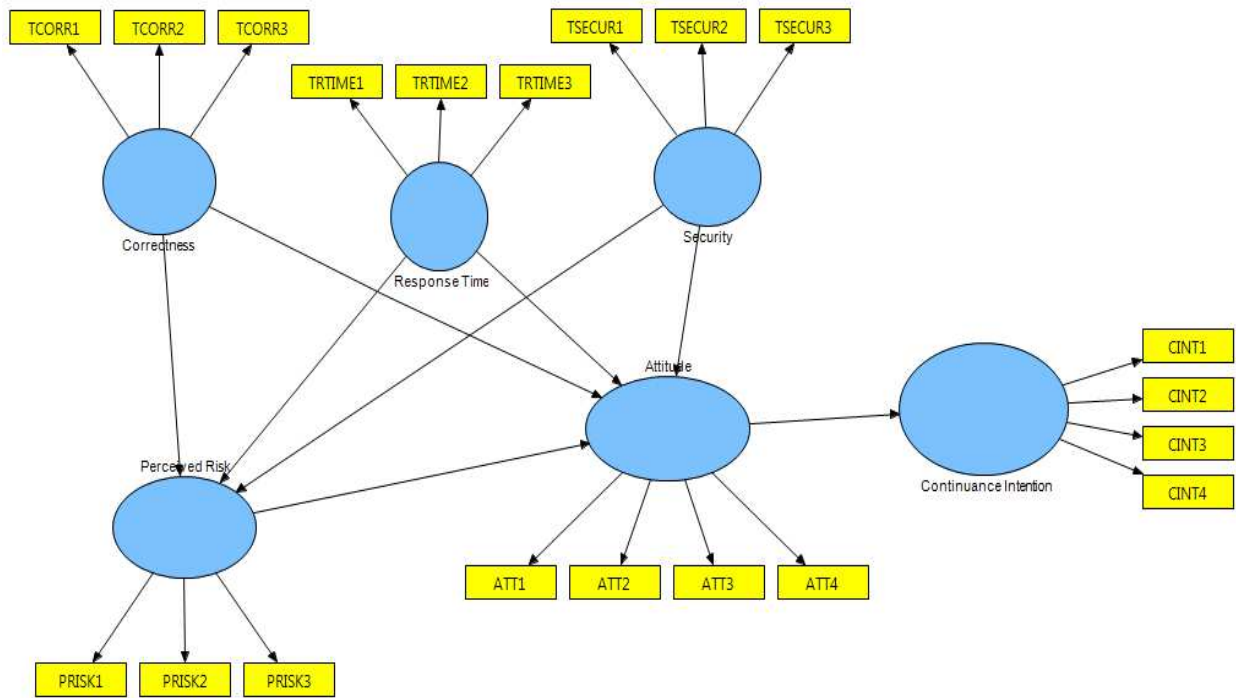


Figure 3: Research model

Measurement Model

Convergent validity is the degree to which the items that are indicators of a specific construct should converge or share a high proportion of variance in common [25]. According to [25], factor loadings and Average Variance Extracted (AVE) of more than 0.5 and Composite Reliability (CR) of 0.7 or above is deemed to be acceptable. As can be seen from Table 2, all loadings and AVE are above 0.5 and the composite reliability values are more than 0.7. Therefore, we can conclude that convergent validity has been established.

Table 2: Result of the measurement model

Construct	Item	Convergent Validity		
		Factor Loading	AVE	Composite Reliability
Perceived Risk	PRISK1	0.928	0.841	0.941
	PRISK2	0.936		
	PRISK3	0.886		
Attitude	ATT1	0.935	0.864	0.962
	ATT2	0.936		
	ATT3	0.946		
	ATT4	0.900		
Correctness	TCORR1	0.909	0.797	0.922
	TCORR2	0.908		
	TCORR3	0.861		

Security	TSECUR1	0.937	0.887	0.959
	TSECUR2	0.967		
	TSECUR3	0.921		
Response Time	TRTIME1	0.883	0.742	0.896
	TRTIME2	0.917		
	TRTIME3	0.777		
Continuance Intention	CINT1	0.946	0.906	0.975
	CINT2	0.970		
	CINT3	0.941		
	CINT4	0.950		

Next, we assessed the Discriminant Validity which is the extent to which a construct is truly distinct from other constructs [25]. This can be established by the low correlations between all the measure of the interest and the measure of other constructs. To address discriminant validity, the square root of the AVE is compared against the correlations of the other constructs, when the AVE extracted is greater than its correlations with all the other constructs then discriminant validity has been established [22].

Table 3: Discriminant validity of constructs

Constructs	1	2	3	4	5	6
1) Attitude	0.929					
2) Continuance intention	0.846862	0.952				
3) Correctness	0.738926	0.729164	0.893			
4) Perceived risk	-0.261103	-0.19963	-0.251484	0.917		
5) Response time	0.689857	0.663443	0.690201	-0.224751	0.861	
6) Security	0.349558	0.323013	0.475829	-0.107596	0.53993	0.942

Note: Diagonal represents the square root of AVE while the other entries represent squared correlations

Structural Model

The structural model represents the relationship between constructs or latent variables that were hypothesized in the research model. The goodness of the theoretical model is established by the variance explained (R^2) of the endogenous constructs and the significance of all path estimates [13]. Together, the R^2 and the path coefficients indicate how well the data support the hypothesized model [14]. Figure 4 and Table 4 show the results of the structural model from the PLS output. The attitude was found to be significantly related to Continuance Intention ($\beta = 0.847, p < 0.01$), thus supporting H1 of this study. Correctness ($\beta = 0.512, p < 0.1$) and Response Time ($\beta = 0.381, p < 0.01$) was found in this study to be significantly related to Attitude, hence supporting H2a and H2b. Security on the other hand although shows a significant impact on attitude ($\beta = -0.106, p < 0.05$), but the hypotheses H2c was rejected due to the inverse relationship between the variables. Correctness ($\beta = -0.193, p < 0.01$) were found to be significantly related to Perceived Risk, therefore supports the H3a. However, Response Time and Security were found to be insignificantly related to Perceived Risk ($\beta = -0.117$ and 0.048) respectively thus rejecting H3b and H3c. Lastly, Perceived Risk was found to be insignificantly related Attitude towards Continuance Usage Intention ($\beta = -0.058$), hence rejecting H4. A closer look at the findings reveals that Attitude can explain 71% of the variation in Continuance Usage Intention.

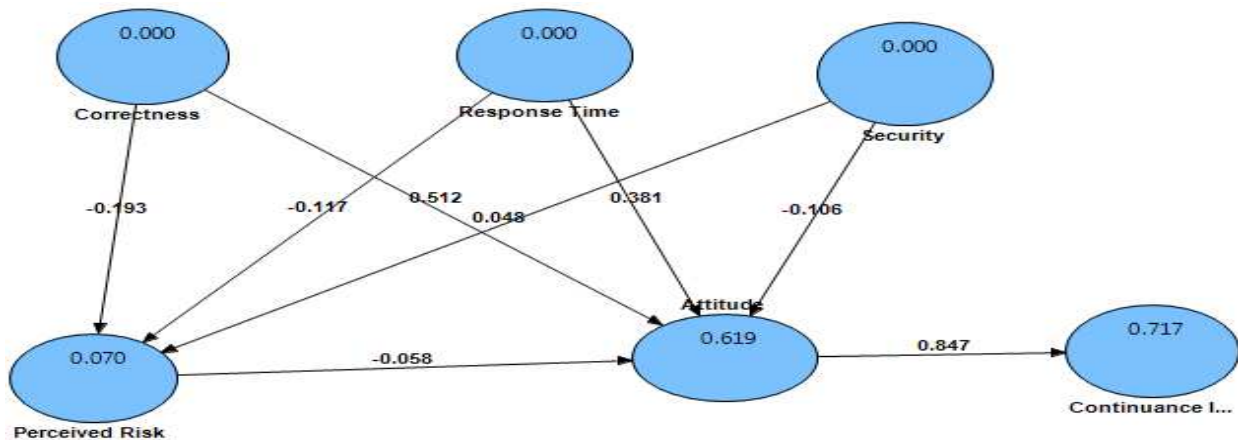


Figure 4: The structural model

Table 4: Summary of the structural model

Path	Hypotheses	Path Coefficient	Standard Error	T-Value	Results
Attitude -> Continuance Intention	H1	0.847	0.035	24.278***	Supported
Correctness -> Attitude	H2a	0.512	0.108	4.746***	Supported
Response Time -> Attitude	H2b	0.381	0.116	3.289***	Supported
Security -> Attitude	H2c	-0.106	0.064	1.661	Not supported
Correctness -> Perceived Risk	H3a	-0.193	0.123	1.573*	Supported
Response Time -> Perceived Risk	H3b	-0.117	0.125	0.933	Not supported
Security -> Perceived Risk	H3c	0.048	0.144	0.329	Not supported
Perceived Risk -> Attitude	H4	-0.058	0.058	1.003	Not supported

Note: *** p < 0.01, ** p < 0.05, * p < 0.1

Apart from that, “blindfolding” procedure was also performed to measure the predictive relevance (Q^2) of the model fit. The Q^2 “represents a measure of how well observed values are reconstructed by the model and its parameter estimates” [14]. Models with Q^2 greater than zero imply that the model has predictive relevance. Table 5 shows the result of the blindfolding results. Omission distance of 7 was utilized as [14] indicates that values between 5 and 10 are feasible (refer to Table 5).

Table 5: Blindfolding results

Construct	CV Red	CV Comm
Attitude	0.523	0.747
Perceived risk	0.054	0.822
Continuance intention	0.646	0.900

DISCUSSION

The purpose of this study was to test the role of trust in the system and perceived risk towards the attitude in understanding the continuance usage intention of e-government services in Malaysia particularly on e-filing system. The study also examines the relationship between the three elements of trust in the system; correctness, response time and security; attitude and perceived usefulness towards continuance usage intention.

The result of this study which reveals a positive and significant relationship between the trust in the system variables, correctness and response time towards attitude is similar to the previous studies [36, 61, 67]. Similarly, insignificant relationships between security and attitude are also consistent with study by [62] which reveals that the security of the e-government system was not a barrier in influencing the adoption of e-government websites. However, an interesting finding from this study is the inverse relationship between security and attitude which implies that security may be considered as a “threshold” variable whereby it is important at the beginning stage of the usage only. As in the case of this study, since the respondents are experienced ones and the majority of them are highly educated, they believe in their ability to engage in a secured website. This has been highlighted by [59] whose study found that once a certain evaluation level is reached the “threshold” variables will no longer contribute to a favorable attitude. These variables will only affect attitude on a low evaluation level.

The result of this study also consistent with findings by [28, 40, 41] whereby attitude was found to be positively influenced continuance usage intention. Conversely, an insignificant negative relationship between perceived risk and attitude which was found to contradict with previous studies by [50, 16]. However, it is consistent with the study by [38] who found that social risk has an insignificant relationship towards attitude. One possible explanation could be due to the fact that usage of the e-filing system is voluntary rather than mandatory, as such taxpayers who engage in the usage of the system are aware of the risk involve.

On the other hand, the significant relationship between correctness and perceived risk are consistent with previous study by [31]. However, the insignificant relationship of response time and security towards perceived risk were consistent with previous studies such as [53, 68, 2, 41]. This could be due to the fact that since e-filing system is a government initiated system and govern by the government, the issue of security and perceived risk may not be an important issue that will be considered by the taxpayers. Similarly, response time has been considered as a relative advantage of e-government website by previous researchers whereby relative advantage is defined as the degree to which an innovation which is perceived to be better than the pioneer version [48] and as a system quality [41, 56, 30] which is more likely to provide convenience and operational efficiency to the users [41]. As such, the direct effect of this variable on the perceived risk is deemed to be irrelevant.

The model adopted in this study shows that the attitude can explain about 71.7% of the variance in continuance usage intention. This result shows that the simplified model has relatively good predictive power on continuance

usage intention. Further, the blindfolding result shows that the CV Comm and CV Red are all above 0 which indicates the model has predictive relevance [21].

The implication of the findings can be divided into two; theoretical and practical. Theoretically, this study adds to the growing body of literature that focus on the post adoption environment which is the continuance usage intention. It also contributes to the evidence in support for the determinants of continuance usage intention of taxpayers especially in Malaysian context. Practically, since the variables of correctness and response time was found to have a significant relationship on attitude towards e-filing continuance usage intention, the Inland Revenue Board of Malaysia (IRBM) needs to pay more attention to boost the trust level of the taxpayers and continuously improve the correctness and response time of the system from time to time to enhance a positive attitude towards the system. In the case of e-filing system in Malaysia, since more than 33% of the taxpayers are using the e-filing system, a systematic and vigilant management of the trust factor is very important.

LIMITATION AND SUGGESTION FOR FUTURE RESEARCH

The study tested the effect of trust in the system, perceived risk and attitude on the continuance usage intention of e-filing system among tax payers in the Northern Region of Peninsular Malaysia. Despite the useful findings of this study, there are several limitations that need to be acknowledged. Firstly, due to time and resource constraints, the sample size of the study is only limited to 235 respondents. Secondly, the findings cannot be generalized extensively in Malaysia as the scope of the study is only limited to the taxpayers in two states in the Northern Region only. As such, caution need to be taken when generalizing to the whole country. Lastly, this study only focus on testing the effect of trust in the system, attitude, perceived risk and continuance usage intention and does not incorporate the actual usage behavior in the proposed model.

Therefore, this research can be done further in the future by (1) expanding the study to other states in Malaysia, (2) extend the model by incorporating the actual usage behavior or any other relevant variables based on the latest literatures suggestions and (3) replicate the study to any other e-government services.

CONCLUSION

In this study, it was found that trust in the system variables; correctness and response time are significantly related to attitude and correctness with perceived risk towards the continuance usage intention of e-filing system. The findings provided by this study may enable the IRBM to think seriously about enhancing the trust factors of the e-filing system to attract more taxpayers to believe and utilize the system and to create strategies to further boost the trust of the taxpayers. In addition, this study also reveals that the attitude of taxpayers is an important indicator towards continuance usage intention, as such the IRBM must focus on creating awareness campaigns to encourage more taxpayers to use the e-filing system. Moreover, although perceived risk is insignificantly related to attitude which indicate that the risk factor does not influence the attitude of taxpayers to use the system continuously. However, the intelligent management of the risk factor by the IRBM is utmost important as many previous studies have highlighted the significant relationship between risk and attitude.

Apart from that, the insignificant effect of security towards attitude and perceived risk may be due to the fact that since the e-filing system is provided by the government, the security features are perceived to be higher and the estimation of risk is underestimated. As such, a continuous effort by the policy makers to improve the security level of the e-filing system is at utmost important. Therefore, it can be concluded that in the absence of adequate trust in the e-filing system, the possibility of tax payers to revert to the manual way of submitting the income tax returns may occur which will eventually lead to the failure of the system and heavy losses to the government.

REFERENCES

1. Ajzen, I., 1991. The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50 (2): 179-211.
2. Akkaya, C., P. Wolf and H. Kremar, 2012. Factors Influencing Citizen Adoption of E-Government Services: A Cross-Cultural Comparison (Research in Progress). In the Proceedings of the 2012 45th International Conference on System Sciences, pp: 2531-2540.
3. Al-Somali, S.A., R. Gholami and B. Clegg, 2009. An Investigation into the Acceptance of Online Banking in Saudi Arabia. *Technovation*, 29(2): 130-141.

4. Alomari, M.K., K. Sandhu and P. Woods, 2014. Exploring Citizen Perceptions of Barriers to e-Government Adoption in a Developing Country. *Transforming Government: People, Process and Policy*, 8 (1): 131-150.
5. Ambali, A.R., 2009. E-government Policy: Ground Issues in E-Filing System. *European Journal of Social Sciences*, 11(2): 249-266.
6. Anderson, J.C. and D.W. Gerbing, 1988. Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach. *Psychological Bulletin*, 103(3): 411-423.
7. Inland Revenue Board of Malaysia, 2010. Annual report 2010. Retrieved from http://www.hasil.org.my/pdf/pdfam/AR2010_2.pdf.
8. Inland Revenue Board of Malaysia, 2009. Annual report 2009. Retrieved from http://www.hasil.gov.my/pdf/pdfam/AR2009_2.pdf.
9. Inland Revenue Board of Malaysia, 2007. Annual report 2007. Retrieved from http://www.hasil.gov.my/pdf/pdfam/AR2007_2.pdf.
10. Bhattacharjee, A., 2001. Understanding Information Systems Continuance: An Expectation-Confirmation Model. *Management Information Systems Quarterly*, 25(3): 351-370.
11. Bouckaert, G. and S.V.d. Walle, 2001. Government Performance and Trust in Government. In the Proceedings of the 2001 Permanent Study Group of Productivity and Quality in the Public Sector at the EGPA Annual Conference, pp: 5-8.
12. Chen, S.C. and S. H. Li, 2010. Consumer Adoption of E-Service: Integrating Technology Readiness with the Theory of Planned Behavior. *African Journal of Business Management*, 4(16): 3556-3563.
13. Chin, W.W., 2010. How to write up and report PLS analyses. In: *Handbook of Partial Least Squares: Concepts, Methods and Applications* (eds V.E. Vinzi, W.W. Chin, J. Henseler and H. Wang) pp.655-689. Springer Verlag Berlin, Heidelberg.
14. Chin, W.W., 1998. Commentary: Issues and Opinion on Structural Equation Modeling. *Management Information Systems Quarterly*, 22(1): vii-xvi.
15. Chiu, C.M., C.C. Chang, H.L. Cheng and Y.H. Fang, 2009. Determinants of Customer Repurchase Intention in Online Shopping. *Online Information Review*, 33(4): 761-784.
16. Choi, J., A. Lee and C. Ok, 2013. The Effect of Perceived Risk and Benefit on Attitude and Behavioral Intention: A Study on Street Food. *Journal of Travel and Tourism Marketing*, 30 (3): 222-237.
17. Colesca, S.E., 2015. Understanding Trust in e-Government. *Engineering Economics*, 63(4): 7-15.
18. El-Said, G.R. and G.H.G. Edeen, 2009. The Role of Culture in e-Commerce Use for the Egyptian Consumers. *Business Process Management Journal*, 15(1): 34-47.
19. Egea, J.M.O. and M.V.R. Gonzales, 2011. Explaining Physicians' Acceptance of EHCR Systems: An Extension of TAM with Trust and Risk Factors. *Computers in Human Behavior*, 27(1): 319-332.
20. 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.
21. Fornell, C. and J. Cha, 1994. Partial least squares. In: *Advanced Methods of Marketing Research* (ed R.P. Bagozzi) pp. 52-78. Blackwell, Cambridge.
22. Fornell, C. and D.F. Larcker, 1981. Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, 18(1): 39-50.
23. 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.
24. Ha, S. and L. Stoel, 2009. Consumer e-Shopping Acceptance: Antecedents in a Technology Acceptance Model. *Journal of Business Research*, 62(5): 565-571.
25. Joseph F. Hair, William C. Black, Barry J. Babin and Rolph E. Anderson, 2010. *Multivariate data analysis: A global perspective*. Pearson Prentice Hall.
26. Hernandez, B., J. Jimenez and M.J. Martin, 2010. Customer Behavior in Electronic Commerce: The Moderating Effect of E-Purchasing Experience. *Journal of Business Research*, 63 (9-10): 964-971.
27. Hong, S., Y.S. Kang, H. Lee and J. Lee, 2009. Internal and External Beliefs as the Determinants of Use Continuance for an Internet Search Engine. *Communication in Computer and Information Science*, 35(3): 81-89.
28. Hsiao, C.C. and J.S. Chiou, 2012. The Effects of a Player's Network Centrality on Resource Accessibility, Game Enjoyment, and Continuance Intention: A Study on Online Gaming Communities. *Electronic Commerce Research and Applications*, 11(1): 75-84.
29. Hsieh, J.J.P.A., A. Rai and M. Keil, 2008. Understanding Digital Inequality: Comparing Continued Use Behavioral Models of the Socio-Economically Advantaged and Disadvantaged. *Management Information Systems Quarterly*, 32(1): 97-126.

30. Iivari, J., 2005. An Empirical Test of the DeLone-McLean Model of Information System Success. *ACM SIGMIS Database*, 36(2): 8-27.
31. Kim, K.K., B. Prabhakar and S.K. Park, 2009. Trust, Perceived Risk, and Trusting Behavior in Internet Banking. *Asia Pacific Journal of Information Systems*, 19(3): 1-22.
32. Kim, H.W., H.C. Chan and Y.P. Chan, 2007. A Balanced Thinking-Feelings Model of Information Systems Continuance. *International Journal of Human Computer Studies*, 65(6): 511-525.
33. Kini, A. and J. Choobineh, 1998. Trust in Electronic Commerce: Definition and Theoretical Considerations. In the Proceedings of the 1998 31st Annual Hawaii International Conference on System Sciences, 4: 51-61.
34. Koppius, O., W. Speelman, O. Stulp, B. Verhoef and E.V. Heck, 2005. Why are Customers Coming Back to Buy Their Airline Tickets Online? Theoretical Explanations and Empirical Evidence. In the Proceedings of the 2005 7th International Conference on Electronic Commerce, pp: 319-326.
35. Kumar, V., B. Mukerji, I. Butt and A. Persaud, 2007. Factors for Successful E-Government Adoption: A Conceptual Framework. *The Electronic Journal of E-Government*, 5(1): 63-76.
36. Lee, J., H.J. Kim and M.J. Ahn, 2011. The Willingness of E-Government Service Adoption by Business Users: The Role of Offline Service Quality and Trust in Technology. *Government Information Quarterly*, 28(2): 222-230.
37. Lee, M.C., 2010. Explaining and Predicting Users' Continuance Intention toward E-Learning: An Extension of the Expectation-Confirmation Model. *Computers and Education*, 54(2): 506-516.
38. Lee, M.C., 2009. Factors Influencing the Adoption of Internet Banking: An Integration of TAM and TPB with Perceived Risk and Perceived Benefit. *Electronic Commerce Research and Applications*, 8(3): 130-141.
39. Liang, T.P. and Y.H. Yeh, 2011. Effect of Use Contexts on the Continuous Use of Mobile Services: The Case of Mobile Games. *Personal and Ubiquitous Computing*, 15 (2): 187-196.
40. Lin, K.M., 2011. E-Learning Continuance Intention: Moderating Effects of User E-Learning Experience. *Computers and Education*, 56(2): 515-526.
41. Lin, H.F., 2010. An Application of Fuzzy AHP for Evaluating Course Website Quality. *Computers and Education*, 54(4): 877-888.
42. Liao, C., P. Palvia and J.L. Chen, 2009. Information Technology Adoption Behavior Life Cycle: Toward a Technology Continuance Theory (TCT). *International Journal of Information Management*, 29(4): 309-320.
43. Limayem, M., S.G. Hirt and C.M.K. Cheung, 2007. How Habit Limits the Predictive Power of Intention: The Case of Information System Continuance. *Management Information Systems Quarterly*, 31(4): 705-737.
44. Limayem, M., S.G. Hirt and W.W. Chin, 2001. Intention Does Not Always Matter: The Contingent Role of Habit on IT Usage Behavior. In the Proceedings of the 2001 9th European Conference on Information Systems, pp: 274-286.
45. Liu, L. and Q. Ma, 2006. Perceived System Performance: A Test of an Extended Technology Acceptance Model. *ACM SIGMIS Database*, 37(2-3): 51-59.
46. McCole, P., E. Ramsey and J. Williams, 2010. Trust Considerations on Attitudes Towards Online Purchasing: The Moderating Effect of Privacy and Security Concerns. *Journal of Business Research*, 63(9-10): 1018-1024.
47. Nicolaou, A.I. and D.H. McKnight, 2006. Perceived Information Quality in Data Exchanges: Effects of Risk, Trust and Intention to Use. *Information Systems Research*, 17(4): 332-351.
48. Ojha, A., G.P. Sahu and M.P. Gupta, 2009. Antecedents of Paperless Income Tax Filing by Young Professionals in India: An Exploratory Study. *Transforming Government: People, Process and Policy*, 3(1): 65-90.
49. Palvia, P., 2009. The Role of Trust in e-Commerce Relational Exchange: A Unified Model. *Information and Management*, 46(4): 213-220.
50. Perez, R.C., C.R. Mafe and S.S. Blas, 2012. Social Network Loyalty: Evaluating the Role of Attitude, Perceived Risk and Satisfaction. *Online Information Review*, 37 (1): 61-82.
51. Peter, J.P. and M.J. Ryan, 1976. An Investigation of Perceived Risk at the Brand Level. *Journal of Marketing Research*, 13(2): 184-188.
52. Roca, J.C., J.J. Garcia and J.J. de la Vega, 2009. The importance of Perceived Trust, Security and Privacy in Online Trading Systems. *Information Management and Computer Security*, 17(2): 96-113.
53. Schaupp, L.C. and L. Carter, 2010. The Impact of Trust, Risk and Optimism Bias on e-File Adoption. *Information Systems Frontiers*, 12(3): 299-309.
54. Singh, H. and H. Singh, 2013. E-Filing System for Tax Returns and Forms: Landmark E-Governance Initiative by the Government of India. *Journal of E-Governance*, 36(3): 125-135.

55. Srivastava, S.C. and T.S.H. Teo, 2009. Citizen Trust Development for E-Government Adoption and Usage: Insights from Young Adults in Singapore. *Communications of the Association for Information Systems*, 25(31): 359-378.
56. Stapleton, J., C. McAllister and D. Schwieger, 2009. Examination of e-Learning Success in the Higher Education Environment: A Case Study. In the Proceedings of the 2009 4th Midwest United States Association for Information Systems Conference, pp: 1-5.
57. Teo, T.S.H., S.C. Srivastava and L. Jiang, 2008. Trust and Electronic Government Success: An Empirical Study. *Journal of Management Information Systems*, 25(3): 99-131.
58. Teo, T.S.H. and J. Liu, 2007. Consumer Trust in e-Commerce in the United States, Singapore and China. *OMEGA*, 35(1): 22-38.
59. Heijden, H.V.D., T. Verhagen and M. Creemers, 2003. Understanding Online Purchase Intentions: Contributions from Technology and Trust Perspectives. *European Journal of Information Systems*, 12(1): 41-48.
60. Vathanophas, V., N. Krittayaphongphun and C. Klomsiri, 2008. Technology Acceptance toward E-Government Initiative in Royal Thai Navy. *Transforming Government: People, Process and Policy*, 2(4): 256-282.
61. Wangpipatwong, S., W. Chutimaskul and B. Papasratorn, 2008. Understanding Citizen's Continuance Intention to Use e-Government Website: A Composite View of Technology Acceptance Model and Computer Self-Efficacy. *The Electronic Journal of e-Government*, 6(1): 55-64.
62. Wangpipatwong, S., W. Chutimaskul and B. Papasratorn, 2005. Factors Influencing the Adoption of Thai E-government Websites: Information Quality and System Quality Approach. In the Proceedings of the 2005 4th International Conference on eBusiness, Bertelsmann Stiftung, pp: 19-20.
63. Warkentin, M., D. Gefen, P.A. Pavlou and G.M. Rose, 2002. Encouraging Citizen Adoption of e-Government by Building Trust. *Electronic Markets*, 12(3): 157-162.
64. Wang, T.L., 2011. An Effect of Trust and Attitude in the Initial Adoption of Online Shopping: An Empirical Study. In the Proceedings of the 2011 International Conference on Information Society, pp: 22-26.
65. Waseeda University, 2009. Singapore tops Waseeda University e-government ranking. Retrieved from <https://www.ida.gov.sg/blog/insg/egov-sectors/singapore-tops-waseeda-university-e-government-ranking/>.
66. Wu, S.I., 2003. The Relationship between Consumer Characteristics and Attitude toward Online Shopping. *Marketing Intelligence and Planning*, 21(1): 37-44.
67. Zhang, X. and Q. Zhang, 2005. Online Trust Forming Mechanism: Approaches and an Integrated Model. In the Proceedings of the 2005 7th International Conference on Electronic Commerce, pp: 201-209.
68. Zhao, A.L., S.H. Lloyd, P. Ward and M.M.H. Goode, 2008. Perceived Risk and Chinese Consumers' Internet Banking Services Adoption. *International Journal of Bank Marketing*, 26(7): 505-525.