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Does design matter in tax e-filing acceptance?

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Abstract

This research would endeavor to bridge the gap between technology assistance and acceptance among tax preparers. Although a wide variety of factors have been identified as influential in Information Technology (IT) acceptance, little is known about the relative influence of each of these factors on tax preparers' acceptance, particularly, in the area of taxation. Thus, the main question of this study is how could we explain such gap? As indicated by the IRB, the electronically actual return rate from company taxpayers and tax preparers compared to individual taxpayers is relatively low which less than twenty per cent. Thus, this research attempts to develop further understanding on the key questions that have no comprehensive empirical answer until today: the major factor of low acceptance due to low tax e-filing acceptability. This research is designed for the following objectives (1) to identify the determinants of tax e-filing acceptability; and (3) to examine how the factors identified in two (2) are related to tax e-filing acceptability. Interestingly this research indirectly supports that the design characteristic should be treated as mediating instead of moderating construct. The constant result of significance level achieved in this construct had proved that design is important and essential in any technology introduced. In fact, design is the first factor taken care in creating any form of technology applications in Malaysia.

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1. Introduction

Technology acceptance is a crucial determinant in knowing the level of technology usage. Fu et al. (2006) defined technology acceptance as an individual's psychological state with regard to his or her voluntary, intended

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use of a technology. Remarkably, taxpayers' motivation to file tax return on time and correctly highly depends on their willingness to cooperate (Kirchler, Niemirowski, & Wearing, 2006). Indeed, willingness to cooperate was considered as self reported intent to file the tax return timely and correctly and in this case to file them via e-filing technology. Even though there are differences between tax officials' and taxpayers' view but with the willingness to cooperate, taxpayers would comply with the spirit of law. Thus, if taxpayers' perceived they were treated fairly; reasonable; rules and decisions are clearly explained; reliable information on questions and solutions provided, the willingness to cooperate would be automatically increased. This is supported by The Compliance Model (Braithwaite, 2003a, 2003b) where supportive relationship from tax officers would be the pushing factor for taxpayers to comply with the rules, regulations and procedures outlines by the tax authorities. In fact, the willingness to cooperate was found to be substantial even though the effect is quite small (Kirchler, Hoelzl, & Wahl, 2008) in determine the observed actual behavior. As per the tax psychology, it is agreed that the actual behavior is divergent from the behavior intentions (Hessing, Elffers & Weigel, 1988; Webley et al., 1991). At this point, it is quite necessary to prioritize on the intention of e-filing acceptability when the fact revealed the actual behavior was not as expected. In line with this, Kirchler et al. (2006) in some part stressed on the importance of mutual understanding between tax officers and taxpayers. Achieving the mutual understanding would indirectly lead to willingness to cooperate. Thus, enable the tax authority to communicate and provide requested support more effectively and smoothly. Hence, the factors to arrive at and achieve for the mutual understanding in accepting the e-filing technology and willingness to cooperate is expected to be revealed in this study.

The following part reviews the literature to explore the theoretical foundations of the proposed research model and hypotheses. A research model is constructed and develops based on the prior literature as well as describes the methodology used to empirically test the model. Then, the results are presented and discusses in the final part.

2. Previous study

User acceptance and usage behavior has been examined using several models. The original models whereby adapted from the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) has created several key competing models. The models development included Technology Acceptance Model (TAM); TAM2; TAM3; Motivational Model (MM); Theory of Planned Behavior (TPB); Decomposed TPB (DTPB); Combined TAM-TPB (C-TAM-TPB); Model of PC Utilization (MPCU); Innovation Diffusion Theory (IDT) and Social Cognitive Theory (SCT). Despite of various results demonstrated by each of the theories with and without the effect of moderators, the information system researchers considered TAM offers a powerful and parsimonious explanation for user acceptance and usage behavior (Lucas & Spittler, 1999; Venkatesh & Davis, 2000; Venkatesh & Morris, 2000). However, as research further explored, TAM required for future extension, modification and changes in order to be more comprehensive (Lee, Kozar, & Larsen, 2003). Thus, Unified Theory of Acceptance and Use of Technology (UTAUT) could provide as an alternative foundation for future research in the related areas. The key determinants with the moderator definitely restructure and enhance the existing models in intention to use and behavior while retaining a parsimonious structure (Venkatesh et al 2003).

The element of design characteristics is important in influencing individual to accept or adopt any new technology. Lack of attention on this element not only failed to attract a new adopter but also could reduce the number of existing adopter (Lu, Yu, & Liu, 2009). Scholars (Hong, Thong, Wong, & Tam, 2002; Igbaria, Guimaraes, & Davis, 1995; Lim & Benbasat, 2000; Venkatesh & Bala, 2008) suggest that information-related characteristics and system-related characteristics of a system would influence the determinants of perceived usefulness and perceived ease of use respectively. Thus, if a system could provide users with relevant information on time, accurate, understandable and help in a better decision making (Speier, Valacich, & Vessey, 2003), obviously users could perceive the system as greater job relevance, high output quality and greater result demonstrability. In addition, an user-friendly system could made user to feel the great control over the system, thus could enhance users' self efficacy toward accepting the system (Wixom & Todd, 2005). Indirectly, the design of the tasks and context of the technology could influence the performance and effort expectancy which in turn could influence the adoption and use of the system (Brown, Dennis, & Venkatesh, 2010). In addition to the design characteristics which ease of use and useful, users would alternatively choose the system if the value offered benefited them (Anckar & D'Incau, 2002; R. E. Anderson & Srinivasan, 2003; Anonymous, 2005).

Even though this unified model is being accepted and integrated in many studies of various fields, their results revealed some inconsistencies when applied in different areas or situations. In other words, there is no universal UTAUT that can explain all situations of acceptance. As such, the present research would attempt to discover enrichment the model of acceptability in a situation where authority is involved in encouraging professionals to adopt the proposed system. UTAUT has been recognized on its ability to explain almost 70 per cent of the variance in the dependent variable; therefore it would be as underpinning concept in this paper in developing the theoretical framework.

3. Methodology

The integrated technology acceptance model with an expansion, modification and alteration is discussed in this part. The research methodology part covers the research conceptual framework as well as the development of hypotheses or propositions and also on the questionnaire design.

The dependent variable of this research is the behavioral intention of accepting e-filing technology. Behavioral intention is the degree to which the tax preparers intend to use the technology of e-filing in preparing and submission of clients' return form (Davis, 1989; Venkatesh, Morris, Davis, & Davis, 2003). It is crucial to study on the intention as employees and organization acceptance could improve technology efficiency and effectiveness (J. E. Anderson, Schwager, & Kerns, 2006). The independent variables are performance expectancy (PE), effort expectancy (EE), social influence (SI) and facilitating conditions (FC). Performance expectancy as reported by Venkatesh et al. (2003) is the degree to which an individual believes that using the system could help individual increase in job performance. Effort expectancy is the degree of ease associated with the use of the system (Venkatesh et al., 2003). Social influence as defined by Venkatesh et al. (2003) is the degree to which an individual perceived that important others believe that individual should use the new system. Whereas, facilitating conditions is the degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system. In addition to the independent variables, the related moderating construct to the research conceptual framework is design characteristics (DC). Taking into account the intervention introduced in TAM3, as a moderator it is expected to test the significant of the variables in the UTAUT model. In fact Venkatesh (2003) give a thought on the design of interventions in UTAUT model as it could give an idea to the managers in assessing the intention of adopting new technology introduced and help increasing user acceptance. In fact, the introduction of DC as moderator could give an idea and provide explanation on the effectiveness and efficiency of the variable if introduced as intervention in future studies.

Structural model analysis is performed with the establishment of the structural relationships among the constructs and translated into a form suitable for Structural Equation Model (SEM) analysis (Hair, Black, Babin, & Anderson, 2010). The relationships created are based on the structural theory underlying the analysis and the path diagram for estimation purposes. In this study the theory based on the literatures of UTAUT as well as TAM3. Thus, the study is conducted with the five (5) constructs i.e. PE, EE, SI, FC and BI. The theory expects that PE (H_1), EE (H_2), SI (H_3) and FC (H_4) are positively influence the BI in accepting tax e-filing in Malaysia. In terms of moderation effect i.e. DC is expected to moderately influence the relationship of PE (H_{1a}) as well as EE (H_{2a}) on BI toward e-filing among tax preparers in Malaysia. The moderation effects would be determined via Partial Least Square (PLS) as suggested by Ping (1995). The following is the framework or research model based on the hypotheses developed above which is adopted from Venkatesh and Bala (2008) and Venkatesh et al. (2003).

The questionnaire is designed using 7-point Likert scale which is sent randomly to subject via mail. All instruments are adapted from literature (Venkatesh et al., 2003) which is modified to suit with the e-filing behavioral intention. The questions are designed to cover the constructs that determine the behavioral intention to accept e-filing. All constructs are measured using 7-point Likert type scale anchored by "strongly disagree" (1) to "strongly agree" (7). As for this research, the UTAUT model has been modified and change in order to suit the situation of e-filing in Malaysia. Thus, most of the determinants being tested with consideration of different moderating factor. The unit analysis of this research is individual tax preparer in Malaysia who is considered as

knowledgeable (Lapointe & Rivard, 2005) in the area of Malaysian taxation in terms of technicality and practicality.

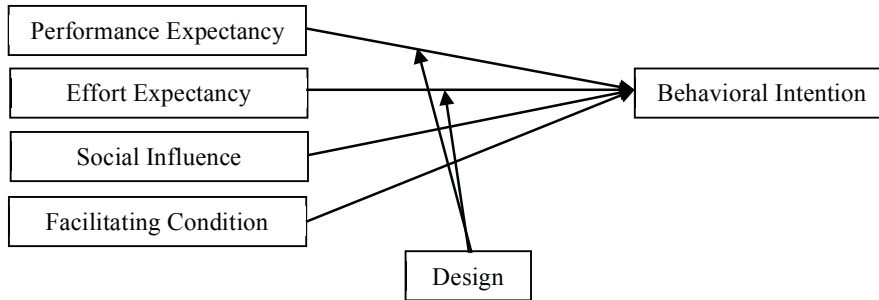


Fig. 1. Research framework

4. Finding analysis

In total, there are 1,871 tax preparers officially register with IRB who were scattered all around Malaysia including Sabah and Sarawak. However, the sample size were limited to 714 with an addition of 70 per cent from the recommended size as according to the table suggested by Krejcie and Morgan (1970). Simple random sampling is applied as there is equal chance of being chosen as the subject since there is no meaningful segments could be developed (Sekaran, 2000). The qualified respondents for further analysis are based on the 231 respondents comprises of male, 128 respondents (55.4 percent) and 103 females (44.6 percent). According to ethnicity distribution, there are 135 Chinese respondents representing 58.4 percent, Malay representation of 36.8 percent and the Indian and other races representation of 4.8 percent. The average age of the respondents is 42.9 years with standard deviation of 1.45. Most of the respondents are knowledgeable and hold a professional qualification with 34.2 percent and at least with upper secondary qualification. In terms of application part, majority of respondents who had experience with e-filing engaged with more than 100 clients per year (54.1 percent) or else with less than 20 clients (13.0 per cent).

The Confirmatory Factor Analysis (CFA) results are based on testing the measurement theory of this research. The end result then is validated on the construct indicator to study on the relationships among the five (5) important constructs i.e. PE, EE, SI as well as FC and BI. The full measurement model is tested and shown to have adequate fit and construct validity. The CFA fit statistics for the measurement model are: $\chi^2=389.230$ with 174 degrees of freedom (.000); CFI=.945; TLI=.934; and RMSEA=.073. The following section is discussed based on the structural model using SEM. As whole, there are positive relationships between PE and EE toward BI. Indeed, there is a solid ground to support hypotheses one (H_1) and two (H_2) where the estimate values are .491 and .651 with critical ratio of 4.332 and 5.397 respectively where both are significant at level $p < 0.000$. As for SI, the result reported a partial support on the hypothesis three (H_3) where there is a significance ($p < 0.000$) negative relationship toward BI. The estimated value is -0.178 with critical value of -4.233. The overall result on squared multiple correlations i.e. R^2 of BI that successfully explained by the constructs is 0.562. Hence, it shows that 56.2 per cent of the BI is explained by PE, EE, SI and FC constructs.

In the case of not supported hypothesis, several diagnostic measures are available to evaluate SEM model. The diagnostic includes revisit on fit indices to standardized residuals and modification indices. Indeed, it would determine whether model respecification should be considered or otherwise. The construct which is not supported the hypothesis is FC. The consideration is focus on any multicollinearity or confounding problems (Awang, 2012; Hair et al., 2010), where one (1) of the constructs need to be eliminated (i.e. between construct covariance). Since there is no such problem where the covariance range is between 0.401 and 0.590, the construct is retained. This is mainly taking into account the effect of moderation which has a possibility to change the direction of the construct.

In spite of its weakening effects to R^2 of 0.495 compared to the direct relationship of the constructs toward BI, DC is considered as important in this research (refer Table 1). The interaction effect of DC on intention towards tax e-filing revealed few interesting findings. Basically both hypotheses i.e. H_{1a} and H_{2a} reported as having

significance effect and successfully moderate the direct relationship between exogenous and endogenous constructs at $p < 0.001$ (AVE: 0.7038, CR: 0.9658, β : -0.190; AVE: 0.6901, CR: 0.9499, β : 0.235) respectively. This relationship simply means that DC does moderate the influence of PE and EE on BI toward e-filing among tax preparers. Interestingly, the other two (2) relationships which are not been hypothesized, also shows a significance effect ($p < 0.001$) on the relationships of SI and FC toward BI to use e-filing in Malaysia. In terms of fitness of all the constructs either hypothesized or not, the average variance explained (AVE) which supposed to be more than 0.5, is achieved except for facilitation condition construct. These means that design characteristic is the best moderator to explain all the other constructs' relationships. The values composite reliability (CR) for all constructs explained that DC is reliable as a moderator since the value is more than 0.6.

On the basis of the total effects on BI, all constructs of tax e-filing acceptability are found to be significant. Simultaneously, the effect of moderation is also observed and found that DC is the most influential moderator on the direct relationship between the constructs. The model accounted for almost 53 per cent of the variance in BI. The path coefficients from PE, EE, SI are all significant at $p < 0.001$ level. Even though the three (3) main constructs are significance determinants as expected, but surprisingly EE is exhibited as the strongest direct and total effect on BI. In addition, SI also required some discussion as the effect on direct relationship is negative ($\beta = -0.178$, $p < 0.001$). These two (2) construct however is contradictory to most of UTAUT's previous findings in acceptance research. Corresponding to the findings of Venkatesh et al. (2003), the PE and EE constructs derived from UTAUT had a significant positive influence on BI to use tax e-filing system. PE was found to be significant and among the most important factors in this research ($\beta = 0.491$, $p < 0.001$). Hence, tax preparers agreed that using the specific tax e-filing system will increase their job performance within an organization context. EE was also found to be significance and appear to be the strongest construct in this research ($\beta = 0.651$, $p < 0.001$). Indeed, tax preparers do highly expect that the target tax e-filing system to be free of effort. The performance of EE is supported as being the strongest construct in this research which contradict to most of the findings in acceptance research, revealed that users really have an expectation that the system is free of effort. Most probably because tax preparers are expecting the same performance on the corporate tax e-filing as in the individual tax e-filing. This expectation perhaps the pushing factor to the strong behavioral elements when users is forming an intention to act, then they are free to act without limitations.

DC had a significant moderation effects on the whole model. Referring to the effect of DC which is successfully moderated all the constructs towards BI; it is need for some change. The construct should be treated as mediating as it supports the theory-driven hypotheses as well as non hypotheses constructs. In other words, design is the utmost element in the development of a system which at least would be created in such form that is eases, understandable and direct to the knowledge of user.

Table 1. Hypothesis Testing Result of Design Characteristic

Hypothesis	Relationship	Fitness		Estimate	p-value	Result
		AVE	CR			
H_{1b} :	PE* Design \rightarrow BI	0.7038	0.9658	-190	***	S
H_{2b} :	EE* Design \rightarrow BI	0.6901	0.9499	.235	-	S
	SI* Design \rightarrow BI	0.7396	0.9621	-.213	***	S
	FC* Design \rightarrow BI	0.4569	0.8653	-.154	***	S

Notes: *** $p < 0.001$, ** $p < 0.05$, * $p < 0.1$, S=Significance, NS=Not Significance

5. Conclusion

The main contribution of this research is to gain understanding on the gap existed in the e-filing among the tax preparer. In seeking for the imperative answers, given the large investment had been put forward in ensuring the success of tax e-filing in Malaysia and yet to see the acceptability. Indirectly, this research is contributing to the body of knowledge empirically with an extension of theory tested in a new IT context i.e. tax e-filing. The extension or enhancement is certainly assists in understanding the determinant of tax e-filing acceptability. This study supports the previous studies where the three (3) main UTAUT constructs except FC are the determinants of BI towards an acceptability of a tax e-filing among tax preparers in Malaysia. In addition, DC plays an important

and constant role in giving a moderation effect on the constructs. This indicates that in initiating any form of technology application or system, DC should not be ignored. The answer for the resistant perhaps is due to lack of supporting, convenience and helpful designs. The resistant could prevent the authorities in achieving the Malaysian public sector information communication technology (ICT) strategic plan and government transformation plan.

Although UTAUT seems to provide a fuller empirical support on understanding user intention and behavior, but the situation of voluntariness in e-filing might give a different idea as well as effect for this research. Hence, certain modification and extension are required and applied in this research where it could provide more reflective guidance to policy-maker and enable to promote tax e-filing in Malaysia.

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