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Interactive Data Extraction Analysis (IDEA): The Determinants of Behavioral Intention among Field Audit Officers in Putrajaya State Director Office, IRBM

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Abstract

The introduction of new technology by organization is to improve their employee productivity and performance in their jobs. The introduction of Interactive Data Extraction Analysis (IDEA) tool by Inland Revenue Board of Malaysia (IRBM) is to boost the productivity among field audit officers. However, low acceptance level in the tool has led to phenomena of productivity paradox among the auditors. This study is trying to examine employee behavioral intention on new technology implemented in the workplace. This study is considered as new in Malaysia because limited study has been done to investigate employee behavioral intention and acceptance of this new technology. The Technology Acceptance Model (TAM) introduced by Davis (1989) is the fundamental theory adopted in this study to determine the relationship and via a survey method, 123 completed questionnaires have been collected from three branches under Putrajaya State Director Office comprises of KL Bandar, Cheras and Wangsa Maju branches. The Statistical Package for Social Science (SPSS) is utilized to perform the descriptive analysis, validity test, reliability test and regression analysis on the five hypothesized relationship. The result indicated that perceived usefulness is the most critical factor that influences the user intention and acceptance. The result of this study recommended that more intention on increase user ease of use through conducting more intensive training and enhance the current technological facilities.

Keywords: Interactive Data Extraction Analysis (IDEA), Technology Acceptance Model (TAM), intention, technology acceptance.

1. INTRODUCTION

Interactive Data Extraction Analysis (IDEA) is a useful tool and easier to use by user especially accountant, auditor, financial analyst that enable them to conduct data analysis, enhance audit and identify control breakdown. IDEA enable auditors to investigate 100% of the data confirm the reliability of the data and also give easier data analysis with more than 100 tool functionality. It improves the work of bringing in and breaking down information to report and convey noteworthy results. Furthermore, IDEA also give a viable approach to auditors to perform errands that easily search for duplicates, distinguish gap in numeric sequences, aggregate information by classes and channel various lines and sections of data in seconds. The main objectives of introducing IDEA are: (1) To help tax auditors expedite their data analysis and early fraud detection; and (2) To improve the skills and knowledge of tax auditors.

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IDEA is first introduced and used by Tax Compliance Division of Inland Revenue Board of Malaysia (IRBM) headquarter and there is only 7 licensed users. In 2013, IDEA is introduced to the whole branches of IRBM where 70 officers from the whole IRBM branches are trained. Currently, for the usage of the whole IRBM branches, an additional 84 licenses is purchased. Apart from the purchased of the licensed, IRBM has also purchased a scanner to be used together with the IDEA tool. The main purpose of the scanner is to enable the field audit officers to scan hardcopies of the documents and converted into softcopies to be use with IDEA tool. The main benefits of using IDEA tool by field audit officers is it will minimize the field audit officers time in their data analysis compare to traditional method that is currently implemented. Furthermore, field audit officers will also able to identify early detection of fraud, investigate and check 100% of the data and generate automated report of data analysis. Therefore, it would be crucial to identify the behavioral intention among field audit officer on the factors that can influence their behavioral intention to use the IDEA tool.

IRBM has encouraged the usage of IDEA as one of the tools to assist field audit officers to improve their skills in data analysis. In fact, the use of IT could minimize the time auditors spent in manual computing and improving the auditor judgment because IT make the audit processes more structure and systematic (Manson et al., 1997). Unfortunately, tax officers in the field audit cases normally keen to use the old data analysis and checking method.

IRBM has recommended that every field audit officers to use this tool to assist in their tax audit cases. IRBM expected that 100% of field audit officers use this tool for their audit cases. Based on the statistic in Table 1, the usage of the tool is very low as compared to what is expected. The total usage of IDEA tool is currently 4.5% from the total number of field audit officers under Putrajaya State Director Office, IRBM. There are a huge number of officers who is still reluctant to use this tool in their day to day work. This difference denotes that the acceptance level of technologies in tax auditor day to day job through using IDEA tool is very low as what is being desired by the IRBM's management.

Table 1. Statistics of IDEA usage for 2016 in Putrajaya State Director Office, IRBM

Branches	Number of Auditors	Number of IDEA users	Percentage (%)
KL Bandar	39	3	2.25
Cheras	49	1	0.75
Wangsa Maju	45	2	1.50
Total	133	6	4.50

Sources: Unpublished from Putrajaya State Director Office, IRBM IDEA coordinator (Jan 2016)

User who does not use an IT productively is known as IT productivity paradox which is most likely known as a phenomena of nonproductively usage of technology (Liang, You & Liu, 2010). Based on the statistic in the Table 1, it indicates that there is an issue on the low acceptability of the IDEA in IRBM. Indeed, IRBM has spent a lot of money to purchase and maintain the 84 licenses. Based on unpublished sources of IRBM, the annual cost of renewing the 84 license is currently at USD\$26,300 per annum or RM 117,948.91 with exchange rate of RM 4.48/USD\$.

It is very crucial to understand the user acceptance of any new ICT introduced to ensure that it is fully utilized and used for what it is intended for. Thus, it would be crucial to have a better understanding on the factors that affect behavioral intention of the user (i.e. field audit officers) on the introduction of the new ICT to assists in their daily job and responsibilities.

This study would consider new in Malaysia. Most study focuses on end user acceptance towards e-commerce such as online banking (Amin, 2007; Md Nor, 2008), online payments (Ramayah, Mohd Suki & Ibrahim, 2005), online shopping and online learning environment. There are also studies done on IT implementation in the Court of Justice of Malaysia (Saman & Haider, 2013). They found that there has been an increased in case settlement after the implementation of E-Shariah. As related to IRBM, most of the studies focus on the E-filing acceptability among tax professionals (Aziz & Idris, 2015). There are studies done outside of Malaysia to understand the behavioral intention/acceptance level of users (i.e. employees) to use the new ICT introduced by their employer. For instance, Nath, Bhal and Kapoor (2013) studied the factors that influencing IT adoption by bank employees in India, while Lewis and Loker (2014) analyze the advance IT adoption among designer of retail apparel Company in New York, USA. However, none of the studies focused on IRBM employees.

Hence, there is still lacking on study related to the understanding and identifying of factors that could influenced an employee's behavioral intention of new IT adoption in completing their job and responsibilities in Malaysia. IRBM as one of the successful IT adopter in their services through the introduction of E-filing in 2004 should have a better understanding on the behavioral intention level of IT among the employee. This is to ensure that

the objective of introduction of new ICT is successful in the future and the resources allocated could be fully utilized.

1.1 Theories Assumption on Technology Acceptance

Technology acceptance is the most critical factor in determining user intention and behavior in using technology. Fu et al. (2006) defined user acceptance as an individual psychological state of mind whether to use or not technology. User acceptance and behavior is constructed by Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975) has become the core construct for researchers in developing competent existing models. The most two popular model developed are Theory of Planned Behavior (TPB) by Ajzen (1991) and Technology Acceptance Model (TAM) by Davis (1986). TAM explained the relationship between perceived usefulness, perceived ease of use, and attitude toward using and behavioral intention to use any new IT.

Technology Acceptance Model (TAM) is developed by Davis in 1989 (Figure 1). It has been widely used by most of the IT/IS researchers. TAM is an extension theory of Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975) and the Theory of Planned Behaviour (TPB) (Ajzen 1985; 1991). TAM has influenced many research on IT/IS user acceptance and proven to be robust in the user behavior on IT/IS. TAM has proven to be a capable and influential model to explain user acceptance compared to previous theories, while being specifically suited to the domain of information technology (Igbaria, Zinatelli, Cragg, & Cavaye, 1997). It would be common for researcher to construct a more extensive model of TAM to increase the performance of the original model of TAM developed by Davis (1989).

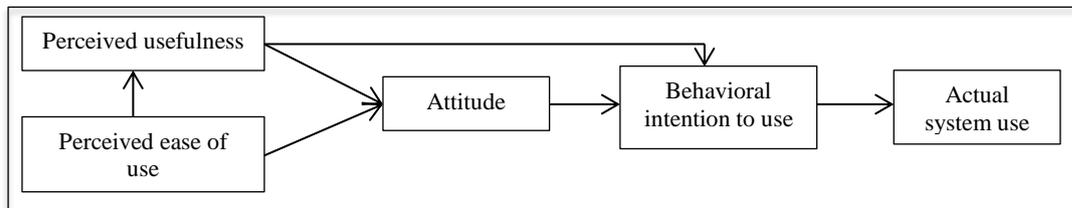


Figure 1. Technology Acceptance Model, Davis (1989)

TAM as in Figure 1 has developed two beliefs on attitude towards using the technology which lead to behavioral intention to use which is perceived usefulness (PU) and perceived ease of use (PEU). PU refers as “the level in which the user believes that using a particular system would enhance his or her job performance” (Davis, 1989, p. 320). PEU is refers as the degree to which a person believes that using a particular system would be free of effort” (Davis, 1989, p. 320). PU and PEU positively affect the attitudes toward using IS; and further, positively affect the behavioral intentions to use and the acceptance of the IT/IS. In addition, PEU positively affects the PU. Yoshida (2016) claimed that user may use a technology introduce is they believe that the system is useful, easy to use and socially important even they faces difficulty in using it.

In Malaysia, many researchers have implemented TAM in their study. Romle, Zahid, Awaluddin, Shaari, Khir and Rose (2016) conducted a study on the TAM perceived usefulness construct. Whilst Zahid, Romle, Udin, Embi, Zabri and Isa (2016) on TAM perceived ease of use construct for Universiti Utara Malaysia’s student participation to use the online e-learning. The results proved that TAM is a good theoretical model to understand the student’s behavior toward the online e-learning in the university.

The acceptance of the IDEA tool is expected to be higher when the system is easier to learn, understand and operate. It is assume that employees are more willing to accept the IDEA tool if it is viewed as a tool that maximizes their productivity, efficiency, and effectiveness and minimizes the time taken to complete a task. Thus, an employees’ acceptance on the IDEA tool is depends on the interface which should not requires much effort in usage and provides functions that support their work.

The simplicity of TAM has made TAM widely popular among the IT/IS researchers (Aziz & Idris, 2014). In order to enhance its predictive power, researchers have suggested the use of additional variables (Davis, Bagozzi & Warshaw, 1989). This present study will used the original TAM model in determining IRBM field audit officers acceptance and behavioral intention to use the IDEA tool. TAM is used for this study due to it explanatory power to explain user behavioral intention of new technology with R² value of 40% variance (Dillon & Morris, 1996). TAM was chosen due to its popularity, rationale and simplest theoretical model to explain user behavioral intention toward new technology implementation. Furthermore, TAM has been used to test the

technologies such software application, World Wide Web, mobile banking and internet banking, e-learning and many more.

2. DISCUSSION

Total of 139 questionnaires is distributed to all field audit officers under Putrajaya State Director Office of Inland Revenue Board of Malaysia. The questionnaire is distributed by hand to the entire auditor from three branches which is KL Bandar, Cheras and Wangsa Maju branches. By the end of the one week time the number of questionnaire collected is 128. Out of the 128 questionnaires collected only 96.09 percent (123 questionnaires) of the questionnaire is used for further analysis. The amount of respondents is considered adequate as suggested by Krejcie and Morgan (1970) which suggested that the number of sample size should be 104 respondents (74.82 percent out of 139 respondents). Furthermore, the sample size is also important in factor analysis with the minimum number of five times of the variables and maximum of 10 times (Hair et al., 2010).

2.1 Respondents' profile

The descriptive analysis is conducted to develop the profile of respondents and categorized into type of audit division, branches, experience with the IDEA tool, year of working experience with organization, years in current position, age, gender and education level of the respondents. Out of the 123 respondents, there are 82 respondents (66.7 percent) from company units and 41 respondents (33.3 percent) from non-company unit. There are 35 respondents (28.5 percent) from KL Bandar branches, 49 respondents (39.8 percent) from Cheras branches and the remaining 39 respondents (31.7 percent) from Wangsa Maju branches.

Majority of the respondents are female respondents with 76 respondents (61.8 percent) and 47 male respondents (38.2 percent) with majority of aged between 35 to 44 years old with 61 respondents (49.6 percent). There is only one respondent (0.8 percent) with the aged below 25 years old and one respondent (0.8 percent) aged between 55 to 65 years old. The remaining respondents are 53 respondents (43.1 percent) between the age of 25 to 34 years old, 7 respondents (5.7 percent) between the age of 45 to 54 years old and one respondent (0.8 percent) between the aged of 55 to 64 years old.

The level of education for 123 respondents are two respondents (1.6 percent) with college qualification, 45 respondents (36.6 percent) with undergraduate level of qualification, 72 respondents (58.5 percent) with postgraduate level of qualification and 4 respondents (3.3 percent) with professional designation level of qualification. Majority of the respondents has been working with the organizations for more than 24 months with 109 respondents (88.6 percent), one respondent (0.8 percent) has been employed less than 6 months, 6 respondents (4.9 percent) has been employed between 6 to 12 months, one respondent (0.8 percent) has been employed between 12 to 18 months, 6 respondents (4.9 percent) has been employed between 18 to 24 months. The year in the current position of all the 123 respondents are eight respondents (6.5 percent) between 6 to 12 months, three respondents (2.4 percent) between 12 to 18 months, 10 respondents (8.1 percent) between 18 to 24 months and 102 respondents (82.9 percent) more than 24 months.

In terms of the application regarding the experience in using Interactive Data Extraction Analysis (IDEA), there are 81 respondents (65.9 percent) has been using the IDEA tool at least once and the remaining of 42 respondents (34.1 percent) never used the IDEA tool before.

2.2 Research Objective Finding

The purpose of this research is to determine the behavioral intention of field audit officer in IRBM on the intention to use IDEA tool by adopting the TAM model. This is to identify the level of acceptance of IDEA tool among field audit officer in IRBM. In addition, this study also identifies the relationship of perceived usefulness, perceived ease of use, attitude and behavioral intention in the original TAM model.

The main objective of this study is to identify the relationship of TAM variables i.e. perceived usefulness, perceived ease of use, attitude and behavioral intention for the field audit officers in using IDEA tool. Based on the analysis, behavioral intention of field audit officer to use IDEA tool is determine by the combination of perceived usefulness and attitude with variance explained 73 percent. Attitude to use IDEA tool was explained by the combination of perceived usefulness and perceived ease of use with the variance explained 94 percent. Overall, perceived usefulness has the significance and positive relationship on behavioral intention and attitude of field audit officers to use IDEA tool. The perceived ease of use is not significance and negative relationship

toward attitude toward usage of IDEA which is contradicts with Davis (1989) result. The perceived usefulness is also found to be influenced by perceived ease of use with the R^2 value of only 46 percent.

Indeed, the easier to use the IDEA tool, the higher the usefulness of the IDEA tool. Some user may not familiar with the system as not enough training provided to them. The ease of use also depends on the computer self-efficacy (Anuar & Othman, 2010) of the user. In order to increase user perceived ease of use, IRBM should conduct an intensive training to enable the user to familiar with the system. As from the results of the hypothesis discuss above, perceived usefulness is the strongest predictor compare to perceived ease of use which insignificant and negatively influence on field audit officer attitude in using IDEA tool. Therefore, IRBM should be focusing in increasing the field audit officers ease of use by providing more intensive training to boost and improve the availability of technology facility.

Thus, few recommendations are made to address the issue of acceptance of IDEA tool among field audit officers in IRBM. Among others, IRBM should conduct more intensive training to ensure that field audit officers is more familiar with the tool. IRBM should also consider a policy where it is compulsory for each field audit officers to perform their data analysis using IDEA tool. On top of it, technology facilities need to be supported and adequate. In ensuring that field audit officer will make use of the benefit of the IDEA tool in the future, IRBM should install the IDEA tool to each computer of field audit officer workstation. The non-availability of technological facilities may unfavorably affect the field audit officer intention toward using the IDEA tool. Hence, IRBM should increase the technological facilities by installing the IDEA tool on each of field audit officer computer work station to influence the IDEA tool usage in the future.

Practically, this present study provides a platform for other Malaysian researcher to conduct more study in identifying Malaysian employee behavioral intention in using new technologies in their workplace. The study on employee acceptance of technology is crucial to ensure that the benefits organization gain outright the cost in implementing. Employee perceived usefulness is the most influential factor that influences their acceptance of technology which supports the TAM model by Davis (1989).

This study also provides empirical evidence on employee acceptance on the field audit officer intention and acceptance on IDEA tool. The determinants that influence field audit officers acceptance to use IDEA tool has been identified using the original TAM model. The result can provide insights information to the management of IRBM before new technology introduce in the future. This is to ensure proper planning before new technology is introduce.

3. CONCLUSION

An information system is said to benefits an organization if the users use the system as what expected from them. Only few organizations get the benefits of IT used, either because users have not been trained well enough to use the system or manager has not been educated on how to make used of the advantages. However, lower acceptance rate is the main problem an organizations need to aware because of the money spent in information technologies and information systems. IDEA tool is one of the technologies implemented by IRBM to improve tax auditor's efficiency and effectiveness in handling the field audit cases. An information system would be wasteful without the user using it for their benefit. With the current audit situation is exaggerates, there is a requirement for a firms to use techniques that can minimize the auditor workload including technology that can assists in decision making process (Vendrzyk & Bagranoff, 2003). Identifying factors that affect user acceptance towards technology and information system is crucial for IRBM to ensure that the information system acquired is not under-utilized. Thus, this study would guide and help organizations in particular the IRBM for better understanding on employee's acceptance towards the implementation of information system in performing their daily task. The future research should consider extending to the whole branches of IRBM in Malaysia to generalize field audit officers perception in using IDEA tool. Further studies could also be conducted to identify whether demographic area play an important role toward field audit officers perception in using IDEA tool.

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