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Using the UTAUT Model to Analyze Perception of Independent Auditor on Usage of Computer Assisted Audit Techniques

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ABSTRACT
Despite the numerous advantages, computer-assisted audit techniques (CAATs) are rarely used by public accounting firms in developing countries. Using the Unified Theory of Acceptance and Use of Technology (UTAUT), this study aims to analyze independent auditors' perceptions and how it's affect the adoption of CAATs. The respondents were auditors at public accounting firms in Bandung. The data were collected through questionnaires and analyzed using Path Analysis and Partial Least Square (PLS) approaches. The independent variables in this study are Performance Expectancy, Effort Expectancy, and Social Influence, the intervening variable is Behavioral Intention, and the dependent variable is Use Behavior. The results of this research indicate that Performance Expectancy has a significant impact on Use Behavior. Both Effort Expectancy, and Social Influence do not have a significant impact on Use Behavior. Behavioral Intention has no mediating effect. Further system advancement, certification, and training is expected to boost the adoption of CAATs.

Keyword: Model to Analyze Perception of Independent

INTRODUCTION

It is undeniable that we live in a fast-paced and practical era. Technology is required to support daily tasks ranging from the most basic to the most complex. There are mainly three eras of technological development, namely the agricultural era, the industrial era, and the information era. The world has entered the third age, where information technology has become very important because it allows companies to collect and analyze quickly and in large quantities (Mustapha & Jin Lai, 2017). Developments in information technology have changed all aspects of human life, especially professional careers, and have led to significant changes in finance, auditing, and accounting. The large-scale adoption of information systems and enterprise resource planning (ERP) systems in organizations has made the use of technology in auditing a necessity (M. G. Alles, 2015).

The development of information technology has an impact on audit activities, more diversified guidelines and methods; as well as more advanced audit techniques and tools are needed. This is because it is becoming highly necessary for auditors to perform their auditing tasks differently and perform the test more effectively and efficiently (Curtis & Payne, 2014; Sayekti et al., 2015). Therefore auditors are required to digitalize their audit process, especially by using Computer Assisted Audit Techniques (CAATs). Computer Assisted Audit Techniques (CAATs) are used by auditors to collect audit evidence, as well as process and analyze data and information obtained from an entity's (client's) information system to form an opinion (Ahmi & Kent, 2012). CAATs have been designed and developed with due regard to audit procedures with the aim of minimizing audit risk (Dias & Marques, 2018).

The development of Computer Assisted Audit Techniques (CAATs) has led to improvement of efficiency, automation, accountability, information processing, and reducement costs, human errors, audit risk, and the level of technical information required to perform audit work (D. J. Janvrin & Bierstaker, 2015). Inability and unwillingness to use technology in auditing can cause challenges and have negative consequences in providing auditing services (Tiberius & Hirth, 2019), It is also becoming possible for the auditor to test 100% of the data population rather than a sample or select sample transactions that meet certain criteria to obtain evidence about the effectiveness of controls (Reinaldo & Yenni Carolina, 2019).

However, researchers have found that the use of CAATs in developing countries i.e., Indonesia is still low and questionable, with the exception of "The Big Four" i.e., Deloitte, Ernst & Young, PWC, and KPMG (Rindang Widuri, Department of Accounting and Finance, Bina Nusantara University & Jakarta, 2016); (M. Alles & Gray, 2016). The use of CAATs by auditors is not diverse, and less effort are made by them in order to assign their audit work with the latest version of audit software (Ahmi & Kent, 2012). Lestari et al., (2020) identified that computer-assisted audit techniques were rarely used in small and medium public accounting firms in DKI Jakarta, they found that although access to the system (CAATs) was open, several factors such as the lack of auditor capabilities, demands from clients, and encouragement from regulators nor public accounting firms management hindered the use of CAATs.

The main research objective of this study is to identify factors that affect the adoption of CAATs in their audit process, with Unified Theory of Acceptance and Use of Technology (UTAUT) as its underlying theory. Specifically, this study aims to fulfill the following sub-objectives: 1) "To examine the influence of performance expectancy (PE) on auditor's use

behavior of CAATs". 2) "To examine the influence of effort expectancy (EE) on auditor's use behavior of CAATs". 3) "To examine the influence of social influence (SI) on auditor's use behavior of CAATs". 4) "To examine the mediating effect of auditor's behavioral intention on the use behavior of CAATs".

This study makes important contributions to the development of audit information system of public accounting firms and audit literature. Firstly, while research on the determinants of CAATs hasn't been much done in developing countries i.e., Indonesia, specifically Bandung City. It is unclear if the factors applicable in the context of developed countries or big metropolitan cities i.e., Jakarta, where CAATs use is more prevalent and pervasive, could be applied to another context. Secondly, it provides empirical evidence on the importance of user perception in technology adoption decisions. Understanding these factors is important to public accounting firms' management and policymakers. Lastly, this research paper also extends the existing knowledge of CAATs adoption by looking at it from the individual auditor's perspective rather than organizational.

METHOD

Population & Sample

The sample was taken by using a purposive sampling technique on public accounting firms in Bandung that had been registered at Otoritas Jasa Keuangan (OJK), and active while this research was being conducted, with a total of 13 public accounting firms, and quota sampling by distributing 3 questionnaires to each firm, of the total 39 questionnaires distributed, 31 questionnaires were filled and returned. This usable sample size is acceptable for this study as the sample size is larger than 30 and less than 500, which is appropriate for most researches, as stated by Bougie & Uma, (2010). Each question in all variable are measured with a quantitative answer option using an interval scale, the Likert scale between 1 (strongly disagree) to 5 (strongly agree) (Imam Ghozali & Latan, 2014). Observations were made directly on the object of research.

Data Analysis

The structural model analysis and path analysis are used in this study to test the effect (direct and indirect) of each independent variable on the intervening variable and dependent variable. The data was processed with the help of SmartPLS 4 software and Microsoft Excel for Windows 2013. Structural Equation Modeling (SEM) and component-based Partial Least Squares (PLS) were used to analyze the data. This was done to develop a prediction of factors influencing the use of CAATs by auditors of public accounting firms in Bandung. The test of the Partial Least Squares (PLS) model was based on the measurement of predictions that had non-parametric characteristics through 1) Evaluation of the measurement model (outer model): outer loadings (Convergent validity) & cross loadings (Discriminant validity), and Cronbach alpha & composite reliability (Reliability), and 2) Evaluation of structural model (inner model): path coefficient and special indirect effect. (Imam Ghozali & Latan, 2014).

RESULT AND DISCUSSION

Measurement Model

Reliability test is used to measure the consistency of data. Based on the results of the data analysis presented in Table 1, it can be concluded that all variables, either variable independent, intervening, or dependent have qualified reliability. Reliability is achieved

when Cronbach's Alpha and Composite reliability value is above 0,7 (Imam Ghozali & Latan, 2014).

Table 1. Composite Reliability and Cronbach's Alpha

Variable	Composite Reliability	Cronbach Alpha
PE	0.848	0.830
EE	0.934	0.919
SI	0.788	0.786
BI	0.944	0.938
UB	0.908	0.900

Source: Author's compilation

Convergent validity is used to test whether each item in the questionnaires is defining variables correctly. Based on the results of the data analysis it can be concluded that all items except PE3, PE8, EE7, and SI6, either in variable independent, intervening, or dependent have qualified convergent validity. Convergent validity is achieved when the value of the outer loading is above 0,6 (Imam Ghozali & Latan, 2014).

Discriminant validity is used to assure whether constructs that theoretically not be related to each other are in fact unrelated. Based on the results of the data analysis, it can be referred that the overall item-variable item total correlation is greater than the value correlation of the item-other variable, every question in this research has qualified discriminant validity (Imam Ghozali & Latan, 2014).

Structural Model

Hypothesis 1 is accepted, Performance Expectancy has a significant influence on Use Behavior of CAATs. It is indicated in Table 2, the significance value of 0.514 and the t count value of 2.068 is greater than the t table i.e. 1.96. This result is support Ulfa, (2021); Handoko et al., (2018); Saputra & Dwirandra, (2015); Mahzan & Lymer, (2014). but do not support research conducted by M. Y. Wu & Y. C. Weng, (2012).

Hypothesis 2 is rejected; Effort Expectancy has no significant influence on the Use Behavior of CAATs. Table 2 shows the significant value of 0.249 and the t count value of 1,265 is lower than the t table i.e. 1.96. This result supports previous research by Chang, (2012); but does not support research conducted by Hoque et al., (2016); Venkatesh et al., (2012).

Hypothesis 3 is rejected; Social Influence has no significant influence on the Use Behavior of CAATs. Table 2 indicates; the significance value of -0.222 and t count value of 0.662 is lower than the t table i.e. 1.96. This result is support Foon, (2014); Mansour, (2016) but is opposite with Saputra & Dwirandra, (2015); D. Janvrin et al., (2008).

Hypothesis 4 is accepted, Behavioral Intention has a significant influence on the Use Behavior of CAATs. Table 2 indicates; the significance value of 0.387 and the t count value of 2.225 is higher than the t table i.e. 1.96. This result is in accordance with V. Venkatesh & Davis, (2012), and M. Y. Wu & Y. C. Weng, (2012).

Table 2. Path Coefficient

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T-statistics	P-values
PE -> UB	0,514	0,467	0,248	2,068	0,039
EE -> UB	0,249	0,253	0,197	1,265	0,207
SI -> UB	-0,222	-0,151	0,335	0,662	0,508
BI -> UB	0,387	0,370	0,174	2,225	0,027

Source: Author's compilation

Hypothesis 5, 6, and 7 is rejected, Behavioral Intention has no significant mediating effect whether on Performance Expectancy, Effort Expectancy, and Social Influence on Use Behavior, with the t count value respectively 0.054, 1.092, and 1.164 lower than the t table value of 1.96 and direct t count value shown in table 4. This result is in accordance with V. Venkatesh & Davis, (2012), and M. Y. Wu & Y. C. Weng, (2012).

Table 3. Special Indirect Effect

	Original Sample (O)	**Sample Mean (M)**	**Standard Deviation (STDEV)**	**T-statistics**	**P-values**
EE -> BI -> UB	0,006	0,002	0,103	0,054	0,957
SI -> BI -> UB	0,161	0,161	0,148	1,092	0,275
PE -> BI -> UB	0,120	0,107	0,103	1,164	0,245

Source: Author's compilation

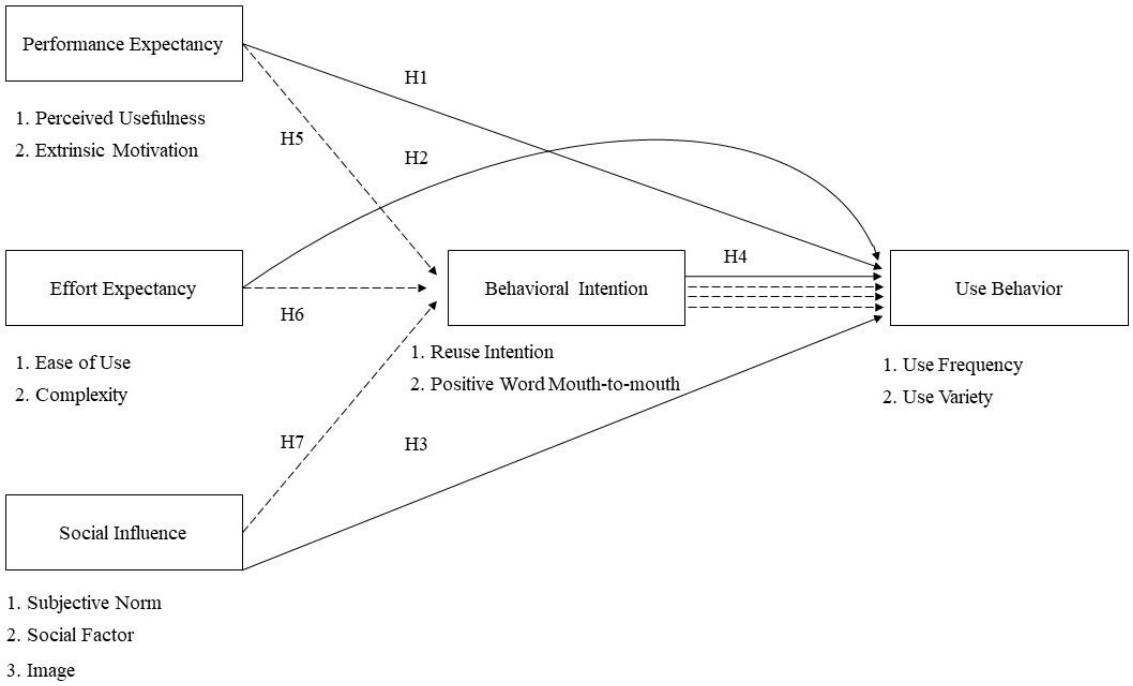

Figure 1. Model analysis

Explanation of Discussion 1

This study found support for the influence of Performance Expectancy to be a significant determinant of Use Behavior of CAATs. This is due to the fact that the majority of respondent is below the age of 30, career experienced under 5 years, and are dominated by males, research identified as task-oriented or productivity-driven (Venkatesh et al., 2012), this is aligned with the lot of benefit being brought by CAATs into auditing field. Furthermore, someone who already believes that information technology could help them on a work basis will tend to use the system for a longer period of time (Venkatesh et al., 2012). Thus this result is consistent with prior research conducted by Handoko et al., 2018 which proves that Performance Expectations have a significant effect on user behavior in Computer Assisted Audit Techniques, and contradicts the research of Saputra & Dwirandra, (2015).

Explanation of Discussion 2

The result of hypothesis testing shown that Effort Expectancy have no significant influence on Use Behavior of CAATs. Research conducted by Venkatesh et al., (2012) proves that gender and age have an influence on a person's psychology in the context of technology acceptance. Women, and/or who are at an older age have a tendency to be highly oriented towards convenience and time efficiency, female workers are generally burdened with not only their professional work but also their responsibilities as housewives, while an increase in age has to do with difficulties to process complex information and allocate focus, therefore technology that has the characteristics of being easy to learn and use will be conveniently needed more. In connection with that characteristics, the sample of this study is dominated by men, at age 20-30, with the position of junior auditor. So the ease of learning and use of technology is not a considerably matter of concern. Thus this result is consistent with prior research conducted by Handoko et al., 2018 which proves that Performance Expectations have a significant effect on user behavior in Computer Assisted Audit Techniques, and contradicts the research by Saputra & Dwirandra, (2015).

Explanation of Discussion 3

This study did not find any evidence to support the factors of social to be a determinant of Use Behavior of CAATs. Individuals tend to change their views on things as a response to social pressure, adjusting to the views of those around them (Venkatesh et al., 2003). The more influence an environment has on potential users to use a technology, the greater the interest that arises in using the information technology because of the strong influence from the surrounding environment. Research conducted by Venkatesh et al., (2012) proves that gender and age have an influence on a person's psychology, it is proven that Women and or old ages have a tendency to listen to or be influenced by the opinions of others in deciding wether or not to apply new technology. This is contrary to the description of the respondents in this study which showed that the sample was dominated by men, at age 20-30. This result is consistent with prior research conducted by Handoko et al., (2018) which proves that Performance Expectations have a significant effect on user behavior in Computer Assisted Audit Techniques, and contradicts the research of Saputra & Dwirandra, (2015).

Explanation of Discussion 4

This study found support for the influence of Behavioral Intention to be a significant determinant of Use Behavior of CAATs. In many models of technology acceptance, behavioral intention or use intention is placed as a mediator between individual perceptions

and has a direct influence on technology use (Venkatesh et al., 2003). This result is consistent with prior research conducted by Handoko et al., (2018) which proves that Behavioral Intention have a significant effect on use behavior of CAATs. Furthermore, this result is indicating the willingness of learning and long use of CAATs by the auditors in Public Accounting Firms in Bandung.

Explanation of Discussion 5

We did not find any evidence to support that behavioral intention has a mediating effect neither of Performance Expectancy, Effort Expectancy, nor Social Influence on determining Use Behavior of CAATs. Behavioral Intention are found to be irrelevant due to the fact that this research was conducted at the time in which CAATs were accepted for quite some time i.e., 4 years. Therefore the use of CAATs did not based on whether or not the user intent to use it, rather based on the fact that they accustomed to use it. Furthermore, the spread of word of mouth regarding CAATs was not carried out when this research was conducted, most of the auditors at the Public Accounting Firms in Bandung already knew and used TABK for quite a long time. Thus this result is contradict to the research conducted by Ulfa, (2021)as well as (Venkatesh et al., 2003) which proves that Performance Expectations, Effort Expectancy, and Social Influence have a significant effect on Use Behavior through Behavioral Intention in Computer Assisted Audit Techniques .

IMPLICATIONS

This research contributes to the development of audit information systems of public accounting firms and auditing literature by providing evidence that individual-audit perception does significantly affect CAATs adoption in the context of non-big four public accounting firms in developing countries. Therefore enrich the reference for the use of the UTAUT model in studying the acceptance of technology or system.

CONCLUSION

Due to the fact that Performance Expectancy founded to be a significant determinant of CAATs adoption, researcher suggest to the public accounting firms and regulatory bodies to further develop the ATLAS software or adopt a more advance CAATs software since the respodents' concern is highly regarding to the increase in productivity and career achievement, and are willing to learn if they assume that their performance will improve.

In addition, to fully address the issues since CAATs notably ATLAS software is seen by some respondents as relatively hard to learn and use, and that they do not perceive to get an adequate facilities such as training sessions, ask centers, etc., researchers suggest the further provision of professional education and training programs that help develop auditors' IT competency and knowledge needed to run CAATs software, furthermore to provide professional certification to members such as the certified information systems auditor (CISA), which hopefully will boost the willingness of auditor to learn and adapt to CAATs.

The limitations of this study are researchers specifically focused on the CAATTs adoption in the context of audit firms in public. Thus, the generalization of the findings in this study might not be suitable in other contexts, e.g. the perception of CAATs adoption in internal auditing. The use of UTAUT model in this study is a partial-used, hence later study could try to implement a full UTAUT model such as facilitating condition as an addition

independent variale, and moderating variables i.e., gender, age, experience, and voluntariness into their research.

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