ISSN: 0974-5823 Vol. 7 No. 1 January, 2022

*International Journal of Mechanical Engineering*

# The Impact of Information Technology Adoption in Enhance Auditor Effort and Competence for Better Work Performance

1st Bambang Leo Handoko
Accounting Department, Faculty of Economic and Communication, Bina Nusantara University

*Abstract* - The rapid and dynamic advancement of technology requires auditors to keep up with the latest technological advances. The purpose of this study is to analyze how information technology affects the ability and effort of auditors. This study uses quantitative research methods. Data sources are derived from primary and secondary data. Basic data are obtained from questionnaires. Secondary data were obtained from previous studies and serve as a guide for the current study. The result shows that the auditor's ability does not have a significant positive effect on the auditor's performance, the auditor's effort does not have a significant positive effect on the auditor's performance, and the auditor's effort has a significant positive effect on the auditor's performance shows that it does not affect Using CAAT. At the same time, the auditor's competency has a positive effect on the auditor's use of the CAAT, and the auditor's use of the CAAT has a positive effect on the auditor's work results.

*Index Terms* – CAAT, auditor, work performance, effort, competence

## INTRODUCTION

The profession as an auditor is considered as one of the most challenging and tough jobs, this is because in auditing, auditors are often faced with various things such as deadlines, the need for careful planning, time pressure, social pressure and various other reasons. Auditors are required in an effort to always produce good and credible audit reports. Not only is the pressure to create a credible audit report, but excessive workload, especially during peak season, increases work intensity with a limited amount of time, thus triggering an increase in the level of stress faced by auditors. According to [1], responsibility for the quantity of activities and concentration in the work is a workload. On the other hand, there is also pressure in the predetermined time for completion of work which increases the complexity and difficulty of auditors in completing the work required before the deadline [2]. In the attribution theory, the auditor's behavior, personality, and personality are affected by external factors such as time constraints. When auditors are faced with limited time to undertake their audit work, these time constraints influence and inspire and motivate auditors to increase their commitment and loyalty to the organization [3]. At the end of 2019, a new virus was discovered and later named COVID 19. The virus is spreading all over the world and in 2020 a pandemic has been declared. This pandemic has caused various economic losses and has put many countries on the brink of recession. Many companies large and small have gone out of business. The existence of this pandemic and the need to carry out social distancing, hindered the work of auditors in auditing client companies, given the importance of implementing social distancing. According to [4], it is not certain when auditors can optimally carry out traditional auditing by visiting the client directly. Although there are limitations in conducting audits during this pandemic, technological advances such as Generalized Audit Software (GAS) have made it easier to carry out auditors` work. According to [5], changes in business processes in general are caused by an increase in technological advances that affect the process and performance of work performed by auditors. The use and application of GAS in the audit process is expected to encourage and improve the quality of auditors' work performance. Not only Generalized Audit Software, blockchain is also increasingly popular in the economic world. Blockchain technology makes a computerization that can disintegrate numerous occupation and conditions all over the world. There is a probability of increasing in popularity for the blockchain system for organizations since this technology innovation make the transaction process becoming quicker, efficient and secure [6]. The existence of blockchain helps the work of auditors because it does not require auditors to directly visit the field in the auditing process. With the comments above, the authors want to explore and verify how the use of technology and blockchain can help and improve auditor performance during this pandemic.

## LITERATURE REVIEW

### 2.1 Technology Acceptance Model

For three decades of study and research on user acceptance of technology, it has been an important and popular study field. In [7], one of the most popular research models for estimating and predicting the use and acceptance of information systems and technology by individual users is the Technology Acceptance Model developed by [8]. The two factor in that is relevant to the computer use behavior in technology acceptance model is perceived usefulness and perceived ease of use. Perceived usefulness defines as from the prospective user's subjective, probability that using a specific application system will improve and accelerate the user work and job performance. Perceive ease of use (EOU) can be defined as the degree to which from the prospective user

subjective, the users expect the target system to be free of effort. Technology acceptance models has been the particular model that has occupy the most interest and enthusiasm of the information systems community despite the numerous models that have been proposed to define and forecast the use of system. Hence, it is essential to have knowledge and get the point of understanding user acceptance of technology in technology acceptance model [9].

### 2.2 Effect of Auditor Competence on Auditor Performance

[10] stated that an explicit skill that is use to handle and practice of conducting the process of auditing objectively is called as competency. [11] Auditor competency is the professional skill of an auditor that is acquired through formal education, professional assessment, training, workshop and other relevant activities that supports the improvement of competency. In [12], the higher the competence of an auditor linked to the impact on higher audit quality. In [13] performance is the behavior or demeanor of an organization is directly linked with the work activity, the accomplishment of chore where the term comes from thinking task activities required by the definition by worker. [14] stated that auditor performance is an action or the application of completing and finalize audit works or task within a predetermined period of time given. According to [15], auditor performance is the outcome of carrying out a task or assignment within a specific amount of time available. Auditor good quality of performance can improve the quality of auditing process.

In [16], the performance of an auditor can affect the audit quality. Auditor's competence has positive effect on audit quality. It means the higher auditor's competence, the higher audit quality. In [17] higher the competency of an auditor will affect the auditor in reporting the client error. The auditor will also have a good audit quality when understanding the client's information system, so audit reporting will also get better. [18] Improvement of auditor's performance is directly related with auditor's competence. Particularly, the ability of an auditor to recognize shortcomings and mistakes associated with the financial statement is related with the auditors' level of education and knowledge. Thus, improving competency skills is fundamental as it can enhance ways of thinking and ability to manage uncertainty. In [19], the study found that auditor competence has significance effect on the auditor performance. Based on the discussion above, it can be concluded that auditor competence can effect auditor performance.

H1: Effect of Auditor Competence on Auditor Performance

### 2.3 Effect of Auditor Effort on Auditor Performance

To produce a good quality of audit outcome, a good performance from the auditor is important and crucial. According to [20], the probability of audit adjustment is enhancing when there is an increasing of effort put into audit process, thus hinder the earning management and promote the quality of audited financial statements. The evidence indicates that significant improvement in audit quality is associated with audit effort. [20] suggest that providing monetary incentives for increasing audit effort has a positive impact on audit performance. Individuals can express their dedication in showing a higher performance at task in other terms. The assigned target has additive positive influence on effort and performance over monetary incentives, thereby suggesting that organization need to employ performance goals alongside with monetary incentives to motivate employees [21]. Factors that can affect auditor effort is accountability pressure and self-efficacy. Based on the study, it is shown that both factors are linked to higher level of effort. The higher the effort excreted is related with the increasing of audit judgment performance.

H2: Effect of Auditor Effort on Auditor Performance

### 2.4 Effect of Auditor Competence on Auditor Use of CAATs

At the point when auditors have adequate competence capability related to data analysis tool, information technology, internal control and audit methods, they can obtain the information required for audit process, dissecting the suitable information, and create a complete and comprehensive automated audit. This successfully builds the completeness of audit activities and improve the performance audit computer generated. Based on a study by [22], Auditor competency and the utilization of information technology positively affect the success of the e-audit system implementation. That is, the higher the auditor competency the more the success of the e-audit system implementation. In [23], Partially, competency affected the information technology audit combined with due professionnal care to give great, exact and precise outcome in information technology audit.

H3: Effect of Auditor Competence on Auditor Use of CAATs

### 2.5 Effect of Auditor Effort on Auditor Use of CAATs

Effort expectancy is characterized as the degree of ease related with the utilization of CAATs. According to [24], found that systems ease of use is the fundamental reason behind technology adoption in management accounting. In [25], better behavior towards the initiative to learn the usage of technology is linked with a higher effort expectancy. In other words, higher effort expectancy increases the likelihood in using technology. [26] Audit Software that is easy to use and user friendly generally is more accepted because it require less effort needed to understand of using the software. It shows that the higher of effort needed to

use auditing technology, can impact the behavior of auditor. [27] If a technology is likely to have a positive impact on accomplishing a task more effective and efficient, it will increase the chance of the technology to be adopted by the user

H4: Effect of Auditor Effort on Auditor Use of CAATs

### 2.6 Effect of Auditor Use of CAATs on Auditor Performance

[28] said that performance expectancy alludes to the individual beliefs that using another new technology will help the person to accomplish gain in job performance. In [28], CAATs are probably going to provide internal auditor with a several advantages. For example, the automated tools permit auditor to analyze 100% of the transactions rather than samples, making it harder for fraudsters to cover their fraud.

H5: Effect of Auditor Use of CAATs on Auditor Performance

## RESEARCH METHODOLOGY

In this study, researchers use quantitative research method. In [29] quantitative research is characterized as describing a phenomena based on numerical information which are broken down by mathematically based method, particularly statistics. For this study, primary and secondary data is used. [30], Primary analysis is the original examinantion of information in this study. The primary data collected in this study are obtained through distributing questionnaire to the auditors who work in a public accounting firms in Indonesia. [31] Secondary data is an entire range of empirical forms; it can incorporate the information created through methodical reviews, through documentary examination, government studies. It may be numeric or non-numeric. The secondary data use in this study is collected from internantional publication and journals.

This research is using the Chassan or Roscoe approach. According to [32] stated that the an unknown population above 30 samples is recommended. According to [32] stated that 20 to 25 samples is the minimum samples recommended. For this research, we determined to use 50 samples. The Structural Equation Modelling (SEM) approach is use to analyze this research. [33] The Structural Equation Modelling (SEM) approach is use to analyze this research. Structural equation modeling (SEM) in business and social science is a technique that has gotten popular to be use. Its capacity to demonstrate latent variable, to consider different types of estimation error, and to test the whole theories makes it valuable for research. [34] stated that, SEM offers a process to test the consistency of a structural theory using empirical data. For data processing using, this research use Smart PLS 3 statistical software, statistical tests carried out are validity testing, reliability testing, hypothesis testing, path analysis.

Operational of variable is the variable that is appointed by the researcher in the study. Operationalization gives a reasonable and target meaning of variable and makes it simpler in research process. The operational variable in this research is presented on Table 1:

**Table 1: Operational Variables**

| Variable | Indicator | Reference |
|---|---|---|
| Dependent Variables | | |
| Auditor Competence (X1) | Education<br>Experienced | [35] |
| Auditor Effort (X2) | Task characteristic<br>Accountability | [36] |
| Intervening Variable | | |
| Auditor Use of CAATs (Z) | Auditor's Knowledge<br>Auditor's skill | [37] |
| Independent Variable | | |
| Auditor Performance (Y) | Task complexity<br>Experience | [38] |

Source: data processed

Based on the Table 1, authors uses the indicators to conduct research in order to find out whether there is a relationship between variables. Every variable has two indicators. These indicators are use in the research questionaire.

## 4 research result

### 4.1 Overview of Respondents

Respondent in our research were individuals who work as an auditor or who have previously worked as an auditor in an public accounting firm. The following Table 2 is the distribution of the respondents:

**Table 2: Overview of respondents**

| Gender | Amount | Job Positions | Amount |
|---|---|---|---|
| Male | 12 | Junior Auditor | 46 |
| Female | 40 | Senior Auditor | 2 |
| | | Manager | 1 |
| Age | Amount | Partner | 3 |
| < 25 years | 47 | | |
| 25 – 30 years | 0 | Work Experience | Amount |
| 30 – 35 years | 1 | < 1 year | 45 |
| 35 – 40 years | 3 | 1 – 5 years | 4 |
| > 40 years | 1 | 5 – 10 years | 0 |
| | | > 10 years | 3 |

Source: data processed

Based on table 2, it can be seen that the total of female respondents are higher than male respondents. The majority of respondents age below 25 years old and have less than a year of work experience. The majority of job position held is junior auditor.

### 4.2 Validity Test

Joppe (2000) in [39] stated that validity test decides if the research conduct are genuinely measure the expected research object and does the research results are reliable and hit the right conclusion of the research object. According to [40], convergent validity is a parameter that is widely use in psychology, sociology and other field of science. Convergent validity test is use to prove that the two measurement of construct that are suppose to be related are actually related. Whereas discriminant validity tests is use to prove the constructs that are not suppose to be related, are in fact not related.

**Table 3: Convergent Validity**

| Variables | Average Variant Extracted (AVE) |
|---|---|
| Auditor Competence | 0.523 |
| Auditor Effort | 0.577 |
| Auditor Use of CAATs | 0.769 |
| Auditor Performance | 0.601 |

Source: data processed

Based on Table 3, we can see that the Average Variant Extracted (AVE) is higher than 0.5 which means that there is a more than 50% correlation between variables.

**Table 4: Discriminant Validity**

| | Outer Loading | Indicator | Outer Loading |
|---|---|---|---|
| X1_1 | 0.579 | Z_2 | 0.906 |
| X1_2 | 0.773 | Z_3 | 0.873 |
| X1_3 | 0.804 | Z_4 | 0.854 |
| X1_4 | 0.717 | Y_1 | 0.710 |
| X2_1 | 0.639 | Y_2 | 0.748 |
| X2_3 | 0.778 | Y_3 | 0.829 |
| X2_4 | 0.802 | Y_4 | 0.807 |
| Z_1 | 0.873 | | |

Source: data processed

Based on Table 4, the discriminant validity is use to show that the indicators combined must be one dimensional.

### 4.3 Reliability Test

[39] stated the definition of reliability as the degree to which results are persistent over time and an exact portrayal of the population. It is considered as reliable if the research result can be reproduced under similar approach.

**Table 5: Cronbach's Alpha and Composite Reliability**

| Variables | Cronbach's Alpha | Composite Reliability |
|---|---|---|
| Auditor Competence | 0.689 | 0.812 |
| Auditor Effort | 0.640 | 0.803 |
| Auditor Performance | 0.781 | 0.857 |
| Auditor Use of CAATs | 0.900 | 0.930 |

Source: data processed

Based on the data in Table 5, it can be concluded that all variables have Cronbach's alpha numbers above 0.6 and composite reliability number above 0.7. Therefore, that all variables explicate as reliable.

### 4.4 Multicollinearity Test

Important relation among explanatory variables may have substantial and detrimental effects on an analysis although the assumption does not disrupt from a mathematical perspective and the regression solution is achieve without problems. This condition is generally said as multicollinearity [41]. Multicollinearity test is use to recognize if there is multicollinearity or not. On Table 6 we can conclude that all the variables variance inflation factor value are between 1 – 10, that means all variables have passed multicollinearity test.

**Table 6: Multicollinearity Test**

| Variable | Variance Inflation Factor | |
|---|---|---|
| | Auditor Performance | Auditor Use of CAATs |
| Auditor Competence | 1.701 | 1.441 |
| Auditor Effort | 1.462 | 1.441 |
| Auditor Use of CAATs | 1.363 | - |

Source: data processed

### 4.5 Determination of Coefficient

This research is multivariate model where there is multiple variable to predict the possibility of the research result. In this research, there are two determinations of coefficient test result. The first endogenous variable is auditor performance and the second endogenous variable is auditor use of CAATs.

**Table 7: R Square and R Square Adjusted**

| Variables | Variables Inflation Factor | |
|---|---|---|
| | R Square | R Square Adjusted |
| Auditor Performance | 0.429 | 0.349 |
| Auditor Use of CAATs | 0.266 | 0.236 |

Source: data processed

Based on Table 7, it can be concluded that: auditor competence and auditor effort has an influence on auditor performance by 42.9% and the remaining 57.1% are influenced by other variables outside this study. The result of the two exogenous variables on endogenous variables is in moderate range. The effect of auditor competence and auditor effort on auditor use of CAATs is 26.6% and the remaining 73.4% are influenced by other variables outside this study. The result of the two exogenous variables on endogenous variables is in moderate range.

### 4.6 Hypothesis Testing

The t-test is use in this research to test the research hypothesis. Exogenous variables is consider have significant effect on endogenous variables if the value of t-arithmetic is greater than t table which is 1.950 and the significance value of p-value is below 0.05.

**Table 8: Hypothesis Testing**

| Hypothesis Testing | | | |
|---|---|---|---|
| Hypothesis | T Arithmetic | P - Value | Result |
| Auditor Competence → Auditor Performance | 1.052 | 0.293 | H1 |
| Auditor Effort → Auditor Performance | 1.250 | 0.212 | H2 |
| Auditor Competence → Auditor Use of CAATs | 2.401 | 0.017 | H3 |
| Auditor Effort → Auditor Use of CAATs | 0.756 | 0.450 | H4 |
| Auditor Use of CAATs → Auditor Performance | 1.981 | 0.048 | H5 |

Source: data processed

From Table 8, it can be concluded that auditor competence are positively significant to the auditor use of CAATs and Auditor Use of CAATs are positively significant to the auditor performance. It is consider positively significant if the result shows that the t table is greater than 1.950 and the p-value is below 0.05. Therefore, it is positively significant. Whereas, auditor competence is not positively significant to auditor performance, auditor effort is not positively significant to auditor performance and auditor effort is not positively significant to auditor use of CAATs. It is consider positively significant if the result shows that the t table is greater than 1.950 and the p-value is below 0.05. Therefore, it is not positively significant.

H1: Auditor competence is not positively significant on auditor performance

H2: Auditor effort is not positively significant on auditor performance

H3: Auditor competence is positively significant on auditor use of CAATs

H4: Auditor effort is not positively significant on auditor use of CAATs

H5: Auditor use of CAATs is positively significant on auditor performance

The following Figure 2 below is the structural equation model of this research:

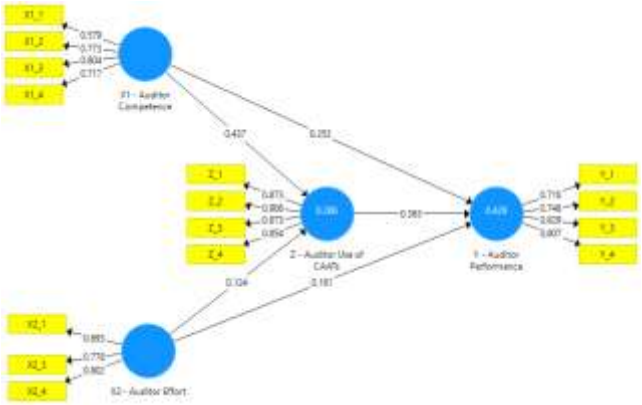

**Figure 2: Structural Equation Modelling and Path Coefficient.**

## 5 Conclusion

Based on the result of this research, it can be concluded that the use of technology influence with the auditor performance. If an public accounting firm wants to enhance the performance of their auditor, it is recommended to provide a decent technology. Providing a decent technology for auditing must be paired with training, workshop and various other lesson that can support the enhancement on the auditor knowledge and give an experience for auditor to properly operate technology for auditing. From the result above, it can be seen that auditor competence and auditor effort is not positively significant on auditor performance and auditor effort is not positively significant on auditor use of CAATs. But still, the competence and effort of an auditor play an important role in conducting audit process.

## 6 suggestion

This study can be use as preliminary research or reference for the future research. Furthermore, this study can be replicated with other variable that have not been discussed in this study. Nominal factors such as gender, job position, age, work experience can also be presented as moderating variables.

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