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The use of information technology of e-audit system on audit quality

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Abstract

This research was conducted to determine an effect of the use of information technology and successful implementation of e-audit systems on audit quality via descriptive and verificative statistical analysis using statistical tool. As a result, the use of information technology does not affect audit quality while the successful implementation of e-audit systems have an effect on audit quality. In conclusion, the successful implementation of the e-audit system on Audit Quality has not been fully qualified as the implementation of the e-audit system is reflected by the efficiency and effectiveness of the inspection process.

Keywords: Information Technology, Successful Implementation, Quality.

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El uso de la tecnología de la información del sistema de auditoría electrónica en calidad de auditoría

Resumen

Esta investigación se realizó para determinar el efecto del uso de la tecnología de la información y la implementación exitosa de los sistemas de auditoría electrónica en la calidad de la auditoría a través de un análisis estadístico descriptivo y verificativo utilizando una herramienta estadística. Como resultado, el uso de la tecnología de la información no afecta la calidad de la auditoría, mientras que la implementación exitosa de los sistemas de auditoría electrónica tiene un efecto en la calidad de la auditoría. En conclusión, la implementación exitosa del sistema de auditoría electrónica sobre la calidad de la auditoría no ha sido completamente calificada, ya que la implementación del sistema de auditoría electrónica se refleja en la eficiencia y la eficacia del proceso de inspección.

Palabras clave: Tecnología de la Información, Implementación exitosa, Calidad.

1. INTRODUCTION

This state financial management reform is characterized by, among other things, the obligation to prepare financial reports in central or even in regional government using accounting system. As a follow up to this provision, the central/regional government then establishes an accounting information system (based on information

and communication technology/ ICT) as a tool to present government financial reports. Along with the development of implementation of Computer Information Technology-based government accounting information systems in the government, in the light of disciplinary of the audit, the techniques for conducting computer-assisted audits are also developing, that the auditing process can provide quality audit results. Grant et al. (1996) stated that a quality auditing process will be able to reduce the uncertainty factor associated with financial statements presented by management.

BPK is the highest independent audit board that cannot be influenced by the government, parliament or other institutions. In principle, the objectivity of this institution is to conduct evaluations, examinations, and self-regulation of all forms of audit programs at the Ministry/Institution or Regional Government level (Hartoyo, 2011). Since the enactment of Act No. 15 of 2006, the BPK needs to expand and develop institutional capacity. This forces BPK to be more economical, efficient, effective, transparent and responsible for carrying out audit objectives. All of this can be achieved if the BPK can produce acceptable audit results in accordance with the needs of stakeholders in line with the reform of institutional bureaucracy. In 2009, the Netherlands Court of Audit (NCA) stated that the BPK had shown a number of impressive works.

However, there are still matters need to be improved, among others: (1) limited access of the BPK to information on the income sourced from foreign aid, (2) poor financial management at both central and regional government levels, (3) high levels of fraud and

corruption in government and civil society. The NCA provides advice to the BPK to formulate a strategic plan to apply in the political environment in which the BPK operates. The financial report audit carried out by the BPK found various problems resulted in a decrease in the quality of the BPK's opinion, especially in the case of the number of Ministry/Agency (hereinafter referred to as the KL) who received unqualified opinion (WTP) declining in 2015 to 56 KL which was previously total of 62 KL. The development of BPK opinion continues to fluctuate in the last 10 (ten) years, as it can be seen in Figure 1 as follows:

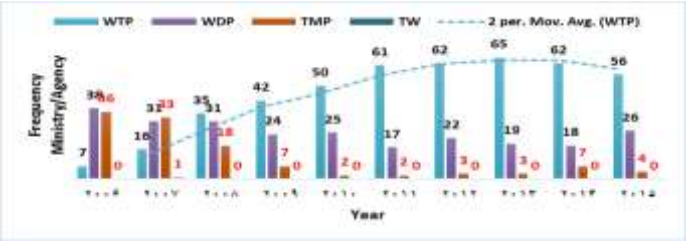

Figure 1: Development of Financial Statement of Ministry/Agency Opinions for 2006-2015

Source: BPK, reprocessed

The data above indicates that in order to provide a quality opinion, audit quality needs to be improved. However, there are major obstacles in the audit process, which are limited resources and the number of auditors in the BPK to conduct an e-Audit system. In the same time, there are difficulties in getting empirical data for management of state finances. Most of the data and reports were still

taken manually. There is no single integrated system that can cover all of these, although regulations on e-governance have long been introduced into institutions in Indonesia.

2. LITERATURE REVIEW

Information technology (IT) has changed the way in which audit data is stored, retrieved and used. This new system has caused fundamental changes in the audit movement to achieve their goals. In addition to the role of computers in the commercial world, other phenomena related to IT also have an effect on the profession and audit method (Meihami, 2013). The use of information technology in the context of this research is the use of hardware, software, and communication and network technology, as well as combinations formed between these technologies that the auditors used in the context of the audit process to produce quality audits (Meihami, 2013; Baterman & Snell, 2004). In this study, in order to measure the use of information technology, it is measured through the dimensions of Hardware quality, Application Software, and Telecommunication and Network that the auditors used in carrying out audit tasks and functions.

The e-audit system is expected to send or receive notifications online related to inspection correspondence activities and create a synergy between the BPK and the entities. The e-audit system will communicate with the e-audit system through a data communication

channel. Successful implementation of the e-audit system is the process of collecting data and evaluating examination proofs using information technology carried out through data synergy between the BPK and the audit (Fajar, 2014; Finnegan, 2011). The dimension of the successful implementation of e-audit systems is the efficiency and effectiveness of the inspection process, flexible, Perceive Usefulness, and System Usage (Ghani et al., 2017).

Audit quality has become a major concern for auditors, regulators and users of financial information. Most previous audit researches have examined the question of audit quality in various ways. However, we still have no clear understanding of what audit quality really means. Despite decades of research on audit quality, there is no consensus as to what audit quality is required (Knechel, 2012). In the context of this research, what is meant by audit quality is the performance of the audit team in overall planning, conducting audits and quality control system of the auditor (Kane & Velury, 2005; Hay & Davis, 2002). In this study, the audit quality dimension is the reputation of auditors, specialist auditors, understanding of auditors (Halim, 2014).

The opinions and results of the research put forward by Meihami (2013) stated that the Use of Information Technology Have an Effect on Audit Quality. Likewise, with the opinions and results of the research stated by Darono (2014) and Fajar (2014) that successful implementation of the e-audit system has an effect on audit quality. Based on the theory and previous research, it can be drawn in the framework in figure 2. Based on the formulation of the problem, theory

and previous research, the hypothesis can be formulated in this study, which is: 1) the effect of the use of information technology on audit quality. 2) Effect of the successful implementation of the e-Audit system on audit quality.

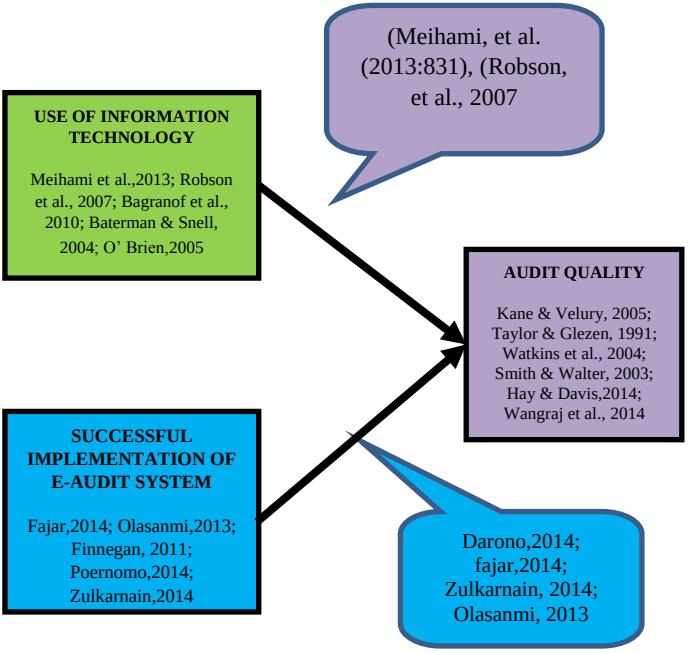

Figure 2: Framework

3. METHODOLOGY

In this study, the analytical methods used, first, a descriptive statistical analysis which is the process of transforming research data in a tabulated form that it is easily understood and interpreted. It is

generally used to provide information about the characteristics of research variables and demographic data of respondents (Indrianto & Supomo, 2002). Second, Verification analysis used structural equation modeling or the so-called Structural Equation Model (SEM) Bollen (1989) Path diagram is developed as a method to study the effects directly and indirectly from the independent variable (independent/exogenous variable) to dependent variable (endogenous variable). The theoretical built model is then drawn into the path diagram. The path diagram of this research is presented in Figure 3.

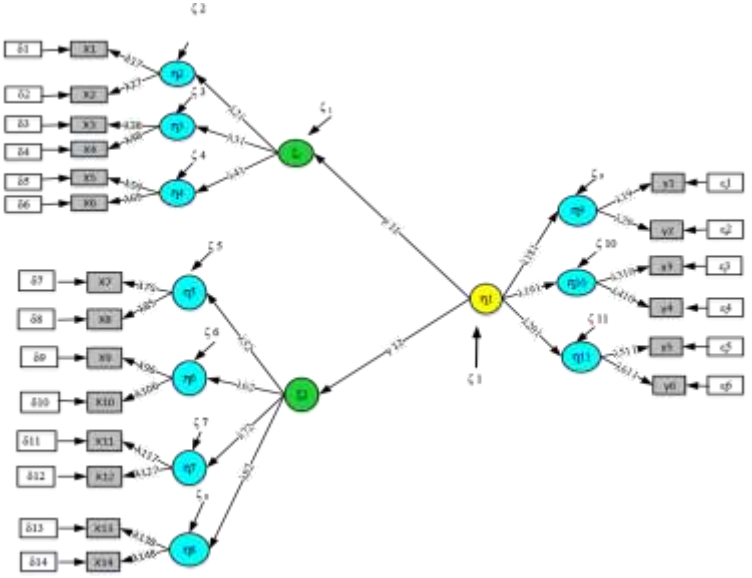

Figure 3: Research Model

4. RESULTS AND ANALYSIS

The variables in this study consisted of the Use of Information Technology, the Successful Implementation of E-Audit System and audit quality. Furthermore, the description of each variable can be viewed in the following table:

Table 1: Respondents' Response to Variable Research

No.	Variable	Total Score	Mean	Category
1	Use of Information Technology	5162	3.36	Good
2	Successful Implementation of eAudit System	6758	3.30	Sufficient
3	Audit Quality	5764	3.75	Good

Source: Results of data processing

Based on table 1, the variable that has a total score and means with sufficient categories is the Successful Implementation of e-Audit System, while for the Use of Information Technology and Audit Quality are included in good criteria. Verification analysis in this study used SEM Lisrel analysis, which was carried out by several stages of analysis, which is confirmatory factor analysis (CFA) to find out whether the observed variables were valid and reliable to pass on the next stage and full SEM analysis (Indriastuti, 2019).

4.1. Analysis of Confirmatory Factors (CFA)

Confirmatory factor analysis (CFA) is intended to find out whether variables are observed to be valid and reliable. The use of Information Technology is measured in 3 dimensions consisting of 6 indicators, for more details can be seen in the following table:

Table 2: Validity and Reliability Testing

atent variable	**Indicator**	**Λ**	**λ^2**	**E**	**CR**	**VE**	**Description**
First Order							
HW	X7	0.728	0.530	0.469	0.738	0.586	Reliable
	X8	0.801	0.642	0.359			
SW	X9	0.871	0.759	0.242	0.823	0.699	Reliable
	X10	0.800	0.640	0.360			
JT	X11	0.861	0.741	0.259	0.837	0.720	Reliable
	X12	0.836	0.699	0.302			
Second Order							
PTI	HW	0.92	0.85	0.14	0.98	0.94	Reliable

		4	4	6	0	1	
	SW	0.995	0.990	0.010			
	JT	0.990	0.980	0.020			

Source: Data processing

First order of test results on dimensions of HW, SW and JT, all indicators have a loading factor above 0.5, that they are all valid in measuring dimensions of HW, SW and JT. For all dimensions of the Use of Information Technology, the value of CR is 0.7 and the value of VE above 0.5 indicates that dimensions of the Use of Information Technology can be stated to be reliable. In the testing of the Second order of the Use of Information Technology variable, all dimensions have a loading factor above 0.5, that they are all valid in measuring the variable of Use of Information Technology. For Success variables the implementation of e-audit systems is measured by 4 dimensions consisting of 8 indicators, for more details can be seen in the following table: For variable of the successful implementation of e-audit systems it is measured by 4 dimensions consisting of 8 indicators, for more details can be seen in the following table:

Table 3: Validity and Reliability Testing Variable of the Success Implementation of E-Audit System

Latent Variable	**Indicator**	**λ**	**λ^2**	**E**	**CR**	**VE**	**Description**
First Order							
E&E	X7	0.803	0.645	0.356	0.700	0.541	Reliable
	X8	0.661	0.437	0.563			
Flex	X9	1.000	1.000	0.000	1.000	1.000	Reliable
EOU	X11	0.739	0.546	0.454	0.801	0.671	Reliable
	X12	0.892	0.796	0.205			
SU	X13	0.850	0.723	0.277	0.802	0.670	Reliable
	X14	0.785	0.616	0.384			
Second Order							
IEA	E&E	0.995	0.990	0.010	0.963	0.868	Reliable
	Flex	0.772	0.596	0.404			
	EOU	0.994	0.988	0.012			
	SU	0.947	0.897	0.103			

Source: Data processing

Based on the results of the CFA test above it can be seen that some indicators have a loading factor above 0.5 of which is X10 that it must be reduced from the model. The following are the results of the CFA test after an invalid indicator was removed. The test result of the first order on dimensions of E & E, Flex, EOU and SU, all indicators have a loading factor above 0.5, that they are all valid in measuring dimensions of E & E, Flex, EOU and SU. For all dimensions of

Successful Implementation E-Audit System, the CR value is 0.7 and VE value above 0.5 indicates that dimensions of the Successful Implementation of E-Audit System can be stated to be reliable. In the test results of the Second order of Successful Implementation of E-Audit System variable, all dimensions have a loading factor above 0.5, that they are all valid in measuring the variables of Successful Implementation of E-Audit System.

Furthermore, Audit Quality Variables are measured in 3 dimensions consisting of 6 indicators. The following is the results of CFA testing with the second order model for Audit Quality variables. For more details, see the following table:

Table 4: Validity and Reliability Testing

Latent Variable	**Indicator**	**λ**	**λ^2**	**e**	**CR**	**VE**	**Description**
First Order							
RA	Y1	0.777	0.604	0.397	0.746	0.594	Reliable
	Y2	0.765	0.585	0.414			
SA	Y3	0.908	0.824	0.175	0.746	0.604	Reliable
	Y4	0.619	0.383	0.617			
TPA	Y5	0.868	0.753	0.247	0.815	0.688	Reliable
	Y6	0.789	0.623	0.378			
Second Order							

QA	RA	0.828	0.686	0.314	0.853	0.670	Reliable
	SA	0.994	0.988	0.012			
	TPA	0.579	0.335	0.665			

Source: Data processing

From the above table, it can be evident that test results of the first order on RA dimension, all indicators have a loading factor above 0.5, that they are all valid in measuring RA dimensions.

Based on the results of these loading factors it can be evident that Y1 indicator has a higher loading factor than Y2 that Y1 indicator is the most powerful indicator in reflecting RA dimension. In the light of CR value by 0.746 > 0.7 and VE value of 0.594 > 0.5 thus it is reliable. This indicates that these indicators have consistency in measuring RA dimensions (Alkhateeb, 2019).

5. TEST RESULTS OF FULL STRUCTURAL MODEL

Test Results of Full Structural Model, in this section, the results of the evaluation of the fit model and parameter values are estimated from the structural equation model. The empirical model produced from the theoretical model in this study requires full model testing. Analysis of the estimated full structural model illustrates the relations between latent variables and can be done if the measurement model has been analyzed through confirmatory factor analysis. The test results for

structural equations are presented in the picture above. Full SEM model testing is carried out with two types of testing, which are the suitability of the model and model hypothesis test (Syam et al., 2017).

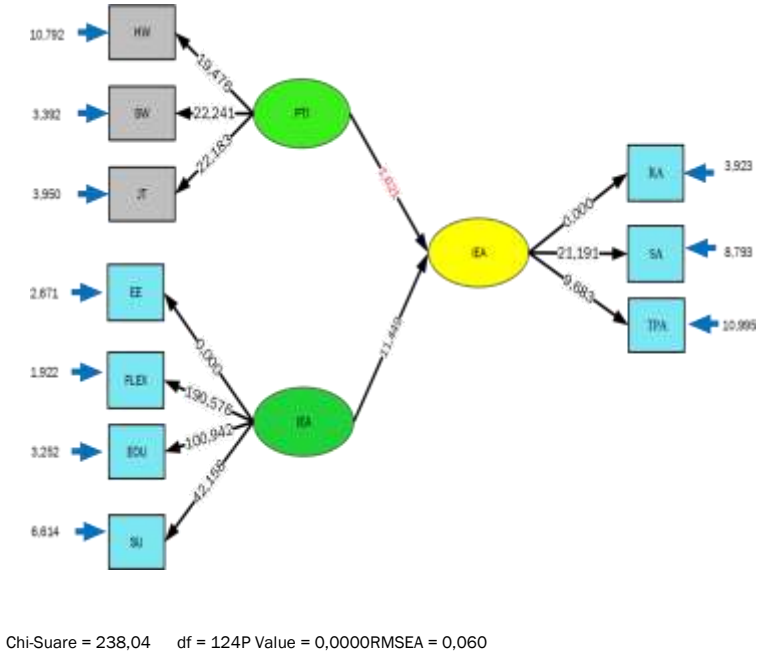

Figure 3: The result of modified structural full model (T-value)

The following is a summary of the estimation results of structural model of relation between latent variables by Path coefficient test:

Table 5: A summary of the estimation results of the Path Coefficient and Statistical Test

Relation	Path	Tvalue	R-square (Partial)	R-square (Simultaneous)
PTI → QA	0.091	1.621	0.064	0.770
IEA → QA	0.718	1.449	0.625	

Source: Data processing

Through the recapitulation contained in the table above, it can be evident that the Use of Information Technology (PTI) and the Successful Implementation of e-audit systems (IEA), has an effect of 77.0% on Audit Quality (QA), while the remaining 23.0% is influenced by other variables other than these 2 variables. Regarding the path coefficient value, most dominant variable sequentially in influencing Audit Quality (QA) is the Successful implementation of the e-audit system (IEA) with path value of 0.718 (62.5%) then the Use of Information Technology with path value of 0.091 (6.4 %).

6. CONCLUSION

The use of information technology has an effect on audit quality, as audit quality has not yet fully occurred due to the use of information technology has not been implemented optimally in supporting audit

quality. The results of the research conducted on BPK auditors indicate that the use of information technology does not affect audit quality. The successful implementation of the e-audit system on Audit Quality has not been fully qualified as the implementation of the e-audit system is reflected by the efficiency and effectiveness of the inspection process, Flexible, Perceived ease of use, and System Usage has not been optimally operated. The results of the research conducted on BPK auditors denote that the successful implementation of the eaudit system has an effect on audit quality.

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