

# Effectiveness Risk Assessment for Quality of Accounting Information System

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## Accounting Information System

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**Abstract** - Accounting information system (AIS) which is a tool used by management in decision making, so that the AIS function provides an important role in company information management. In research, focus how to effectively assess AIS risk using risk assessment: risk identification indicators, risk analysis and evaluation, and risk processing. The purpose of this study is used to solve problems about the effectiveness of risk assessment on the quality of accounting information systems and confirm existing theories. The research method using explanatory research method, as the object of research in collecting data related to AIS to number 43 commercial banks in Indonesia, while statistical data processing using structural equation modelling (SEM) Partial Least Square (PLS). The results of this study indicate that the effectiveness of risk assessment is an important factor and provide a positive contribution in improving the quality of AIS.

**Keywords** - risk assessment, Accounting information system, risk identification risk analyzing, risk process in

### I. INTRODUCTION

The risk of AIS is the risks associated with data corruption, data entry errors, inadequate change control, programming errors, risk on black box technology, service interruption, virus and hacking system security risks, system suitability. [1] according to Bank of International Settlements (2004) classifies operational risks into seven types (loss event types), internal fraud, external fraud, employment practices and workplace safety, client, products, and business practices, physical assets damages, business disruption and system failures, execution, delivery, and process management). Another phenomenon proposed by Financial Service Leader PwC Indonesia David Wake (2018) states that information technology has become a key prospect in the banking sector and has become the driver of business transformation, but has the greatest risk to the banking industry. Vice President of Research Indosurya Securities Division William Surya Wijaya (2017) estimates that in December this year will again be the momentum of the increase of Composite Stock Price Index (IHSG) due to window dressing action

"Risk assessment is a systematic process for assessing and integrating professional judgment about probable adverse conditions and events"[2]. According to [3] Risk analysis is divided into Qualitative Analyze and assess risk by comparing the parameters of effect and probability by comparing the predefined matrix; Semiquantitative T method used is similar to the quantitative method the difference lies in the specified value / score determined according to the risk Quantitative Performed by determining the value of each parameter

obtained from the results of representative analysis such as statistical analysis, simulation, fault tree analysis. Risk assessment is an identifier, risk analysis that will arise from the development of AIS [4]. According [5] every company will have risk in the development of AIS that run and the risk must be predicted by the company's management so that policies can be done to minimize risk. Risk is part of life and an important factor in the development of information systems [6]. In risk assessment risk is a complex process where risk factors can not be avoided so that risk management is an important part of the implementation and development of information systems [7]. Meanwhile, according to [8] states that the success of AIS is supported by an integrated risk assessment into the procedure, a process that is part of risk management. Various concepts state that the use of information technology provides many benefits for banks, ranging from efficiency to advantage and competitiveness. But on the other hand, the use of AIS also brings the potential consequences of risk. The high dependence of the banking industry sector on the use of AIS has an impact on the potential risks. Therefore, Bank Indonesia AIS issued PBI No 9/15 / PBI / 2007 dated 30 November 2007 regarding Risk Management Implementation in the Use of Information Technology by Commercial Banks. According to the PBI (15-17), SKAI is required to perform an effective and comprehensive internal audit function on the use of information technology by the Bank. The Internal Audit Unit shall perform this internal audit function periodically and report it to Bank Indonesia in the semi-annual report. The implementation of this AIS audit can be conducted by an independent external party in the event of limited SKAI capability in information technology audit.

The purpose of this study is to verify which is a research activity carried out with the aim to test or prove the truth of knowledge that already existed before. this proves that whether an effective risk assessment can improve AIS. Where previously there was a theory from research stating this.

### II. METHOD

The method used in this researcher uses with descriptive and verify analysis. Descriptive analysis aims to obtain a description of the characteristics of each research variable. Analysis of verify aims to determine the effect between variables through hypothesis [9] testing using SEM-Structural Equation Model with Partial Least Square (PLS) approach. The rule of thumb is usually used to assess construct reliability, the Composite Reliability value must be greater than 0.7 for confirmatory research and a value of 0.6

1 - 0.7 is still acceptable for exploratory research. Summary of rule of thumb construct reliability test

III. RESULTS

This research is a test (confirmation) theory that is used to construct hypotheses. For this research the hypothesis is built based on the theory of logical explanations and the results of previous studies that are tested by existing facts empirically. The theoretical framework built by researchers as a conceptual model of the relationship between the factors identified to provide solutions to problem solving on the quality of accounting information has been tested (goodness of fit) statistically both for the outer model (linkage of manifest variables with latent variables) and for inner model (exogenous variable linkages and endogenous variables). The model match test results for the outer model specified based on the operationalization of the variables taking into account the reflective relationship orientation shows that convergent validity is the correlation between item scores and the construct score shows the number of outer loading in the range 0.5 - 0.9. This means that the manifest variable has a high ability to reflect its latent variables. And shows tcount above tcritical 1.96 except simple dimensions. For discriminant validity, the validity of the construct that is formed is seen based on the value of Average Variance Extracted (AVE), all variables are in the range of 0.451 - 0.782, where the recommended AVE value is greater than 0.5. Furthermore, the measurement model evaluation / measurement model (outer model) can also be seen from the composite reliability (CR) value where the composite reliability value is greater than 0.70 this result is as expected. The greater the Gof (Goodness of Fit) value, the more fit a model is. The result of testing the suitability of the model for the inner model, the hypothesis is accepted with the value tcount above the critical value of 1.96. The hypothesis has been tested and supported the theory so that if the hypothesis is the same as the same research but with different units of analysis and samples consistent results from time to time and from testing to testing the theory will last until there is another theory replacing, so that research can build theory

A. Variable Measurement Model of Risk Assessment

Risk Assessment consists of 3 (three) manifest variables, namely risk identification, risk analyzing and evaluating, and risk processing. Based on the equation of model outer (measurement model) Risk Assessment variable, for each variable manifest in forming Risk Assessment variable we get factor weight as presented in the following table:

TABLE I. OUTER MODEL EFFECTIVENESS RISK ASSESSMENT

Variabel Manifes	Loading Factor	Measurement Model	thitung
Risk identification (X <sub>1</sub> )	0.656	X <sub>1</sub> = 0.656 X <sub>2</sub> + 0.570	5,306
Risk Analyzing (X <sub>2</sub> )	0.804	X <sub>2</sub> = 0.804 X <sub>2</sub> + 0.354	15,463
Risk Processing (X <sub>3</sub> )	0.711	X <sub>23</sub> = 0.711 + X <sub>2</sub> + 0.494	7,970

Result of calculation of loading factor of variable Risk Assessment show variable manifest meaningful in forming

Risk Assessment variable. The value of loading factor for 3 (three) manifest variables from the latent variable Risk Assessment is the risk identification obtained by 0.656 with the t-count of 5.306, the risk analyzing obtained by 0.804 with tcount of 15.4463 and evaluating, and risk processing obtained by 0.711 with tcount of 7.970, 0.767 with t count of 11.389. The value of thitung loading factor for 3 (three) manifest variables of the latent variable Risk Assessment as shown in table more than 1,96 so it can be said that manifest variable used is significant in measuring Risk Assessment variable. The highest value manifest variable which is also the top priority to be given attention to the quality improvement is the manifest risk analyzing variable

B. Variable Measurement Model of Quality Accounting Information System

Quality AIS consists of 4 (four) manifest variables that are Integration Ease of Use, Accessibility, and Adaptability. Based on the equation of model outer (measurement model) variable Quality Accounting Information System, for each variable manifest in forming variable Quality AIS obtained weight factor as presented in following table

TABLE II. OUTER MODEL QUALITY OF ACCOUNTING INFORMATION SYSTEMS

Vairbel Manifes	Loading Factor	Measurement Model	T hitung
Intergasi (Y <sub>1</sub> )	0,754	Y <sub>4</sub> = 0,784 Y + 0,385	14,728
Accessability (Y <sub>2</sub> )	0,853	Y <sub>2</sub> = 0,853 Y + 0,272	17,930
Ease of Use (Y <sub>3</sub> )	0,794	Y <sub>1</sub> = 0,794 Y + 0,370	10,269
Adaptability(Y <sub>4</sub> )	0,851	Y <sub>3</sub> = 0,841 Y + 293	19,950

Result of calculation of loading factor manifest variable Quality AIS shows variable manifest meaningful in forming variable Quality AIS. The value of loading factor for 4 (four) manifest variables of latent variables AIS Quality is Integration obtained by 0.784 with t count of 14.728, Ease of Use obtained by 0.794 with t count of 10.269, Accessibility obtained by 0.853 with t count of 17.930, and Adaptability of 0.841 with thitung of 19.950. The value of t count loading factor for 4 (four) manifest variables of latent variable of AIS Quality as shown in table more than 1,96 so it can be said that manifest variable that is used meaningful in measuring variable of Quality of AIS.

C. R-square

To test (evaluate) the structural model (inner model) also see the R-square value for the dependent construct. R-square for the dependent construct indicates the magnitude of the influence / precision of the independent construct in affecting the dependent construct. Changes in R-square values can be used to assess whether certain independent latent variables have a substantive effect on the latent variable dependent.

TABLE III. VALUE R- SQUARE

Relationship	F	T-Static	R-Square
Risk Assesment (X) -> AIA (Y)	0,699	7,468	0,495

R-square for the dependent Risk Assessment construction against AIS is obtained at 0.489. This result shows that Risk Assessment to AIS quality 49,5%. Based on R-square calculation result above show Risk Assessment have strong influence to AIS.

The value of the t-pa<sup>8</sup> coefficient calculated from the risk assessment variable on the quality of the a<sup>1</sup>counting information system is 2,170 greater than t-critical 1,96 so it can be concluded that assesment risk has a significant effect on the quality of the accounting information system

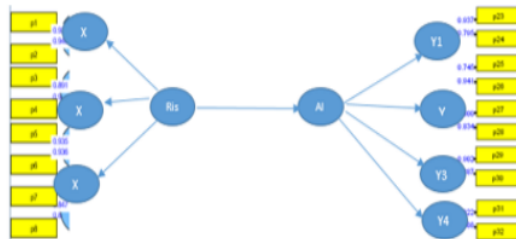


Fig. .1 Path Diagram

Based on SEM - SmartPLS output, the contribution or magnitude of the influence of risk assessment is equal to 0.783 or 78.3% of AIS

#### IV. DISCUSSION

The implementation of risk assessment in public banking has not been fully carried out optimally because (the culture of risk assessment) in the organization has not run as a whole; Anticipation of data loss in the data base in information systems that are not optimal. Because there is still a lack of customer data on public banking in Indonesia , in order to be more convincing about the results of this research, the need to be researched on objects other than banking and wider coverage.

#### V. CONCLUSION

There is significant effect of Risk Assessment on the quality of AIS that means that if the risk assessment is better than the quality of AIS will be good and vice versa.

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