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Towards Robust Internal Control: Insights from Quality and Security of Information Systems

Khaerunisa Harsono[1], Vicky Dzaky Cahaya Putra[2]
[1]Satu University Bandung, Indonesia
[2]Jenderal Achmad Yani University, Indonesia
khaerunisa.harsono@univ.satu.ac.id[1], vicky.cahaya@lecture.unjani.ac.id[2]

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ABSTRACT

Banks are one of the companies that use computers as a means of information systems. Internal control is used to prevent the possibility of inefficiency, error, and embezzlement of assets. So it is necessary to have a strict information and security system, the quality of the accounting information system and its security is very important for effective internal control to overcome possible errors. This study aims to determine the partial and simultaneous influence between the quality of accounting information systems and the security of accounting information systems on the company's internal control at BJB Purwakarta Sub-Branch Office. This study uses qualitative research and data collection techniques through distributing questionnaires, the analysis used includes, classical assumption test, multiple linear regression analysis test and hypothesis testing using SPSS. Based on the research results, the t test results show that the quality of the accounting information system has no effect on the company's internal control and the security of the accounting information system affects internal control. While the results of the f test show that the accounting information system and the security of the accounting information system affect internal control.

Keywords : Accounting Information System, Internal Control, Fraud

INTRODUCTION

The role of information technology in various aspects of business activities can be recognized because computers have experienced significant developments in the present both from hardware and software technology. With effective supervision, company leaders, in this case managers, can control company activities properly. In addition, managers can also assure themselves that the information contained in the reports received is correct and reliable. The accounting information system can be used as one of the activities that are often monitored in the company's operational activities and internal control can be used by management to control these operational activities which can help provide reliable accounting information for financial reports in accordance with applicable regulations (Audeh, 2019). According to Setiadi (2019) internal control

is a control process carried out by the board of directors, management, and several related parties to make the achievement of company targets, namely the reliability of financial reports in accordance with established regulations and policies. (Evayani & Farradhi, 2020) in their research state that internal control is inseparable from the quality conditions of the accounting information system implemented by a company which has an important functionnamely providing adequate internal control to secure organizational assets and data

From the results of evaluations conducted by researchers in banking through the financial.bisnis media (2019), researchers found that there was a problem, namely the existence of fictitious loans worth Rp. 548 billion carried out by permanent employees and in the tangselpos media (2024) there was a loss of Rp. 10,429 at the Labuan Branch involving employees and the main director because there were projects that were not completed and there were fictitious projects in it. In addition, faktabanten media (2025) there were irregularities committed by relationship officers and commercial managers by committing corruption in the Purabaya-Saguling Road improvement work at the West Bandung Regency Highways and Water Resources and Mining Office with a contract value of Rp16 billion. Based on these three problems, it can be seen that internal control in banking still has gaps for fraud and needs to be improved in terms of systems and supervision. According to (Awaluddin, 2020) the quality of accounting information systems has an important function, namely providing adequate internal control to secure organizational assets and data. To get quality information, it is necessary to have a system that processes data into valuable information which requires fast, precise and accurate information resulting in increasingly competitive competition (Dalimunthe et al., 2019)

Companies need good security for their assets so that things that harm the company do not occur such as misappropriation, damage, loss committed by parties who are not responsible, so that a company needs an accounting information system (Devi, 2018). Accounting information system security is part of system quality. (Putrid et al, 2019) have the view that the security of the accounting information system will have an impact on the data contained in the information generated which can cause the quality of information to be doubtful if there is no protection in the accounting information system. With this, companies must be able to pay attention to data security

due to current technological developments. This can be seen in the company's data which is increasingly stored on computers that can be misused so that it is considered a data leak carried out by irresponsible parties.

Previous research by Nisa and Citra (2020) concluded that the quality of accounting information systems impacts internal control based on COSO. Evayani (2020) found that the quality of accounting information systems significantly influences the effectiveness of internal control in financial reporting. Syahputra and Siregar (2022) identified that the most disruptive security threats to accounting information systems are internal parties, particularly employees. Monica Setiawan (2021) noted that the development of information technology in companies improves internal control with computerized systems, emphasizing the importance of data security amidst increasing cybercrime. Tresyani (2019) demonstrated that the internal control system enhances the quality of accounting information systems, suggesting that better internal control leads to improved system quality. Nisa and Citra (2020) further confirmed that internal control positively affects the quality of accounting information systems, indicating that stronger internal control leads to higher-quality accounting systems.

The occurrence of research gaps between studies on the topic under study today and previous studies lies in the introduction and adjustment of certain variables, namely the security of accounting information systems in the context of the company's internal control. Simulating and modifying this variable characterizes the current research. In addition, significant differences are also manifested in the choice of the object of previous research, research tends to explore business entities or limited companies, while the latest research focuses the analysis on the banking company sector, namely BJB Purwakarta Sub-Branch Office.

LITERATURE REVIEW

TAM Theory (Technology Acceptance Model)

The Technology Acceptance Model (TAM) is a framework for understanding how users accept information technology systems. TAM is an adaptation of the Theory of Reasoned Action (TRA), initially introduced by Ajzen and Fishbein in 1980 and later proposed by Davis in 1989. According to recent studies (e.g., Smith, 2022), TAM highlights the importance of perceived ease of use and perceived usefulness in the

acceptance of technology. By applying TAM principles when designing and implementing accounting information systems, organizations can enhance the quality of these systems and promote their use among accounting professionals. This, in turn, can lead to improved accounting information processing and more informed decision-making at the organizational level.

Accounting Information System Quality

Hariyadi et al (2019) define the quality of accounting information systems as the integration of all elements and sub-elements related to forming an accounting information system to produce quality information. Then Romney & Steinbart (2016) suggest that the indication of the quality of the accounting information system is to reduce uncertainty in supporting decisions and encourage better planning of work activities. The quality of an accounting information system refers to the extent to which the system can meet the standards and needs set by a particular organization or industry.

Susanto (2017) states that the measurement of the quality of accounting information systems consists of three kinds, including: Efficiency, ease of access, and integration. It is important to understand that each organization may emphasize certain quality dimensions based on its business needs and strategic goals. Evaluating the quality of AIS involves an overall assessment of a number of these dimensions to ensure that the system provides maximum added value to the company.

Monitoring accounting information system quality indicators has benefits for assessing, maintaining, and improving accounting information systems. Discussion of these indicators according to Heidmann (2018: 81) can be in the form of integration, flexibility, ease of access, and formalization. In addition, there are indicators from Mahatmyo (2014: 13) which states that the indicators. The quality of the accounting information system if it has efficiency, accuracy, can improve product quality, has budgeting planning, and controls output results. So that with these several indicators it can support the implementation of the plan and take corrective action if the results are not in accordance with the plan.

Information System Security

Sayuthi (2021) defines information system security as an effort to avoid unwanted events or special risks associated with information systems and their components. Security in information systems can be a form of protection of information and

important elements in it. In the current development of technology, accounting information system security is used as an effort to protect accounting data and information by companies, especially for the banking world in the system from unwanted events and threats that threaten the security of the accounting information system itself.

According to (Sulastri et al., 2018) there are six aspects that need to be known, namely accounting information system security controls including organizational security controls, actions or policies implemented to protect organizational assets, information, and operations from security threats or risks. In addition, it requires hardware security controls and physical access, software security controls and access security, data security and integrity controls, division of labor, and output security controls.

Regular monitoring of security can help organizations to identify potential risks, correct weaknesses, and ensure that accounting information systems can operate with a high level of security, so security indicators are needed as compiled by Raman et al (2021) including data confidentiality, data management, and security guarantees. Meanwhile, when compared to the indicators compiled by Mauliansyah and Saputra, 2019, the indicators related to the security of accounting information systems consist of natural disasters, software errors, and several things related to accidental or deliberate actions.

Internal Control

Internal control is a set of policies and procedures to protect company assets or assets from all forms of misuse, ensure the availability of accurate company accounting information, and ensure that all provisions (regulations) of laws / laws and management policies have been obeyed or as appropriate by all employees (Hery, 2018). Sanders, 2017 argues that internal control can be influenced by the board of commissioners, management, and other personal in the organization to provide adequate assurance with the form of rules that are arranged for company employees in achieving goals. The effectiveness of internal control is a dynamic process. Organizations therefore need to monitor, evaluate and improve internal controls over time to ensure they remain relevant and effective. The following characteristics that effective internal control are stated by Akmal (2007: 25) are internal controls that have clear objectives, are built for

shared responsibility, have costs incurred that can achieve goals, can be documented up to the testing stage.

There are elements of internal control that must be considered in implementing good internal control in information systems, including according to Mulyadi (2017), which can consist of four elements, namely the need for an organizational structure that clearly separates responsibilities and authorities, then there is an authorization system and recording procedures from officials who have the authority to approve the transaction, healthy practices are carried out with the division of functional responsibilities, the authority system and good recording procedures, besides that it requires commitment from employees so that their quality is in accordance with their responsibilities because the quality element of employees is a very important element of the internal control system. Organizations can adjust the implementation of these elements according to their unique needs and characteristics with the aim of achieving a high level of confidence in the reliability and integrity of financial reporting and the effectiveness of organizational operations.

Based on Sugiyanto and Sumantri (2019), indicators are needed in measuring the achievement that good internal control has been carried out in the company, including the control environment, risk assessment, control activities, information and communication, and monitoring activities. If according to Mulyadi (2014) which states that there are 4 indicators of internal control, namely organizational structure, system of authority and recording procedures, healthy practices, and employees who are in accordance with their responsibilities. It is hoped that the existence of internal controls that are carried out regularly can ensure that the control system will remain effective in responding to changes in business conditions or risks in the future.

METHOD

This study uses quantitative research methods that aim to test the hypothesis that has been set. Based on the type of research that the research used based on is Associative Research which according to Sugiyono (2019) is research that aims to determine the relationship between two or more variables. Primary data is obtained through direct questionnaire techniques, while secondary data is obtained from the company in the form of organizational structures and procedures related to the variables

studied. The sampling in this study used *purposive sampling.* The *purposive sampling* technique is basically carried out as a technique that deliberately takes certain samples that are appropriate and meet all the requirements needed which include: certain properties, characteristics, characteristics, and sample criteria. Researchers took the number of samples in this study with a total of 62 employees with a focus on respondents in the finance department and internal supervisors from 9 BJB Purwakarta Sub-Branch Office.

To conduct research testing by revealing the aspects or variables to be studied, researchers take measurements using validity tests and reliability tests. In this studyresearchers used multiple linear regression analysis to determine the linear relationship between two independent variables. Because the analysis model used is multiple regression, researchers use the classical assumption test as a measurement. The percentage role of all independent variables on the value of the independent variable is indicated by the coefficient of determination, therefore using determination analysis. By paying attention to the characteristics of the variables tested in this study, partial hypothesis testing and simultaneous hypothesis testing were carried out.

RESULT

Normality Test

In this study, the normality test was performed using the Kolmogorov-Smirnov test, a statistical method to assess whether the data follows a normal distribution. The key indicator for determining normality is the significance value from the Kolmogorov-Smirnov test. According to standard guidelines, if the significance value (Asymp. Sig.) is greater than 0.05, the data is considered to be normally distributed. However, if the significance value is less than 0.05, it indicates that the data does not follow a normal distribution, suggesting that the data may not be suitable for parametric testing.

Upon conducting the Kolmogorov-Smirnov test in this study, the Asymp. Sig. (2-tailed) value obtained was 0.063, which is greater than the threshold of 0.05. This result suggests that the data is normally distributed. As a result, it can be concluded that the residuals in this study meet the assumption of normality, making the data appropriate for further statistical analysis. The normality of the data is important because it ensures the validity and reliability of statistical tests that assume normal distribution, such as

regression and correlation analyses. Therefore, this finding supports the use of parametric tests for subsequent analysis in the study.

Multicollinearity Test

The next classic assumption test is the multicollinearity test. This test aims to test whether the regression model found a correlation between independent variables (independent). A good regression model is a regression model in which there is no correlation between independent variables. To determine the presence or absence of multicollinearity in the regression model, it can be done by assessing the amount of VIF (Variance Inflation Factor) and tolerance value. If the tolerance value> 0.10 or VIF value < 10 then there is no multicollinearity and if the tolerance value < 0.10 or VIF value> 10 then there is multicollinearity in the regression model.

Based on the data analysis results, it is known that the tolerance value on the accounting information system quality variable is 0.794, and on the accounting information system security variable is 0.794. The tolerance value of the two variables has met the tolerance limit, which is> 0.10. Furthermore, the VIF value on the accounting information system quality variable is 1.260, and on the accounting information system security variable is 1.260. The VIF value of the two variables has also met the VIF value, which is < 10. Based on these results, it can be concluded that the data in this study did not occur multicollinearity.

Multiple Linear Regression Analysis

Based on the data analysis results, it can be concluded that the multiple linear regression equation is as follows Y = 25.729 + 0.184X1 + 0.791X2. Based on the multiple linear regression equation above, it can be seen how much influence the two independent variables have on the dependent variable. The explanation of each variable is as follows:

1. The constant value of 25.729 indicates that when the variables of Trust in AIS Quality (X1), and AIS Security (X2) are zero (0), the Internal Control variable (Y) is 25.729.
2. The regression coefficient value on the accounting information system quality variable (X1) is 0.184. So it can be interpreted that every increase of 1 point in the variable Quality of the accounting information system will be followed by an increase in Internal Control of 0.184.

3. The regression coefficient value on the Accounting Information System Security variable (X2) is 0.791. So it can be interpreted that every increase of 1 point of the Accounting Information System Security variable will be followed by an increase in Internal Control of 0.791.

Coefficient of Determination (R-Squares)

The coefficient of determination test is carried out with the intention of measuring the model's ability to explain how the influence of the independent variables together affects the dependent variable which is indicated by the adjusted R - Squared value. Based on the data analysis results, it can be seen that the Adjusted R square value is 31%. This shows that the independent (free) variables used in this study, namely Accounting Information System Quality and Accounting Information System Security, predict Internal Control by 31% while the rest is influenced by other variables not used in this study.

Hypothesis Testing

F Statistical Test

The F statistical test is carried out to determine whether the research regression model is feasible or not and to determine the effect simultaneously or together the independent variables affect the dependent variable. The F statistical test can also be seen from the comparison of F count and F table. If F count> F table indicates that H0 is rejected, and Ha is accepted.

Based on the data analysis results, it can be seen that the calculated f value of all independent variables is 13.242 and the f table value is 2.696. So it can be explained that Fcount = 13.242> F table = 2.696 and significant 0.000 <0.05 then H0 is rejected and Ha is accepted. This means that the Quality of Accounting Information Systems and the Security of Accounting Information Systems simultaneously have a positive and significant effect on Internal Control.

Statistical Test

The t test is conducted to determine whether the independent variable with the dependent variable partially has an influence on the dependent variable. The test procedure is after doing t-count, then comparing t-count with t-table. The t value from the calculation is compared to the t-table value using df = n-k-1 and a significance level of 0.05, the decision-making criteria are:

1. If the tcount of the significance level (α) <0.05 then H0 is rejected and Ha is accepted, which means that partially the independent variable has a positive and significant effect on the dependent variable.
2. If tcount < ttable and the significance level (α)> 0.05 then H0 is accepted and Ha is rejected, which means that partially the independent variable has no significant effect on the dependent variable. The following are attached partial hypothesis test results

Based on the data analysis results, it can be seen t table with significance (a/2; n-k-1), which obtained a value of 1.983. With degrees of freedom df = n-k-1, where the value of n is the amount of data and k is the number of independent variables. Then df = 62-2-1 = 59, the result obtained for the t-table is 1.983. The partial hypothesis test results are concluded as follows:

1. For the Accounting Information System Quality variable (X1), the results of the tcount value 1.452 < t table 1.983 and a significant value of 0.042 < 0.05, it can be concluded that the Quality of the Accounting Information System has no effect on Control.
2. For the Accounting Information System Security variable (X2), the results of the tcount value are 3.739> t table 1.983 and a significant value of 0.00 <0.05, so it can be concluded that Accounting Information System Security has a positive and significant effect on internal control.

Discussion

Based on the partial hypothesis test (t test), it is known that for the Accounting Information System Quality variable (X1) the results obtained t value = 1.452 < t table = 1.983 and a significant value of 0.042 < 0.05. This means that partially the Quality of the Accounting Information System has no effect on Internal Control (Y). This is in accordance with the correlation coefficient analysis where in the table the results of the analysis of the correlation coefficient of the accounting information system on internal control are 0.382 where this value is in the weak correlation category, in contrast to the descriptive analysis which explains that the accounting information system is in the good category or 65%. However, the average respondent's response is still below 70%

The existence of these results is because the Bank BJB Purwakarta Branch Office creates changes in the business and regulatory environment that cause a mismatch

between the quality of the accounting information system and the needs of the organization. If the accounting information system is unable to adapt to these changes, then its ability to support internal control may be limited. This is felt by employees in the financial sector in producing quality financial reports which are a measure of the progress of the banking branch office.

Based on the test results from the SPSS 26 data output, it is obtained that from the multiple linear regression analysis, the regression coefficient X2 is 0.454, which means that if the security of the accounting information system increases by 1 level and the quality of the accounting information system remains, then internal control will increase by 0.454 levels. While the results of hypothesis testing through the t test show t count> t table where 3,739> 1,983 and a significance level of 0.000 which means 0.000 <0.05, meaning that accounting information system security has a significant effect. This is in accordance with the correlation coefficient analysis where in the table the results of the analysis of the correlation coefficient of information system security on internal control are 0.634 where the value is in the strong category. Likewise, the results of the descriptive analysis explain that information system security is in the very good category or more than 80%. These results show that the respondents' answers are in accordance with the results of data processing which shows that the information system security variable has a positive and significant effect on internal control

This shows that the security of the accounting information system used at the Bank BJB Purwakarta Branch Office according to respondents has a good management reporting system so that organizational security controls run well. Management reporting system activities assist in planning and control related to decision making either in the long term or short term, such as identifying problems, evaluating solutions and implementing them and checking after the solution is implemented.

CONCLUSION

The analysis indicates that there is no significant relationship between the quality of the accounting information system and internal control. This result suggests that improvements in the quality of the accounting information system do not necessarily lead to better internal control mechanisms. The findings imply that factors beyond just system quality may play a role in determining the effectiveness of internal control. This

could point to the need for other organizational or management-related factors to be considered when evaluating internal control effectiveness.

On the other hand, the security of the accounting information system has been found to have a significant impact on internal control. This means that enhancing the security features of the accounting system can improve the effectiveness of internal control processes. The study's overall results show that both the quality and security of the accounting information system collectively contribute to internal control. These findings imply that organizations should prioritize both the security and quality of their accounting systems to strengthen internal controls, suggesting that comprehensive system management, including securing data and improving system performance, is essential for robust internal control frameworks.

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