

A Comprehensive Study of the Effects of User Competence and Internal Control on the Quality of Accounting Information Systems

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Abstract: Information systems have become an important part of business and have been integrated into daily business activities such as accounting, finance, operations management, marketing, human resource management or other key business functions, a poor quality information system will have a negative impact on a company or organization. The goal of this study was to assess the impact of user competence on the quality of information systems in Indonesian banks, as well as the impact of internal control on the quality of information systems in Indonesian banks. The sample in this study was selected by random sampling technique which is part of probability sampling and Partial Least Square-Structural Equation Modeling (PLS-SEM) is used as the data analysis technique. This study's finding has two major conclusions, first is that User competence has a significant and positive effect the quality of the banking Information system in Indonesia, and the second finding is internal control positively and significantly affects the quality of the banking Information system in Indonesia.

1 INTRODUCTION

The business world is currently developing very dynamically and with increasingly fierce competition, companies are required to be able to maintain their existence by maintaining their competitive advantage to achieve goals and win the competition. One way companies can increase their competitiveness is to focus on information system technology as a means of enhancing effectiveness and efficiency. Accounting, finance, operations management, marketing, human resource management, and other major business processes have all been incorporated into information systems, which have become an integral component of business (Mardia et.al, 2021). Information System is a system that can be applied and has an important role in a company.

The accounting information system differs from other information systems in that it is exclusively connected to the accounting function in processing data about the operations of firm organizations that have economic worth (Suprihatin et al, 2022). Accounting information systems are required to convert accounting data from diverse sources into accounting information required by various users to

assist in company decision-making. The characteristics of a quality information system include flexibility, simplicity of use, system transparency, and integrity.

The quality of information systems in Indonesia is still lacking. The example of Bukalapak's financial statements being recorded incorrectly (Safitri, 2022) can prove this. Fairuza Ahmad Iqbal, Bukalapak's Head of Media and communications, stated that there was a recording error that resulted in the procurement of IDR 14.3 billion being written down to IDR 14.3 trillion. In this case, it is known that the users involved in the information system affect the quality of the information system. Therefore, users must have the knowledge, expertise, and ability to use the information system. User capability is one of the factors that influence the successful implementation of information systems to produce quality information (Nisa et al, 2020). The ability of information system users to operate information systems is needed so that the system can operate optimally, this can be seen from how system users run existing information systems (Robbins Judge, 2013). Previous research on a manufacturing business in Bandung city has shown that user capability has a favorable and substantial impact on the quality of information systems. The more the capacity of the

user, the higher the quality of the present information system (Nisa et al, 2020).

As an open system, the information system cannot be guaranteed to be free of faults or fraud. Internal control is a method for a system to defend itself against harmful acts (Basri, 2020). Quoted from Hasanuddin (2020), the case of breaking into a customer's account at one of the international private banks in Indonesia amounting to Rp. 22 billion which was committed by a bank branch head is one of the cases which shows that internal control is needed to guarantee the quality of a product information system. Previous research explained that internal control has a significant influence on the quality of information systems, which means that the better the implementation of internal control, the better the quality of information systems, and the worse internal control, the lower the quality of information systems (Astria et.al, 2017).

Based on the phenomena discussed, the information system requires a solution since a low-quality information system could negatively affect a firm or organization. The quality of accounting information on local government in West Java was the topic of prior studies. The findings of this study reveal that employee competence has a substantial influence on the quality of accounting information; nevertheless, internal control has no significant effect since risk assessment did not go smoothly. However, study findings differ in that the internal control system influences the quality of the information system; if the internal control system improves, the quality of the information system improves (Tresyani, 2019). As a result, the purpose of this research is to establish the impact of internal control and user capabilities on the quality of financial information systems, particularly in the banking industry.

This study will contribute to the literature on the influence of information system quality because it will examine the variables that affect the quality of financial information systems from internal control variables and the capabilities of information system users. The goal of this study was to assess the impact of user competence on the quality of information systems in Indonesian banks, as well as the impact of internal control on the quality of information systems in Indonesian banks. This research is different from previous studies because it has not examined all variables simultaneously in relation to the quality of the information system in banks.

2 THEORETICAL REVIEW

2.1 Internal Controls

Internal control is a procedure that helps an organization or corporation achieve operational efficiency and effectiveness, financial reporting dependability, asset security, and compliance with laws, rules, and other requirements (Nugroho et al, 2019). This is also backed by the viewpoint that internal control is a collection of norms of conduct produced and accepted by the majority of the organization's/company's members as a manual for managing the organization or resolving both internal and external problems (Syahputra, 2022). Internal control, then, can be defined as a set of procedures that are intended to help a business achieve operational effectiveness and efficiency, financial reporting accuracy, asset security, and compliance with laws, rules, and other regulations. Internal control requires companies to achieve efficiency and effectiveness. In this study, researchers used an understanding of efficiency, which said that efficiency is the amount of output that can be produced using certain inputs by minimizing wasted effort or costs (Hafidz, 2022). Companies must consider efficiency when developing their internal controls. Effectiveness is a condition that indicates the success of an organization in achieving a certain goal by using existing resources with a predetermined size (Bormasa, 2022).

2.2 User Competence

User competence, according to Wijayanti (2023), is the ability of each individual, which includes aspects of knowledge, skills, and individual abilities, to achieve the expected results. User competence is a unique/special characteristic that is formed from the knowledge, expertise, skills, and motivation of an individual that has a relationship with the successful performance of the individual which can be seen from the way of their thinking and behavior (Marjulin, 2019). The same thing was said by Mejia et al (2010) by defining competence as a characteristic that has been attached to a person and has a relationship with the successful performance of a person.

Based on the above understanding, the competence of users of an information system is a characteristic of someone who can be seen from the knowledge, expertise, skills, and motivation of someone who has a close relationship with the success of their performance. Therefore the

dimensions that will be used in this study are the dimensions of knowledge and expertise.

Knowledge, according to Simbolon (2022), is information that someone owns. Employee knowledge also impacts the success or failure of task implementation; employees with sufficient knowledge will boost the company's efficiency; employees with insufficient knowledge will be difficult to deal with. The quality of the information system itself is determined by the knowledge of the personnel who administer it.

In addition to knowledge, users must also have skills in operating or running programs used in an information system to determine the quality produced. The benefits of carrying out a sequence of activities that are derived from studies and job experience are referred to as skills (Chaeruddin et al, 2020).

2.3 Quality of Information Systems

This A quality information system is very important in accounting because it will provide accounting information from a company that will be used by internal and external parties of the company. Suprihatin (2022) states that information systems are created with the primary purpose of translating accounting data from numerous sources into accounting information required by diverse users in order to reduce risk while making decisions. This is corroborated by Susanto's (2017) viewpoint. According to the definition, an accounting information system is an integration of both physical and non-physical subsystems/components that are interconnected and function in harmony to manage transaction data related to financial issues into quality financial information.

Based on this understanding, it can be interpreted that the information system is a process for processing accounting data into harmoniously integrated information for managing transaction data related to financial issues into quality financial information.

According to Soelistya (2021) integrity is an activity of uniting smaller components into a system that functions as one. Integration is needed between each division within a company to ensure proper system operation.

Four dimensions can be used to assess the quality of information from an information system. information that is correct, relevant, timely, and full (Susanto, 2017). This is becoming a dimension for researchers when examining the quality of information systems.

3 RESEARCH HYPOTHESIS

3.1 The Influence of User Capability on the Quality of Information Systems

In several previous studies, such as Nisa and Citra (2020), it has been proven that user ability has an influence on the quality of information systems. Similar research conducted by Endraria (2016) also concluded that user competence influences the quality of the information system. Similarly, Ruhul Fitros (2022) in his research found that information system quality is significantly influenced by user competence. The quality of existing information systems can be affected by implementation errors caused by employees' lack of knowledge and skills in the process of applying information systems. Based on theoretical studies and supported by previous research, The first hypothesis in this study is:

H1 = User capability has a significant effect on the quality of information systems.

3.2 The Influence of Internal Controls on the Quality of Information Systems

Internal control is critical in an information system; the greater the internal control, the higher the quality of an organization's information system (Mulyanti, 2017). Suswandera, Nurhayati, and Halimatusadiah (2018) found that internal control has a significant positive impact on improving the quality of information systems. The research conducted by Nisa and Citra (2020) found that internal control findings had an impact on the quality of the information system. Internal control is a factor that can affect the quality of information systems; internal control is required to be utilized as a reference or the application of restrictions by the firm to reduce the risks that can develop while using information systems to achieve company goals. Similar findings were presented by Kuniawan et al in their research in 2017, stating that Internal control has an impact on the quality of information systems, and it is important to have internal control in order to produce high-quality information systems.

Based on theoretical studies and supported by previous research, The second hypothesis in this study is as below:

H2 = Internal control has a significant effect on the quality of information systems.

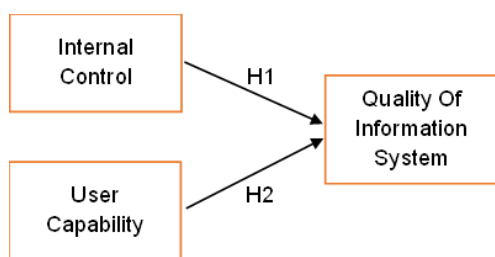


Figure 1: Research Model and Framework

4 RESEARCH METHODS

The quantitative research method was applied in this investigation. The quantitative research method is a type of research in which the specifications are methodical, planned, and explicitly structured from the beginning of the research design to the end. This is consistent with Sugiyono (2019), who stated that positive philosophy-based research procedures are used to evaluate certain populations or samples, data collection involves research tools, and data analysis is quantitative or statistical with the goal of testing predetermined hypotheses. This study used a structured questionnaire as a data collecting tool. Indicator measurement uses a Likert scale.

The population of 107 banking industries is the unit of analysis in this study, which is public banking registered with the Financial Services Authority (OJK) in 2022. The sample for this study was chosen through a random sampling technique, which is a type of probability sampling. Random sampling is a method of gathering samples from a population at random, without consideration for the strata within that population (Sugiyono, 2019).

The data analysis technique employed is the Partial Least Square-Structural Equation Modeling (PLS-SEM), which tests the hypothesis using the route analysis test on primary data gathered from surveys and questionnaire distribution. SEM is a statistical modeling technique that can be used for cross-sectional, linear, and general statistical modeling, and it encompasses factor analysis, route analysis, and regression. SEM is a multivariate analysis approach used to create and test statistical models, most of which are causal models (Usman et al, 2020). Partial least squares (PLS) is an alternative approach to analysis based on variation to Structural Equation Modeling (SEM) (Usman et al, 2020). PLTS has the advantage of not requiring assumptions and can be estimated with a small sample size.

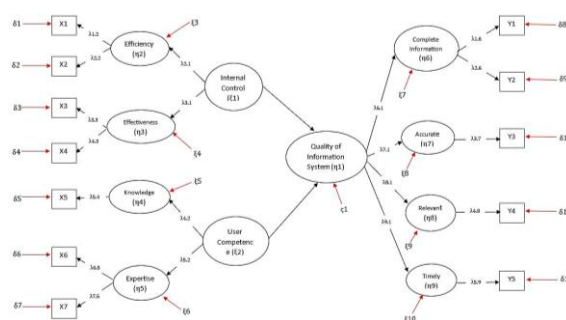


Figure 2: Path Diagram for Combination of Measurement and Structural Models.

5 RESEARCH RESULTS

There are 2 independent variables which are denoted by X1 (Internal Control), X2 (User Competence), and Y (Quality of Information system), by using SMartPLS the research model is obtained as follows

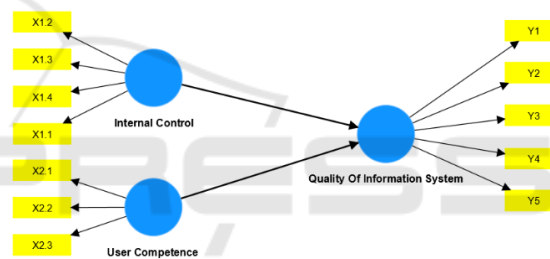


Figure 3: Research Model, via Smart PLS.

The tests to be carried out are Convergent Validity and Discriminant Validity tests.

5.1 Convergent Validity

Table 1: Outer Loading.

Variable	Outer Loading	Standard Value	Information
X1.1 <- X1	0.744	0.700	High/Valid
X1.2 <- X1	0.831	0.700	High/Valid
X1.3 <- X1	0.789	0.700	High/Valid
X1.4 <- X1	0.821	0.700	High/Valid
X2.1 <- X2	0.742	0.700	High/Valid
X2.2 <- X2	0.846	0.700	High/Valid
X2.3 <- X2	0.753	0.700	High/Valid
Y1 <- Y	0.811	0.700	High/Valid
Y2 <- Y	0.863	0.700	High/Valid
Y3 <- Y	0.861	0.700	High/Valid
Y4 <- Y	0.751	0.700	High/Valid
Y5 <- Y	0.776	0.700	High/Valid

The value of the Outer Loading variable in the table above is more than 0.700, indicating that the data utilized can be considered valid sample size (Irwan Khaeyna, 2015).

Table 2: Average Variance Extracted (AVE).

	Average Variance Extracted (AVE)	Standard Value	Information
X1	0.617	0.500	Valid
X2	0.647	0.500	Valid
Y	0.655	0.500	Valid

Based on the table data above, the Average Variance Extracted (AVE) value is above 0.500, which means the data used is valid (Irwan Khaeyna, 2015).

Table 3: Fornell Larcker.

	X1	X2	Y
X1	0.785	0.671	0.688
X2	0.671	0.804	0.777
Y	0.688	0.777	0.809

By using the Fornell Larcker, based on the results of the table above, the root value of the AVE variable is greater than the correlation between the other variables. This indicates that the overall discriminant validity evaluation is fulfilled.

Table 4: Cross Loading.

	X1	X2	Y
X1.1	0.776	0.533	0.547
X1.2	0.744	0.512	0.523
X1.3	0.831	0.419	0.472
X1.4	0.789	0.615	0.599
X2.1	0.523	0.821	0.647
X2.2	0.469	0.742	0.534
X2.3	0.616	0.846	0.683
Y1	0.517	0.609	0.753
Y2	0.517	0.609	0.811
Y3	0.623	0.696	0.863
Y4	0.621	0.706	0.861
Y5	0.485	0.542	0.751

According to the Cross Loading results in the table above, the correlation of the loading value of each item to the construct is greater than the cross loading value. This signifies that the discriminant validity evaluation has been completed (Irwan Khaeyna, 2015).

Furthermore, the Cronbach Alpha value can be used to measure the reliability. Because the Cronbach Alpha value in the table below is more than 0.700, it can be claimed that all variables are reliable (Febrianawati, 2018).

Table 5: Cronbach Alpha.

	Cronbach Alpha	Standard Value	Information
X1	0.793	0.700	Reliable
X2	0.727	0.700	Reliable
Y	0.867	0.700	Reliable

The next test is hypothesis testing. Hypothesis testing was carried out to see if there was an influence from X1 on Y and X2 on Y. Based on the following table, the P values of X1 and X2 are smaller than 0.05 so it can be concluded that X1 has an influence on Y, and X2 also has an influence on Y.

Table 6: P Value.

	P Value	Standard Value	Information
X1->Y	0.005	< 0.05	X1 has an Effect on Y
X2->Y	0.000	< 0.05	X2 has an Effect on Y

The next test is hypothesis testing. Hypothesis testing was carried out to see if there was an influence from X1 on Y and X2 on Y. Based on the following table, the P values of X1 and X2 are smaller than 0.05 so it can be concluded that X1 has an influence on Y, and X2 also has an influence on Y.

Table 7: Cross Loading.

	T Statistics	Standard Value	Information
X1->Y	2.781	> 1.96	X1 has a Significant Effect on Y
X2->Y	6.345	> 1.96	X2 has a Significant Effect on Y

Furthermore, to see whether variables X1 and X2 have a positive or negative effect on variable Y, it can be seen through the value of the Original Sample.

Table 8: Cross Loading.

	Original Sample	Information	
X1->Y	0.303	Positively Influence	X1->Y
X2->Y	0.574	Positively Influence	X2->Y

Through the table above, the value of the Original Sample X1 on Y is positive, so X1 has a positive effect on Y, as well as the value of the Original Sample X2 on Y which is positive, so X2 also has a positive effect on Y. This means that if X1 or X2 increases, Y will increase as well.

6 DISCUSSION

Based on the discussion mentioned above, it appears that the first hypothesis is accepted. To improve the quality of information systems, banks must increase user competence because it has a significant and positive influence on them. This conclusion is supported by previous research conducted by Nisa & Citra (2020) which showed that the ability of users has a positive and significant influence on the quality of information systems. Information systems are intended to improve decision-making by streamlining procedures and providing important insights. The full potential of users who are proficient in using these systems can be realized by making educated judgments and reaping the benefits of these systems. Competent users are more likely to enter trustworthy and correct data into information systems. The overall quality of the provided information can be lowered by erroneous analysis and incorrect conclusions caused by wrong or missing data.

If an information system's users are familiar with its features, they can use it more effectively and finish tasks faster. With higher productivity and quicker answers to company demands, this enhanced efficiency also benefits businesses. Competent users can discover and repair technical problems or mistakes, thereby reducing downtime and interruptions. They may also troubleshoot small issues without the need for expert assistance. Advanced users may frequently change and adjust information systems to better meet their individual needs. This adaptability can lead to more specialized and effective solutions that satisfy specific company

objectives. The common user may not be aware of a variety of features and capacities that many information systems have.

Competent users are more likely to investigate and make use of these features, increasing the value they get out of the system. Understanding data security best practices is essential for user competency. Competent users are more likely to adhere to security measures, lowering the risk of data breaches and illegal access to sensitive data. Competent users can save companies both time and money by requiring less training. Training sessions can include more complex subjects, which will help users improve their abilities and system competency. Users have a more favorable experience when they are skilled and can properly use the technology. As a consequence, the information system and its overall performance have increased user satisfaction. The functioning, user interface, and features of an information system are often better understood by competent users who are often better positioned to give constructive input. This input may be used to create enhancements and updates that will improve the system's quality over time.

The second hypothesis is also supported by the study findings, which reveal that internal control has a considerable and favorable impact on the quality of information systems. Banks must strengthen their internal controls in order to increase the quality of their information systems. The quality of information systems is affected by internal control, as explained in Treyani (2019)'s previous research. Internal controls contribute to the accuracy and integrity of data in information systems. Organizations can prevent unwanted access, data tampering, or mistakes that might jeopardize the quality of the information being processed and stored by instituting checks and balances.

Internal control is a corporate policy process that is influenced by the board of directors, management, and other employees of a company. This was done to ensure confidence about a number of accomplishments, including operational performance and efficiency, financial report correctness, and compliance with applicable rules. The effectiveness of internal control affects the quality of accounting information systems because the effectiveness of internal control is perceived to be weak by the parts that utilize it, particularly in inventory control, and there is still a lack of data security.

The auditability of information systems is improved by a strong internal control architecture. The quality of information given can be enhanced by auditors checking controls to ensure that procedures

are sound and reliable. The protection of information systems against cyber assaults and breaches requires the use of internal controls. They develop procedures for encrypting data, managing access, and other security measures that guarantee the integrity and confidentiality of the system's data. Effective internal controls aid in the simplification of procedures within the information system. Organizations can increase data processing efficiency and speed by reducing superfluous stages and automating regular tasks, resulting in higher-quality outputs.

Internal controls are in place to ensure that information is processed and reported as soon as possible. This is especially vital for decision-making, since current and accurate information is essential for making educated decisions that contribute to the overall quality of corporate operations. Internal controls often involve monitoring and feedback methods. The ability to identify system flaws and opportunities for improvement enables businesses to make iterative improvements that improve system quality over time.

7 CONCLUSION

The validity of various findings was demonstrated by testing two hypotheses: the impact of user competence on information system quality and the impact of internal control on information system quality.

1. User competence has a large and beneficial influence on the quality of the information system. Thus, to improve the quality of the information system at the Bank, it is necessary to carry out trainings that support the competence of the User. To enhance user competence should provide structured and planned training for users of information systems. Adjust training to suit the level of knowledge and skills of users, from basic to advanced. Ensure that the training material includes an in-depth understanding of the features of the information system, its usage patterns, and best practices in its use. Consider repetitive training and advanced training to help users deepen their understanding over time.
2. This study also revealed that internal control has a significant and positive influence on the quality of information systems, implying that banks must strengthen their internal controls in order to increase and improve the quality of information systems. To enhance internal control in the use of information systems must carry out a thorough assessment of the risks associated with the

information system, identifying potential threats to data security, information integrity, and possible regulatory violations. Determine the possible impact of each identified risk. This helps in determining priorities and resources to be allocated to address the risk. Implement designed controls into information systems and related business processes. Make sure that each control is enabled and works as expected. Improving internal control is a continuous effort involving various aspects of the organization. With a structured approach and a high awareness of the importance of managing risk and security, you can ensure that your information system operates with a better level of control.

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