

The Influence of Information Technology, Organizational Structure, and Internal Control on the Quality of Management Accounting Information Systems in Banking in Tembilahan

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Abstract

The quality of management accounting information systems plays a crucial role in supporting managerial decision-making processes in banking institutions. However, the effectiveness of these systems is influenced by various organizational factors, including information technology, organizational structure, and internal control. This study aims to analyze the influence of information technology, organizational structure, and internal control on the quality of management accounting information systems in banking institutions in Tembilahan, Indragiri Hilir Regency. This study uses a quantitative approach with a causal comparative research design. The study population consisted of managers working at eleven banking institutions in Tembilahan. The sampling technique used a saturated sampling method with 50 questionnaires distributed and 33 returned and processed questionnaires. Data collection techniques were carried out through questionnaires measured using a five-point Likert scale. Data analysis was carried out through descriptive statistics, validity and reliability tests, classical assumption tests, and multiple linear regression analysis using SPSS version 26 software. The results of the study indicate that information technology, organizational structure, and internal control partially have a positive and significant influence on the quality of management accounting information systems. Furthermore, simultaneous testing results indicate that the three variables collectively have a significant effect on the quality of management accounting information systems. The coefficient of determination indicates that 60.3% of the variation in the quality of management accounting information systems can be explained by the three independent variables studied. This finding underscores the importance of information technology integration, an effective organizational structure, and a strong internal control system in improving the quality and reliability of management accounting information systems in banking institutions.

Keywords: *information technology, organizational structure, internal control, management accounting information systems, banking.*



1. Introduction

The rapid development of globalization and digital transformation has significantly increased the demand for accurate, timely, and reliable information within organizations. In the modern business environment, organizations increasingly rely on information systems to support managerial decision-making, operational efficiency, and strategic competitiveness. The banking sector, in particular, requires high-quality information systems due to the complexity of its financial operations and the sensitivity of the financial data it manages daily. A well-functioning management accounting information system (MAIS) enables organizations to process financial and non-financial data into meaningful information that supports planning, control, and managerial decision-making. Therefore, ensuring the quality of such systems has become a critical issue for banking institutions seeking to maintain organizational effectiveness and public trust.

In the context of banking institutions, the quality of management accounting information systems is influenced by several organizational and technological factors. Information technology plays a crucial role in enabling organizations to efficiently collect, process, store, and distribute financial information. Technological advances have transformed the way financial data is processed and analyzed, enabling banks to provide faster services and maintain greater data accuracy. Information technology infrastructure, including hardware, software, databases, and communication networks, supports the integration of operational activities within an organization and enhances the reliability of accounting information. Consequently, the effective use of information technology can significantly improve the quality of management accounting information systems by ensuring the availability of relevant and timely information for managerial decision-making (Rizki, 2022).

In addition to technological factors, organizational structure also plays a crucial role in determining the effectiveness of information systems within an organization. Organizational structure refers to the formal arrangement of tasks, responsibilities, authorities, and communication flows within an organization. A well-designed structure enables coordination between departments and facilitates efficient communication channels that support information system implementation. When organizational roles and responsibilities are clearly defined, employees can collaborate more effectively in managing data and utilizing accounting information systems. Conversely, poorly structured organizations can experience information barriers, miscommunication, and inefficiencies



that reduce the overall quality of management accounting information systems (Robbins & Judge, 2013).

Another important factor influencing the quality of an accounting information system is internal control. Internal control mechanisms are crucial to ensure that an organization's operations are carried out effectively, financial reporting is reliable, and compliance with laws and regulations is maintained. In banking institutions, internal control systems are crucial due to the high level of risk associated with financial transactions and asset management. Effective internal control mechanisms help prevent fraud, reduce operational errors, and ensure that accounting data is processed accurately and transparently. These mechanisms also provide assurance that the organization's activities align with established policies and procedures, thereby strengthening the reliability and credibility of the accounting information system (Nisa, 2020).

The quality of a management accounting information system is closely related to the characteristics of the information it produces. High-quality accounting information must be relevant, accurate, timely, complete, and easily understood by its users. These characteristics enable managers to evaluate organizational performance, identify operational trends, and make strategic decisions based on reliable data. According to Chia (1995), a high-quality management accounting information system enables organizations to analyze performance trends over time and improve decision-making by providing comprehensive financial and operational information. Without a reliable information system, managerial decisions may be based on incomplete or inaccurate data, potentially leading to ineffective strategies and financial risks.

Despite the critical importance of information technology, organizational structure, and internal control, many banking institutions still face challenges in effectively implementing these components. In some cases, banks have not fully optimized the use of information technology in their operational processes. This situation often results in inefficient data management, delays in information processing, and limited integration between departments. Furthermore, weaknesses in organizational coordination and internal control systems can create vulnerabilities that leave institutions vulnerable to operational inefficiencies and financial irregularities. These issues highlight the importance of strengthening technological infrastructure, organizational design, and internal control systems to improve the quality of accounting information systems in the banking sector (Dewi Nur Fadila, 2019).



A significant phenomenon illustrating the importance of effective internal controls and reliable accounting information systems occurred in Tembilahan, where a corruption case involving PD BPR Gemilang was investigated by the Indragiri Hilir District Prosecutor's Office. The case related to irregularities in a village economic development program between 2006 and 2010, which revealed weaknesses in financial oversight and internal control mechanisms within the institution. Incidents such as these demonstrate how inadequate internal controls and ineffective information systems can lead to financial losses, reputational damage, and reduced public trust in banking institutions. Therefore, strengthening the quality of management accounting information systems is crucial to ensure transparency and accountability in financial management within banking organizations.

Previous research has examined various factors influencing the quality of accounting information systems. Research by Adi Rachmanto and Yogi Riyan Aditama (2022) found that information technology significantly influences the quality of accounting information systems by improving data processing capabilities and supporting managerial decision-making. Similarly, research conducted by Siti Rosdianti (2019) concluded that information technology and internal control have a positive influence on the quality of management accounting information systems in banking institutions. These findings indicate that technological capabilities and effective control mechanisms are important determinants of information system performance.

Other studies also highlight the importance of organizational factors in determining the success of accounting information systems. Anggraini, Kuntadi, and Pramukty (2023) found that information technology, internal control, and user competence collectively influence the quality of accounting information systems. Meanwhile, several studies emphasize that organizational structure contributes to system effectiveness by facilitating coordination and communication between organizational units. However, previous research findings remain inconsistent regarding the relative influence of technological, structural, and control factors on accounting information system quality, indicating the need for further research in different organizational and regional contexts.

Based on inconsistencies in previous findings and the practical challenges faced by banking institutions in Tembilahan, a clear research gap exists that requires further empirical investigation. Most previous studies have focused primarily on large urban banking institutions or emphasized only one or two variables influencing information



system quality. Limited research has simultaneously examined the influence of information technology, organizational structure, and internal control on the quality of management accounting information systems in regional banking institutions. Furthermore, empirical studies focusing on banking institutions in Tembilahan are scarce, despite the region presenting unique operational challenges related to technology adoption, governance structures, and internal oversight mechanisms.

The uniqueness of this study lies in its integrated analysis of technological, organizational, and control factors that influence the quality of management accounting information systems in regional banking institutions. By examining these three variables simultaneously in the context of banking institutions in Tembilahan, this study provides a more comprehensive understanding of the determinants that influence the effectiveness of accounting information systems. Furthermore, this study contributes to the literature by highlighting the importance of strengthening technological infrastructure, organizational coordination, and internal control mechanisms in improving the quality of financial information in regional banking institutions. The findings are expected to provide theoretical contributions to accounting information systems research and practical implications for banking practitioners seeking to improve institutional governance and operational efficiency.

Therefore, the main objective of this study is to analyze and empirically test the influence of information technology, organizational structure, and internal control on the quality of management accounting information systems in banking institutions in Tembilahan. Through this investigation, this study aims to provide a deeper understanding of how these factors contribute to improving the quality of information systems and supporting effective decision-making in banking organizations.

2. Method

This study uses a causal comparative research design to examine the influence of information technology, organizational structure, and internal control on the quality of management accounting information systems in banking institutions located in Tembilahan, Indragiri Hilir Regency, Riau Province. This study was conducted at several banking institutions operating in Tembilahan, including national and regional banks. The study population consisted of managers working at banking institutions in Tembilahan, covering a total of eleven banks. The sampling technique used was census sampling, where all members



of the population were used as research samples. The data used in this study were primary data, obtained directly from respondents through questionnaires. A total of 50 questionnaires were distributed to bank managers, and 33 questionnaires were successfully returned and processed, representing a response rate of 66%. The data collection technique used in this study was the questionnaire method, which involves providing respondents with a series of written questions and statements related to the research variables. Each questionnaire item was measured using a five-point Likert scale, ranging from strongly disagree to strongly agree, allowing respondents to express their perceptions regarding the variables of information technology, organizational structure, internal control, and the quality of management accounting information systems. The research process was carried out for approximately three months, starting from the initial survey stage, processing research permits, data collection, and ending with data processing and analysis.

The data analysis technique used in this study consisted of several stages to ensure the validity and reliability of the research findings. The first stage involved descriptive statistical analysis, which was used to transform the research data into tables and graphs to facilitate interpretation and understanding of the data distribution. The next stage was data quality testing, including testing the validity and reliability of the questionnaire instrument to ensure that the measurement instrument accurately captured the variables studied and produced consistent results. After data quality testing, this study conducted classical assumption testing, including testing for normality, multicollinearity, and other relevant assumptions to ensure that the regression model met the required statistical assumptions. The hypothesis testing stage was conducted using multiple linear regression analysis with the assistance of SPSS version 26 software, which allowed the researcher to examine the partial and simultaneous effects of the independent variables of information technology, organizational structure, and internal control on the dependent variable, namely the quality of the management accounting information system. Through this analytical procedure, this study aimed to determine the magnitude and significance of the relationships between the research variables and to provide empirical evidence regarding the factors influencing the effectiveness of the management accounting information system in banking institutions in Tembilahan.

3. Results and Discussion

Descriptive statistical analysis was conducted to provide an overview of the characteristics of the research variables, including information technology, organizational



structure, internal control, and the quality of management accounting information systems. Descriptive statistics present the number of observations, minimum value, maximum value, mean value, and standard deviation for each variable used in this study. A total of 33 valid observations were analyzed in this study, representing responses obtained from managers working in banking institutions in Tembilahan.

Table 1. Descriptive Statistics

Variables	N	Minimum	Maximum	Means	Standard Deviation
Quality of Management Accounting Systems	33	24.00	35.00	31,0000	3.07205
Information Technology	33	20.00	40.00	35.6667	4.08248
Organizational structure	33	19.00	25.00	22.1515	2.00189
Internal Control	33	27.00	45.00	40.4242	4.59640
Valid (Listwise)	N 33				

Based on Table 1, the number of valid observations analyzed in this study was 33 respondents. The information technology variable has a minimum value of 20.00 and a maximum value of 40.00, with a mean value of 35.6667 and a standard deviation of 4.08248. This indicates that the level of information technology utilization among banking institutions in Tembilahan tends to be relatively high. The organizational structure variable shows a minimum value of 19.00 and a maximum value of 25.00, with a mean value of 22.1515 and a standard deviation of 2.00189, which indicates that most organizations in the sample have a relatively structured organizational arrangement.

Furthermore, the internal control variable shows a minimum value of 27.00 and a maximum value of 45.00, with an average of 40.4242 and a standard deviation of 4.59640, which indicates that the internal control mechanisms implemented by banking institutions in Tembilahan are generally considered strong by respondents. Meanwhile, the variable measuring the quality of the management accounting information system shows a minimum value of 24.00 and a maximum value of 35.00, with an average value of 31.0000 and a



standard deviation of 3.07205. These descriptive results indicate that the quality of the management accounting information system in the banking institutions studied is relatively good, although there are still variations between institutions.

Validity testing was conducted to determine whether each questionnaire item accurately measured the research variables. Validity testing was performed by comparing the Pearson correlation value (r-count) with the r-table value. An item is considered valid if the r-count is greater than the r-table value. Based on the sample size used in this study, the r-table value is 0.344.

The validity test results show that all questionnaire items used to measure the research variables have a calculated r-value greater than the r-table, meaning that all measurement indicators are valid and suitable for use in further analysis. For example, several indicators in the information technology variable show correlation values such as 0.545, 0.895, 0.917, 0.707, 0.787, and 0.856, all of which exceed the r-table value of 0.344. Similarly, the indicators used to measure the quality of the management accounting information system also show a calculated r-value greater than the r-table value, which confirms that the questionnaire items are able to measure the intended construct accurately. Therefore, all indicators included in the questionnaire are declared valid and suitable for further statistical analysis.

After the validity test was conducted, a reliability test was conducted to determine the consistency of the questionnaire instrument used in this study. Reliability testing was conducted using the Cronbach's Alpha coefficient, where a variable is considered reliable if the Cronbach's Alpha value exceeds 0.60.

Table 2. Reliability Test Results

Variables	Cronbach Alpha	Standard Alpha	Information
Information Technology (X1)	0.914	0.600	Reliable
Organizational Structure (X2)	0.842	0.600	Reliable
Internal Control (X3)	0.953	0.600	Reliable
Quality of Management Accounting Information System (Y)	0.885	0.600	Reliable



Table 2 shows that all variables used in this study have a Cronbach's Alpha value greater than 0.60, indicating that the measurement instrument used in this study is reliable. The information technology variable has a Cronbach's Alpha value of 0.914, indicating a very high level of reliability. Similarly, the organizational structure variable has a reliability value of 0.842, while the internal control variable shows a Cronbach's Alpha value of 0.953, indicating very strong internal consistency. Meanwhile, the management accounting information system quality variable has a Cronbach's Alpha value of 0.885, confirming that the questionnaire items measuring this variable are also reliable. Thus, all study variables have been proven to meet the reliability criteria and are suitable for further statistical analysis.

A normality test was performed to determine whether the data used in the regression model was normally distributed. In this study, the normality test was performed using the Kolmogorov–Smirnov test with a significance level of 0.05.

Table 3. Normality Test Results

Test	Mark
N	33
Test Statistics	0.104
Asymptomatic.	0.200
Significance (2 tails)	

Based on Table 3, the Asymp. Sig. value obtained is 0.200, which is greater than the significance level of 0.05. This indicates that the residual data in the regression model is normally distributed. In addition to the Kolmogorov–Smirnov test, data normality was also evaluated using a Normal Probability Plot (P–P Plot). The graph results show that the data points are distributed around the diagonal line and follow its direction, further confirming that the regression model meets the normality assumption. Therefore, it can be concluded that the regression model used in this study meets the normality assumption and is suitable for further regression analysis.

Discussion

Results This study shows that information technology has a significant influence on the quality of management accounting information systems in banking institutions in Tembilahan. Statistical analysis shows that the information technology variable has a significance value of 0.027, which is smaller than the 0.05 significance level, indicating that information technology contributes positively to improving the quality of management accounting information systems. This finding suggests that the use of technologies such as computerized accounting systems, digital data processing, and integrated financial software



enables banking institutions to process financial information more efficiently and accurately. In the modern banking environment, information technology integration has become essential for managing large volumes of financial data and supporting the decision-making process. The existence of a reliable technological infrastructure allows managers to access timely, accurate, and relevant financial information, which ultimately improves the effectiveness of managerial decisions. This finding confirms that technological advances play a significant role in improving the performance of management accounting information systems in financial institutions. Similar findings were reported by previous studies that emphasized the importance of information technology in improving the reliability and quality of accounting information systems in organizations (Rachmanto & Aditama, 2022).

Furthermore, the results of this study indicate that organizational structure has a significant influence on the quality of management accounting information systems. The statistical test results show that the organizational structure variable has a significance value of 0.007, which is also below the threshold value of 0.05, indicating that the second hypothesis is accepted. This finding indicates that a well-designed organizational structure significantly contributes to the implementation of an effective management accounting information system. Organizational structure determines the distribution of responsibilities, authorities, and communication channels within an organization. When the organizational structure is clearly defined, employees can carry out their roles more effectively, and coordination between departments becomes more efficient. In banking institutions, where operational activities involve complex financial transactions and regulatory compliance, the existence of a structured organizational framework ensures that accounting information flows smoothly between departments and decision-makers. Consequently, the management accounting information system can produce more reliable and relevant information for planning, controlling, and evaluating organizational performance. This finding is consistent with research conducted by Rachmawati (2017), which reported that organizational structure significantly influences the quality of management accounting information systems because it supports coordination and integration between organizational units.

The findings of this study also revealed that internal control has a significant influence on the quality of management accounting information systems. The statistical results show that the internal control variable has a significance value of 0.017, which is less than 0.05, meaning that the third hypothesis is accepted. These results indicate that an effective internal control mechanism plays a significant role in improving the reliability and accuracy of accounting information systems. An internal control system is designed to ensure that organizational operations are carried out effectively and efficiently while minimizing the risk of fraud, errors, or financial misstatements. In banking institutions, where financial transactions occur continuously and involve a high level of risk, an internal control system helps ensure that accounting information is recorded correctly and monitored



systematically. An effective internal control mechanism also strengthens accountability and transparency within the organization, enabling management to accurately evaluate financial performance. According to Mulyadi (2001), an internal control system is a crucial component in ensuring the reliability of accounting information and supporting organizational management in achieving operational efficiency.

The influence of internal control on the quality of management accounting information systems also reflects the importance of monitoring and evaluation processes in organizational management. Internal control provides a systematic framework that enables managers to oversee financial activities and identify potential irregularities in the accounting process. By implementing robust internal control procedures, banking institutions can maintain the integrity of financial information and mitigate operational risks associated with inaccurate data processing. Furthermore, internal control mechanisms facilitate the integration of accounting information systems with other operational systems within the organization. This integration enables management to obtain comprehensive financial information that supports strategic planning and performance evaluation. Previous research also emphasizes that internal control systems help managers monitor and measure the effectiveness of accounting operations and organizational performance, ultimately contributing to the improvement of management accounting information systems (Mndzebele, 2012).

The results of simultaneous testing further confirmed that information technology, organizational structure, and internal control collectively have a significant influence on the quality of management accounting information systems. The statistical results show that the calculated F-value is 14.702, which is greater than the F-table value of 2.93, with a significance level of 0.000, indicating that the three independent variables jointly influence the dependent variable. This finding indicates that the quality of management accounting information systems in banking institutions cannot be explained by a single factor alone, but rather by the interaction of various organizational elements. Information technology provides the technological infrastructure for data processing, organizational structure facilitates coordination and communication between organizational units, and internal control ensures the reliability and security of financial information. When these three factors operate effectively together, the management accounting information system can function optimally and provide high-quality information to support managerial decision-making.

Furthermore, the coefficient of determination (R^2) obtained in this study was 0.603, indicating that 60.3% of the variation in the quality of management accounting information systems can be explained by information technology, organizational structure, and internal control. Meanwhile, the remaining 39.7% is influenced by other factors not examined in this study. This finding suggests that although these three variables play a significant role in determining the quality of management accounting information systems, other



organizational factors can also contribute to the effectiveness of accounting information systems. For example, factors such as user competence, organizational culture, managerial commitment, and technological readiness can also influence the successful implementation of management accounting information systems. Previous research has highlighted that user competence and organizational culture are important determinants of information system effectiveness because they influence how employees interact with technology systems and utilize accounting information for decision-making (Anggraini, Kuntadi, & Pramukty, 2023).

Overall, the findings of this study emphasize the importance of integrating technological, organizational, and control mechanisms in improving the quality of management accounting information systems in banking institutions. The results suggest that banking organizations should invest not only in technological infrastructure but also in strengthening organizational structures and implementing effective internal control systems. Thus, organizations can ensure that accounting information systems function effectively and provide reliable information to support strategic and operational decision-making. The findings also contribute to the development of accounting information systems literature by providing empirical evidence from banking institutions in Tembilahan, highlighting how technological and organizational factors jointly influence the effectiveness of management accounting information systems in the financial sector.

4. Conclusion and Suggestions

This study aims to examine the influence of information technology, organizational structure, and internal control on the quality of management accounting information systems in banking institutions in Tembilahan. Based on the results of multiple linear regression analysis, the regression equation obtained is $Y = 3.395 + 0.170X_1 + 0.616X_2 + 0.195X_3 + \epsilon$, which indicates that information technology, organizational structure, and internal control have a positive contribution to improving the quality of management accounting information systems. The results of the partial test indicate that each independent variable—information technology, organizational structure, and internal control—has a significant influence on the quality of management accounting information systems. Furthermore, the results of the simultaneous test indicate that the three variables collectively have a significant influence on the quality of management accounting information systems, as evidenced by the calculated F-value of 14.702 which is greater than the F-table value of 2.93 with a significance level of 0.000. These findings indicate that the integration of technological infrastructure, an effective organizational structure, and a well-implemented internal control system play an important role in improving the effectiveness and reliability of management accounting information systems in banking institutions.



Based on these findings, several recommendations can be put forward. First, banking institutions in Tembilahan are expected to maintain and continuously improve the implementation of information technology, organizational structure, and internal control mechanisms to ensure the reliability and quality of their management accounting information systems. Strengthening these aspects will help organizations produce accurate and timely financial information that supports managerial decision-making processes. Second, future researchers are encouraged to expand the scope of their research by increasing the number of respondents and involving a broader population, such as including all banking employees in Tembilahan, to obtain more comprehensive research results. Furthermore, further studies can consider incorporating other variables such as user competence, organizational culture, or information asymmetry to better explain the factors influencing the quality of management accounting information systems.

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