

## Management Accounting Information Systems in Indonesia: A Comprehensive Overview

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### ABSTRACT

Management Accounting Information Systems (MAIS) play an important role in effective management and improved organizational performance, especially in developing countries. This study aims to examine the performance of MAIS in Indonesia in all companies listed on the Indonesia Stock Exchange, analyzing how well the implementation of MAIS in public companies in Indonesia. This study uses a descriptive analysis approach to examine the implementation of Management Accounting Information Systems (MAIS) in Indonesian public companies. With a sample size of 2,376 companies and each variable ranging from 0 to 1, the results show high averages across all MAIS variables examined. These high averages indicate that MAIS attributes are positively evaluated overall, which may reflect the growing emphasis on MAIS in Indonesian public companies to support financial reporting, operational efficiency, and strategic decision-making processes.

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## INTRODUCTION

In the dynamic global business environment, the strategic utilization of Management Accounting Information Systems (MAIS) is a critical determinant of organizational success. Organizations employ management accounting information in a variety of ways, particularly when it comes to information that plays a pivotal role in effective management processes. This includes information that helps managers comprehend the significance of accounting information for strategic decision-making (Alabdullah, 2019). The system provides crucial financial and non-financial data that facilitates the planning, monitoring, and assessment of business operations, thereby enhancing overall organizational performance and contributing to economic growth. As a developing country, Indonesia also requires the role of MAIS in supporting company performance. Research in developing countries (Alabdullah, 2019; Fung, 2012; Gamayuni, 2019) indicates that MAIS plays a role in optimal managerial decision-making through the availability of quality information.

Management Accounting Information Systems (MAIS) possess a significant role in effective management and enhanced organizational performance, particularly within developing countries. The necessity of examining MAIS in this context is illustrated by the findings of previous research. As evidenced by prior research, the examination of management accounting information systems is crucial in developing countries with the objective of enhancing production efficiency, minimizing costs, and facilitating the sustainable growth of enterprises (Zi, 2023). Moreover, MAIS evolves in response to environmental and regulatory shifts within agencies, underscoring the imperative for research pertaining to MAIS in developing countries (Fung, 2012). The majority of MAIS research in Indonesia is still limited to a single case study of MSMEs, companies, or specific sectors (Gamayuni, 2019; Napitupulu, 2018; Ramadhan, 2018). Accordingly, this study aims to examine the performance of MAIS in Indonesia across all companies listed on the Indonesia Stock Exchange, with a particular focus on the implementation of MAIS in public companies in Indonesia. Given the strategic importance of MAIS, this research will not only contribute to academic knowledge but also to practical improvements that can support economic growth.

## LITERATURE REVIEW

### *Management Accounting Information System (MAIS)*

A Management Accounting Information System (MAIS) is a system comprising human and capital resources within an organization that is responsible for the production and dissemination of relevant information for the purpose of facilitating internal decision-making processes. MAIS plays an integral role in the organizational structure and regulatory process, encompassing aspects such as motivation, performance measurement, delegation of authority, communication of goals, participation, and information feedback (Napitupulu, 2018). It is essential that MAIS be effectively integrated with other departments within the organization, thereby facilitating convenient access to the requisite data. Effective integration ensures that the information produced is interrelated and can be utilized effectively by managers and

employees (IAPI, 2021). The system must possess the capacity to adapt to evolving information requirements and business processes. This flexibility is crucial for the continued relevance and utility of MAIS in supporting rapid and precise decision-making processes (Napitupulu, 2018). The information generated by MAIS must be reliable and consistent. This reliability ensures that users can rely on the information to make decisions that are important to the organization (Yoshikuni et al., 2023). MAIS must be able to provide information quickly and without many bottlenecks. This efficiency relates to the system's response time and ease of use, which in turn can increase organizational productivity (Saleh & Al-Nimer, 2022).

### ***Management Accounting Information Systems (MAIS) in Developing Countries***

Management Accounting Information Systems (MAIS) play an important role in the effective management and strategic decision-making process of organizations, especially in countries with developing economies. These systems provide essential financial and non-financial information to help companies improve performance, manage resources efficiently, and support overall economic development. MAIS provides reliable and quality financial information that is critical for decision-making, which helps in the planning, control, and evaluation process, thereby improving business performance and economic development (Vokshii & Krasniqi, 2017; Zi, 2023). Increasingly fierce market competition makes management accounting systems increasingly important, as it helps organizations to effectively face competition and improve the performance of business units (Mia & Clarke, 1999). Management Accounting Information System (MAIS) plays an important role in organizational structure and corporate governance. In Indonesia, various studies have explored the impact of organizational culture, internal control, and managerial competence on the quality and effectiveness of MAIS, but they are still limited to one case study of MSMEs, companies, SOEs, or certain sectors (Gamayuni, 2019; Napitupulu, 2018, 2020; Ramadhan, 2018).

### **METHODOLOGY**

This study uses a descriptive analytical approach to examine the implementation of Management Accounting Information Systems (MAIS) in Indonesian public companies. The study focuses on analyzing quantitative data collected from selected companies' financial and annual reports, using MAIS-specific indicators to evaluate how well the system is implemented. This study follows a descriptive design, which aims to systematically describe how MAIS is practiced in Indonesian public companies based on four selected indicators. This approach allows for an objective assessment of how MAIS practices are reported and implemented across the sample companies. The sample for this study consists of public companies listed on the Indonesia Stock Exchange (IDX). The sampling method used was purposive sampling, which selected companies that consistently publish comprehensive financial and annual reports. The sample includes companies from various industries to provide a diverse perspective on MAIS practices across public companies in Indonesia.

The data used in this study were collected from the company's financial and annual reports during the specified period 2021-2023. This report is publicly available on the company's website or through IDX submission. The population of this study is the annual reports of companies listed on the Indonesia Stock Exchange totaling 936 companies. The method used for sampling in this study is purposive sampling method with the criteria that the sample has a complete annual report from 2021-2023. Based on these criteria, in the study period there were no companies that did not present complete annual reports, so in this study the entire population was the research sample totaling 936 companies.

Then the identification of MAIS practices in this study uses indicators selected based on literature and previous research related to MAIS. Specific indicators of MAIS that will be analyzed are identified based on previous research studies, so that the MAIS indicators in this study are formed as presented in Table 1. The following are indicators of the Management Accounting Information System (MAIS) used in this study:

**Tabel 1. Indicators of the Management Accounting Information System (MAIS)**

| <b>MAIS Quality</b> | <b>Indicators</b>  |
|---------------------|--|
| Integration         | The report should include a statement from the Board of Directors and Board of Commissioners as responsible for the report   |
|                     | The financial statements contain no material errors and are supported by an external audit with no significant notations   |
|                     | Financial statements are presented consistently over time  |
|                     | There is a summary of financial statement information  |
|                     | The report presents information on the company's governance structure  |
|                     | The report presents information on the challenges faced by the company and how to overcome   |
|                     | Disclosure of the company's strategy in the financial statements   |
| Reliability         | Financial statements are prepared in accordance with applicable accounting principles.   |
|                     | The data presented in the financial statements is deemed to be reliable and free from error or fraud, as evidenced by an audit.  |
|                     | Financial statements are consistently available and accessible when needed.  |
|                     | The company has established an audit committee.  |
|                     | The company conducts regular internal audits.  |
|                     | The company demonstrates a consistent approach to financial reporting, ensuring the presentation of data between periods is conducted in a manner that is both accurate and transparent. |

|            |  |
|------------|--|
| Efficiency | Financial statements are presented in English  |
|            | The company presents interim financial statements (for example, monthly or quarterly). |
|            | Financial statements are easily accessible to any user.                                |
|            | The company's annual report is available.  |

Source: (Al-ahdal et al., 2020; IAI, n.d.; IAPI, 2021; Napitupulu, 2018; Saleh & Al-Nimer, 2022; Yoshikuni et al., 2023)

This research uses descriptive statistical analysis techniques to summarize and present MAIS indicators across the selected sample. The descriptive analysis will highlight trends, patterns and variations in MAIS practices based on the selected indicators in Indonesian public companies. In addition, this study will compare MAIS implementation across different sectors and company sizes to identify industry-specific trends or differences in MAIS implementation.

## RESEARCH RESULT AND DISCUSSION

This section presents a descriptive analysis of the state and implementation of Management Accounting Information Systems (MAIS) in Indonesian companies. The table summarizes MAIS indicators, which provide insights into how MAIS are adopted and used in different sectors. The analysis reflects strengths and areas that may require improvement to fully utilize MAIS to enhance decision-making, efficiency, and competitiveness.

### *Management Accounting Information System in Indonesia*

First of all, a descriptive analysis of the total sample used in this study follows (Table 2). The descriptive analysis of MAIS implementation in Indonesian companies reveals key insights into the level of integration, reliability, and efficiency achieved by these systems, as well as their overall performance.

**Table 2. Descriptive Analysis**

|                  | N      | Range | Minimum | Maximum | Mean  | Std. Deviation | Variance |
|------------------|--------|-------|---------|---------|-------|----------------|----------|
| MAIS             | 2376   | 1.00  | .00     | 1.00    | .8541 | .22830         | .052     |
| Integration      | 2376   | 1.00  | .00     | 1.00    | .8927 | .28089         | .079     |
| Reliability      | 2376   | 1.00  | .00     | 1.00    | .9194 | .25758         | .066     |
| Efficiency       | 2376   | 1.00  | .00     | 1.00    | .9017 | .26620         | .071     |
| Valid (listwise) | N 2376 |       |         |         |       |                |          |

With a sample size of 2,376 companies and each variable ranging from 0 to 1, the findings show high averages across all MAIS variables studied. Specifically, the mean values show that reliability has the highest mean at 0.9194, followed by efficiency (0.9017), integration (0.8927), and MAIS as a whole (0.8541). These high averages indicate that, overall, MAIS attributes are rated positively, which may reflect the growing emphasis on MAIS in Indonesian public companies to support financial reporting, operational efficiency, and strategic decision-making processes (Alabdullah, 2019; Fung, 2012; Gamayuni, 2019).

By examining the standard deviation, integration shows the highest variability at 0.28089. This indicates that there is considerable variability across companies regarding the integration aspect of MAIS. The spread of the data implies that while some companies have achieved a high level of integration in their MAIS, others may face challenges in fully integrating these systems across organizational functions. High integration is generally associated with better data flow and better decision-making capacity within the company (Napitupulu, 2018; Yoshikuni et al., 2023).

The variance column further emphasizes this point, showing that integration has the highest variance (0.079) among all variables. This large variance indicates a wider distribution of scores, which may indicate that some companies have difficulty in achieving a consistent level of integration. Previous research shows that implementing an integrated cost accounting and management system requires careful management of technical design and behavioral changes within the organization (Lodh & Gaffikin, 2003). The success of integration depends on the ability to manage change and align the network of interests within the organization.

In terms of reliability, 88.6% of the data reflected a high score of 1.00, which aligns with a high mean of 0.9194 and a relatively low standard deviation (0.25758). This consistency in reliability suggests that MAIS in Indonesian companies are widely recognized as reliable, providing accurate and timely information for financial reporting and performance monitoring. The importance of reliability in MAIS, especially in developing countries, has been underscored in previous research, as it is critical to ensuring data accuracy and maintaining stakeholder trust (Fung, 2012; Zi, 2023).

Similarly, the efficiency variable showed that 83.8% of companies scored at the maximum level of 1.00, with a mean of 0.9017 and a standard deviation of 0.26620. These results indicate a generally consistent perception of MAIS efficiency in the sample companies, indicating that MAIS can effectively support resource management and operational processes. Finally, the data from the frequency analysis (Appendix 1) shows that 36.4% of the companies scored 0.95 on the overall MAIS variable. This result indicates that while MAIS performance in Indonesia is generally high, there is still room for improvement, as the optimal score of 1.00 has not been achieved. This gap suggests that, for some companies, MAIS may not be fully optimized across all functions, possibly due to differences in technology access, organizational support, or resource allocation.

**Management Accounting Information System in Indonesia**

After analyzing the overall listed companies on the IDX, this study conducted a descriptive analysis of the condition and implementation of the Management Accounting Information System (MAIS) in each sector in Indonesia using the GICS Code as the basis for sector grouping. The results of the analysis are shown in table 3.

**Table 3. Descriptive Analysis based on GICS Sectors in Indonesia**

| <b>MAIS Indicator</b> | <b>Sector</b>          | <b>Minimum</b> | <b>Maximum</b> | <b>Mean</b> |
|-----------------------|------------------------|----------------|----------------|-------------|
| Integration           | Energy                 | 0,00           | 1,00           | 9,177       |
| Reliability           |                        | 0,00           | 1,00           | 9,397       |
| Efficient             |                        | 0,00           | 1,00           | 9,375       |
| Integration           | Materials              | 0,00           | 1,00           | 8,985       |
| Reliability           |                        | 0,00           | 1,00           | 9,194       |
| Efficient             |                        | 0,00           | 1,00           | 8,929       |
| Integration           | Industrials            | 0,00           | 1,00           | 8,416       |
| Reliability           |                        | 0,00           | 1,00           | 8,720       |
| Efficient             |                        | 0,00           | 1,00           | 8,575       |
| Integration           | Consumer Discretionary | 0,00           | 1,00           | 8,286       |
| Reliability           |                        | 0,00           | 1,00           | 8,781       |
| Efficient             |                        | 0,00           | 1,00           | 8,600       |
| Integration           | Consumer Staples       | 0,00           | 1,00           | 8,846       |
| Reliability           |                        | 0,00           | 1,00           | 9,059       |
| Efficient             |                        | 0,00           | 1,00           | 8,764       |
| MAIS                  | Health Care            | 0,00           | 1,00           | 8,314       |
| Integration           |                        | 0,00           | 1,00           | 8,616       |
| Reliability           |                        | 0,00           | 1,00           | 8,922       |
| Efficient             |                        | 0,00           | 1,00           | 8,824       |
| <b>MAIS Indicator</b> | <b>Sector</b>          | <b>Minimum</b> | <b>Maximum</b> | <b>Mean</b> |
| Integration           | Financials             | 0,00           | 1,00           | 9,628       |
| Reliability           |                        | 0,00           | 1,00           | 9,730       |
| Efficient             |                        | 0,00           | 1,00           | 9,683       |
| Integration           | Information Technology | 0,00           | 1,00           | 7,243       |
| Reliability           |                        | 0,00           | 1,00           | 7,921       |
| Efficient             |                        | 0,00           | 1,00           | 7,714       |
| Integration           | Communication Services | 0,00           | 1,00           | 9,389       |
| Reliability           |                        | 0,00           | 1,00           | 9,456       |
| Efficient             |                        | 0,00           | 1,00           | 9,388       |
| Integration           | Utilities              | 0,00           | 1,00           | 9,287       |
| Reliability           |                        | 0,00           | 1,00           | 9,277       |
| Efficient             |                        | 0,00           | 1,00           | 9,250       |
| Integration           | Real Estate Utilities  | 0,00           | 1,00           | 8,337       |
| Reliability           |                        | 0,00           | 1,00           | 8,686       |
| Integration           |                        | 0,00           | 1,00           | 9,287       |

| Overall BEST PRACTICES in Indonesia |            |      |      |       |
|-------------------------------------|------------|------|------|-------|
| Integration                         | Financials | 0,00 | 1,00 | 9,628 |
| Reliability                         | Financials | 0,00 | 1,00 | 9,730 |
| Efficient                           | Financials | 0,00 | 1,00 | 9,683 |
| Integration                         | Financials | 0,00 | 1,00 | 9,628 |

A sector-based descriptive analysis of Management Accounting Information System (MAIS) implementation in Indonesia, classified by Global Industry Classification Standard (GICS) sectors, provides valuable insights into industry-specific practices and variations. Among the sectors analyzed, the Financial Sector consistently performed the best across MAIS indicators, with the highest average scores in Integration (9.628), Reliability (9.730), and Efficiency (9.683).

Although the Financial Sector outperforms on these MAIS indicators, other sectors may face unique challenges or operational constraints that affect their MAIS performance. Companies in the financial sector are often subject to strict regulatory requirements that necessitate the use of robust accounting information systems to ensure compliance and accurate financial reporting (Khalid & Kot, 2021). The strong performance of the Financial Sector demonstrates a model that can be replicated by other sectors in Indonesia. The adoption of MAIS best practices, especially in terms of integration, reliability, and efficiency, can improve overall performance in sectors that score lower. Increased adoption of MAIS, especially in sectors that are less regulated or less familiar with MAIS, can improve data quality, operational efficiency, and strategic agility (Alabdullah, 2019; Fung, 2012; Gamayuni, 2019).

## CONCLUSIONS

This research uses a descriptive analysis approach to examine the implementation of Management Accounting Information Systems (MAIS) in Indonesian public companies. This research uses descriptive statistical analysis techniques to summarize and present MAIS indicators across the selected sample. The results show that the implementation of MAIS in Indonesian companies reveals key insights into the level of integration, reliability, and efficiency achieved by these systems, as well as their overall performance. With a sample size of 2,376 companies and each variable ranging from 0 to 1, the findings show high averages across all MAIS variables studied. Specifically, the mean values show that reliability has the highest mean at 0.9194, followed by efficiency (0.9017), integration (0.8927), and overall MAIS (0.8541). These high averages indicate that, overall, MAIS attributes are rated positively, which may reflect the growing emphasis on MAIS in Indonesian public companies to support financial reporting, operational efficiency, and strategic decision-making processes.

## ADVANCED RESEARCH

The limitation in this study is in relation to the data source used. The data used in this study is publicly available, which may limit the scope of MAIS indicators that can be analyzed. In addition, variations in the way companies report MAIS data may pose challenges to standardization and comparability.

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