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Exploration of the challenges and benefits of implementing management accounting information systems in private higher education institutions: A case study at University X

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Abstract

Research aims: This study investigates the implementation of the Management Accounting Information System (MAIS) within Private Higher Education Institutions (PHEIs), emphasizing identifying its advantages, the challenges encountered, and strategies for optimizing its effectiveness.

Design/Methodology/Approach: This research adopts a qualitative approach, utilizing in-depth interviews with key stakeholders to gather comprehensive insights. Employing a case study approach, the research focuses on University X to examine the role of MAIS in enhancing operational efficiency and supporting informed financial decision-making. The informants in this study are nine persons, including administrators and academic officials.

Research findings: The findings reveal that although the MAIS has notably enhanced financial transparency and operational efficiency, several challenges remain, most notably internal limitations related to inadequate human resource capacity in system utilization and external barriers stemming from rigid regulatory frameworks.

Theoretical contribution/Originality: This study offers novel critical and theoretical reasoning on exploring the challenges and benefits of implementing MAIS based on the Resource-Based View (RBV) theory and the Technology Acceptance Model (TAM).

Practitioner/Policy Implication: Private Higher Education Institutions (PHEIs) should actively seek opportunities for collaboration with financial institutions and technology partners to enhance access to development financing. Furthermore, a comprehensive assessment of security measures and risk mitigation strategies is necessary for implementing MAIS, given the critical importance of data protection in digital financial environments.

Research limitation: This study does not delve deeply into the technological dimensions of system security, particularly the risks associated with cyberattacks and the corresponding mitigation strategies in the context of MAIS implementation.

Keywords: Management Accounting Information System; Operational Efficiency; Financial decision-making; Private Higher Education Institutions

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Introduction

The rapid advancement of information technology, particularly digitalization, has significantly transformed various aspects of organizational management. This technological shift enables the automation of processes that previously required manual intervention, including financial data management. Digitalization facilitates more efficient and effective data processing while enhancing real-time information accessibility, which is essential for accurate, data-driven decision-making (Mu'min & Nugraha, 2024). As noted by Nuraliaty et al. (2025), a management accounting information system (MAIS) is an information system used to meet managerial objectives by processing input into output that decision-makers can use as information. According to Sadri (2025), managerial competence, organizational culture, and environmental uncertainty are key factors influencing the quality of MAIS.

Furthermore, the quality of MAIS significantly impacts the effectiveness of systems implementation. For Private Higher Education Institutions (PHEIs), the financial accounting systems in use must adhere to the Financial Accounting Standards Statements (FASS) issued by the Indonesian Institute of Accountants (IAI). Specifically, PHEIs are required to follow FASS 45 and the Interpretation of Financial Accounting Standards (IFAS) 35 when preparing financial reports. Accordingly, implementing a reliable MAIS that aligns with these standards has become a fundamental necessity for PHEIs in ensuring the production of credible financial reports.

Implementing MAIS in PHEIs is not solely driven by regulatory requirements, although compliance with such regulations remains a contributing factor. MAIS plays a critical role in automating various accounting processes enhancing the efficiency and accuracy of financial recording and reporting (Horodyskyi et al., 2025). This automation reduces the reliance on manual tasks, enabling staff to allocate more time to strategic functions. Moreover, MAIS supports the principles of transparency and accountability in financial management by providing accurate and accessible financial data (Horodyskyi et al., 2025), which is essential for sound decision-making and the responsible management of public and student funds. PHEIs are often required to comply with various government financial governance and reporting regulations. MAIS ensures that all financial transactions and reports are aligned with established accounting standards and audit requirements. In addition, the system facilitates improved service delivery to students, faculty, and other stakeholders—for instance, by streamlining processes such as tuition payment, scholarship administration, and financial reporting. By offering comprehensive and real-time financial data, MAIS contributes to more effective financial analysis and strategic planning (Cavélius et al., 2020).

The role of PHEIs as key contributors to the development of human resources in the education sector is a well-established reality. Given the complexity inherent in higher education institutions, it is essential to employ appropriate metrics to evaluate the effectiveness of their management (Sadri, 2025). One such critical metric is the implementation of a robust information system. A PHEI equipped with a well-integrated information system is better positioned to effectively oversee and control its institutional

operations. The MAIS represents the application of information technology within an organization to generate relevant and timely information for decision-making across all managerial levels (Sadri, 2025). Broadly, an information system is an interactive system responsible for collecting, processing, and managing data to produce actionable insights that support planning, monitoring, and control activities throughout the organization (Ismail & Salama, 2025).

The research gap addressed in this study stems from the inconclusive findings reported in the existing body of literature. Previous studies have frequently highlighted PHEIs as key subjects due to the substantial amount of sensitive data they manage, including personal information, student financial data, staff details, and research (Steelman, 2024). Additional research has identified several common challenges higher education institutions face in implementing higher education accounting management information systems (Nuraliaty et al., 2025), including issues related to human resources, facilities and infrastructure, software and hardware, policies, and budget. Human resource challenges are prevalent across all educational sectors, including higher education accounting management systems. Alongside human resources, issues with facilities and infrastructure, software, and hardware are significant obstacles. Although information management policies may not always directly influence the formulation of overarching organizational strategies due to the broad scope of such policies, organizational policies remain central to the budgeting process. The MAIS plays an instrumental role in this context by facilitating informed resource allocation to managers tasked with achieving institutional goals. Since budget targets require the strategic allocation of resources quantified in monetary terms, management accounting information becomes a vital component in ensuring these resources' effective and accountable distribution.

The novelty of this study is based on three reasons. Firstly, this study extends the work of Sadri (2025) by specifically examining how implementing an MAIS can enhance resource allocation efficiency, promote transparency, improve the quality of information disclosure, and ultimately contribute to broader economic development. Second, this study offers theoretical reasoning to explore the challenges and benefits of implementing MAIS based on the Resource-Based View (RBV) theory and the Technology Acceptance Model (TAM). Numerous organizations allocate resources to information technology (IT) solutions, ranging from standalone software applications to comprehensive, integrated management systems, to foster innovation and enhance organizational performance. However, research examining IT acceptance and effectiveness, particularly through the lens of the RBV theory and the TAM, remains underexplored (Pham et al., 2025). Last, the significance of MAIS within the academic setting is undeniable, particularly in enhancing financial management effectiveness and ensuring transparency in financial reporting. Numerous educational institutions have recently started implementing this system to streamline their financial operations. However, there remains a scarcity of research focusing specifically on implementing MAIS within PHEIs, which often face unique challenges compared to state universities. Consequently, this study offers a comprehensive analysis of the advantages and challenges associated with implementing MAIS in the context of PHEIs.

Digitalizing organizational management, including within higher education institutions, has become critical. PHEIs require systems capable of managing finances both efficiently and accurately. The MAIS offers a solution to enhance financial management efficiency and facilitate data-driven decision-making. However, its implementation presents various challenges, both internally within the organization and externally, in relation to governmental regulations and policies. Accordingly, this study aims to investigate the benefits, constraints, and strategies for optimizing MAIS within PHEIs, using University X as a case study. The urgency of conducting a case study within PHEIs stems from the limited scholarly attention given to the dynamics of organizational culture, institutional values, and knowledge and technology acquisition processes among private university lecturers in Indonesia (Ahyani et al., 2025).

The findings of this study highlight several practical implications. First, they suggest opportunities for strategic collaboration between PHEIs and financial institutions, as well as technology providers, to improve access to development financing. Additionally, there is a need to advocate for harmonizing accounting regulations across PHEIs to facilitate greater adaptability and ensure alignment of MAIS with established financial reporting standards. Lastly, given the increasing relevance of data security in digital financial ecosystems, a thorough evaluation of cybersecurity protocols and risk mitigation strategies is essential to implement MAIS effectively.

Literature Review

Resource Based View (RBV) Theory

The Resource-Based View (RBV) theory is a concept that explains how a company can achieve competitive advantage by relying on its resources, which allows the company to sustain itself continuously (Barney, 1986; Barney, 1991). The core approach of the RBV theory is to understand the relationship between resources, capabilities, competitive advantage, and profitability, especially how to maintain competitive advantage over time. This theory was first introduced by Wernerfelt (2016) and later expanded by Barney (1991) where the study explained that a company's resources help improve the efficiency and effectiveness of its operations. RBV argues that a company's competitive advantage comes from its resources and capabilities, not external factors such as market conditions. This theory emphasizes that companies with valuable, rare, difficult-to-imitate, and well-organized resources (Valuable, Rare, Nimitable, Organized) can achieve sustainable competitive advantage. In addition to resources, the RBV highlights the importance of capabilities, which is the firm's ability to utilize and manage these resources effectively. The RBV encourages firms to focus on developing and utilizing unique and valuable internal resources to gain a competitive advantage. In other words, the RBV helps firms understand that their internal strengths are the key to long-term success.

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), introduced by Davis (1989) is an adaptation of the Theory of Reasoned Action (TRA) specifically designed to model user acceptance of technology. This model was further developed by researchers such as Szajna (1994), Igbaria et al. (1997), and Venkatesh et al. (2003). Venkatesh et al. (2003) modified the TAM model by adding trust variables, creating the Trust-enhanced Technology Acceptance Model, which investigates the relationship between TAM variables and trust. Another modification of TAM, called the Trust and Risk in Technology Acceptance Model (TRITAM), was created by Lui and Jamieson (2003), and incorporates trust and risk in addition to TAM variables.

According to Kasilingam and Krishna (2022), the TAM is one of the influential research models in explaining the adoption of information technology and is considered helpful in understanding technology acceptance in various contexts. Davis (1989) emphasized that TAM is one of the main factors influencing individual behavior in adopting technology. This model is generally used to assess individual behavior in using a product or service and measure their attitudes toward technology (Lestari, 2019). TAM has been widely applied in various online-based technologies, such as online shopping, e-commerce, marketplaces, instant messaging applications, digital payments, and mobile-based commerce (Thakur & Srivastava, 2013).

The TAM research model was developed from various theoretical perspectives—initially, the innovation diffusion theory was the most dominant in technology adoption and various technology acceptance models. Diffusion is continuously delivering information through specific channels to members of a social system. In contrast, innovation refers to an idea, practice, or object considered new by an individual or adoption unit. TAM aims to explain and predict user acceptance of technology. TAM is an extension of TRA and predicts user acceptance of technology. According to Davis (1989), TAM is a theory that explains how users understand and use information technology.

Management Accounting Information System

The Management Accounting Information System (MAIS) is an integral part of the accounting information system designed to provide financial and non-financial information to management in support of planning, control, and strategic decision-making processes (Saleh et al., 2022). According to Hasniza Haron et al. (2013), MAIS delivers relevant and timely information to managers to assess organizational performance and design necessary corrective actions. Romney and Steinbart (2018) further explain that MAIS is a subsystem of the accounting information system that focuses on collecting, storing, and processing data to produce valuable information in day-to-day managerial processes. This system includes functions such as budgeting, cost analysis, performance measurement, and financial forecasting, all utilized by managers at various levels of the organization.

With the advancement of information technology, the aspects of security and data protection in MAIS have also become critical concerns, particularly in addressing cyber threats that may compromise the integrity and confidentiality of information (Gelinas & Kesselheim, 2018). Therefore, integrating MAIS with information security systems is essential to ensure the accuracy and reliability of information used in decision-making. In other words, MAIS focuses on historical financial reporting and includes predictive analytics to support efficient and effective resource management. Implementing MAIS in PHEIs strategically supports operational efficiency and data-driven decision-making. According to Romney and Steinbart (2018), MAIS is a system designed to collect, store, and process accounting information to assist management in planning, controlling, and making decisions. Within the context of PHEIs, MAIS integrates academic and financial data, generating accurate and timely managerial reports. As noted by Puspitawati et al. (2024), a well-integrated MAIS offers considerable advantages, including streamlined budgeting processes, effective monitoring of departmental expenditures, and the ability to evaluate academic performance using financial metrics. In practical terms, many PHEIs are adopting cloud-based Enterprise Resource Planning (ERP) systems to manage financial records, student information, and institutional assets in a cohesive framework. Significantly, the implementation of MAIS extends beyond technological adoption; it necessitates a cultural transformation and the reinforcement of governance structures that are both accountable and data-driven. With an appropriate system, PHEIs can enhance financial transparency, support accreditation processes, and strengthen their competitive positioning in an increasingly dynamic higher education environment.

The digital transformation of organizational management, particularly within higher education institutions, has become an essential priority. PHEIs require robust systems capable of managing financial operations efficiently and precisely. The MAIS is a strategic tool to improve financial management processes and support evidence-based decision-making. Nonetheless, implementing MAIS is accompanied by several challenges, including internal organizational limitations and external constraints stemming from regulatory frameworks and government policies. In response to these complexities, this study seeks to examine the advantages, limitations, and optimization strategies associated with the implementation of MAIS in PHEIs, with a focused case analysis of University X. Specifically, this study extends the work of Sadri (2025) by adopting the theoretical lenses of the RBV and the TAM, facilitating a comprehensive examination of MAIS in PHEIs.

Research Method

This study employs a qualitative research approach. Qualitative research is designed to explore information in depth, allowing for open-ended responses rather than simple binary answers. It invites informants to express their thoughts on a topic without imposing significant direction or constraints on their responses (Sugiyono, 2018). The primary objective of qualitative research is to provide a comprehensive understanding of phenomena through in-depth data collection. This approach does not emphasize the sample size or population; instead, it values the depth of the data collected. If the data is sufficiently detailed and can thoroughly explain the phenomenon under investigation,

there is no need for additional sampling. Qualitative research prioritizes the quality (depth) of data over its quantity (Sugiyono, 2018). This research design is suitable for identifying the challenges and benefits of implementing a Management Accounting Information System (MAIS) at a private university, specifically at University X. The urgency of conducting a case study within Private Higher Education Institutions (PHEIs) arises from the scarcity of empirical research addressing the interplay between organizational culture, institutional values, and the acquisition of knowledge and technology among lecturers in private universities in Indonesia (Ahyani et al., 2025). The informants in this study include the Head of the Undergraduate Accounting Study Program, Head of the Diploma in Radiology Study Program, Vice Dean of the Faculty of Economics, Islamic Studies, and Humanities, Vice Dean of the Faculty of Science and Technology, Vice Dean II of the Faculty of Health Sciences; Internal Auditor; Head of the Information and Communication Technology Center; Head of the Financial Bureau; and Information Technology Expert.

The object of research refers to the specific subject targeted for data collection, aimed at achieving defined goals and objectives while ensuring the data's objectivity, validity, and reliability, as stated by Sugiyono (2018). In this study, the object is University X. The research purpose outlines the intended outcomes of the study, whether it involves exploring phenomena, testing theories, or addressing specific problems, as Sugiyono (2018) explained. This study has two primary objectives: case study analysis. A case study is a type of research in which the researcher investigates a specific phenomenon (case) over a defined period, exploring activities, programs, events, processes, institutions, or social groups and gathering detailed and in-depth information through various data collection methods. A research question is a central query that guides the research process, shapes the study design, and influences the method of data analysis. In qualitative research, questions tend to be open and exploratory, as Creswell and Creswell (2017) noted.

This study utilizes both primary and secondary data. Data collection is conducted through interviews, observations, and documentation. Data analysis techniques refer to the processes employed to transform data into meaningful information, making the characteristics of the data more comprehensible and helpful in addressing research-related issues, as noted by Sugiyono (2018). In this study, the data analysis method applied is the Miles and Huberman technique, which divides the analysis process into several stages: data collection, data reduction, data presentation, and drawing conclusions or verification. Qualitative data were collected through observations and in-depth interviews with key stakeholders to obtain comprehensive insights. Simultaneous documentation analysis was conducted during the interview process to validate findings and reinforce the identification of the benefits, challenges, and optimization strategies associated with implementing the MAIS. Subsequently, data reduction and presentation processes were employed to facilitate the formulation of conclusions and support the interpretation of the study's findings. These findings were then analyzed to develop a more thorough and nuanced understanding of the phenomenon under investigation.

The validity of data in qualitative research is a critical component for assessing the reliability of research findings. Triangulation techniques are employed during data collection to enhance the trustworthiness of the data, ensuring that the data is consistent, valid, and accountable. In this study, the researcher applied source triangulation to verify the data. Triangulation is used by comparing interview results, direct observations, and relevant documents to verify and enrich the data. Integrating both validation approaches strengthens the overall research findings by cross-referencing multiple sources and ensuring consistency between quantitative trends and qualitative insights. Figure 1 illustrates the triangulation techniques employed in this study to ensure the validity and reliability of the qualitative data.

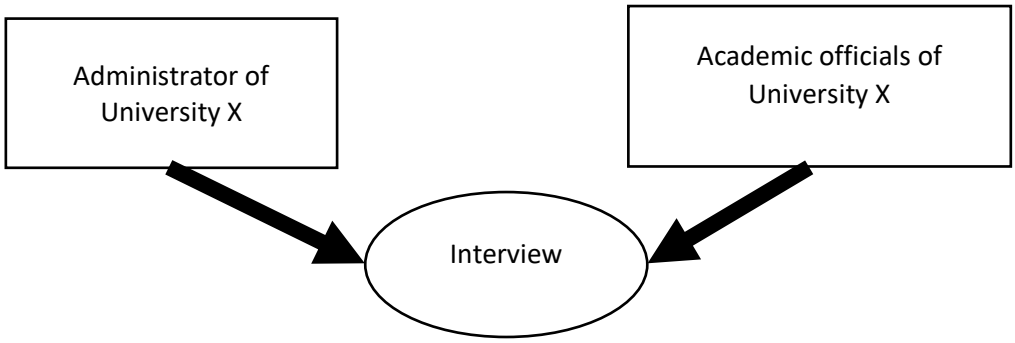

Figure 1 Source Triangulation

Result and Discussion

University X is one of the socio-religious movement organizations that has grown and developed rapidly in Indonesian society. Its positive and dynamic role is very active in various aspects of community life, including education. The findings from interviews conducted with multiple stakeholders at University X indicate that implementing the MAIS has substantially enhanced operational efficiency and contributed to more informed decision-making within PHEIs.

Implementation of MAIS in Improving Operational Efficiency and Decision-Making

Internal Constraints in MAIS Implementation

MAIS is pivotal in supporting strategic decision-making at University X, particularly in budget management and academic program planning. According to the Head of the Undergraduate Accounting Study Program, faculty budget data can be monitored in real-time, enabling university leaders to make swift and informed decisions regarding program funding and adjustments. This aligns with the Decision Support System (DSS) (French, 2010), emphasizing the importance of relevant and timely information in facilitating accurate decision-making. Furthermore, MAIS supports the evaluation of faculty performance based on budget absorption, as noted by the Head of the Information and Communication Technology Center and Information Technology Expert. This reflects the principles of the Management Control System (MCS) (Brand, 2007), highlighting the

significance of information systems in measuring and evaluating organizational performance. This result aligns with the statement made by Head of the Information and Communication Technology Center and Information Technology Expert:

> *"Information technology plays a crucial role in managing information infrastructure systems, including the implementation of the Service Integration and Management (SIAM) framework. This system facilitates more efficient storage and retrieval of financial data, offering improved documentation compared to traditional manual approaches."*

Implementing MAIS has also enhanced financial transparency and the accuracy of financial reporting. As stated by Head of the Information and Communication Technology Center and Information Technology Expert:

> *"The system enables real-time budget monitoring, thereby helping management to identify opportunities for more efficient fund allocation*."

Nevertheless, several challenges persist. Internal Auditor pointed out that:

> *"The lack of integration between MAIS and other institutional systems such as academic and payroll platforms remains a significant barrier to holistic and data-driven decision-making."*

While MAIS has improved operational efficiency, further optimization is needed to maximize its strategic value. Within the framework of the Resource-Based View (RBV) theory, which posits that sustainable competitive advantage can be achieved through the effective use of valuable, rare, and inimitable resources (Barney, 1986), MAIS has the potential to become a strategic asset. This potential can be realized if the continuous development of user knowledge and technical competence complements its implementation. Despite the numerous benefits of MAIS, several challenges that require strategic attention remain. As highlighted by Internal Auditor:

> *"Although the financial systems at University X have so far remained secure, other systems have been subjected to hacker attacks underscoring the ongoing concern of data security."*

In line with the principles of Information Security Management, safeguarding sensitive data and implementing strict access controls are fundamental to maintaining system integrity (Stallings, 2018). Additionally, limited human resource capacity in operating and managing the system has emerged as a significant constraint, as emphasized by sources such as the Vice Dean of the Faculty of Economics, Islamic Studies, and Humanities, Vice Dean of the Faculty of Science and Technology, Head of the Information and Communication Technology Center and Information Technology Expert:

> *"Data security within the system is generally minimal across most platforms. Therefore, implementing strong password protection and regular data backups is essential."*

This concern is consistent with the TAM, which asserts that successful system implementation is strongly influenced by users' perceived ease of use and their understanding of the technology (Davis, 1989), particularly in relation to data security acquisition. Internal challenges identified in this study include a lack of user-friendly interface design, limited integration with other institutional systems, and insufficient user training. Vice Dean of the Faculty of Economics, Islamic Studies, and Humanities and Vice Dean of the Faculty of Economics, Islamic Studies, and Humanities reported that:

> *"Some staff members struggle with system navigation due to its unintuitive interface."*

In this context, the effectiveness of MAIS is closely tied to the readiness of human resources and the organizational infrastructure supporting it. Addressing these challenges requires a multifaceted strategy that includes enhancing staff training programs, improving the usability of the system interface, and developing more accessible and responsive reporting modules. These steps are essential to ensuring broader system adoption and long-term sustainability of MAIS implementation.

External Constraints in MAIS Implementation

This study also identified external factors, particularly rigid financial regulations and limited budget allocations, as significant barriers to the optimal utilization of the MAIS. Vice Dean of the Faculty of Economics, Islamic Studies, and Humanities and Vice Dean II of the Faculty of Health Sciences noted that:

> *"Financial reporting in PHEIs must comply with government regulations, which are often inflexible and may not fully align with the institution's internal operational needs. This misalignment frequently necessitates manual data entry to satisfy internal and external reporting standards, thereby increasing the risk of errors and inefficiencies."*

In addition, the Head of the Financial Bureau emphasized that:

> *"Budgetary constraints have hindered the development of key MAIS features, limiting its effectiveness and scalability."*

From the RBV theory, organizational resources, including financial capital and technological infrastructure, are essential for enhancing operational efficiency and securing sustainable competitive advantage (Barney, 1991). Furthermore, the Technology Acceptance Model (TAM) underscores that effective technology adoption depends not only on perceived usefulness and ease of use but also on the availability of supporting resources and institutional commitment (Davis, 1989). Therefore, to overcome these

challenges, it is vital for PHEIs to implement funding diversification strategies in compliance with existing regulations and to strengthen partnerships with technology providers. These efforts will support the sustainable development of MAIS and ensure its alignment with institutional objectives and evolving regulatory requirements.

Cyber Security of MAIS at University X

This study highlights that implementing the MAIS at University X has significantly enhanced the transparency and efficiency of financial management. However, several challenges remain, with cyber threats emerging as a critical concern that threatens the integrity and security of the system. Through interviews with various stakeholders, including Internal Auditors, IT Experts, and members of the Finance Team, it was revealed that:

> *"Cyberattacks on MAIS at University X are not merely hypothetical threats but have occurred in several forms. These include phishing attacks, malware, exploitation of security vulnerabilities, and Denial of Service (DoS) attacks. Specific incidents at University X highlight gaps in the institution's information security system. For instance, phishing attacks targeted administrative staff, attempting to steal MAIS account login credentials and gain unauthorized access to the university's financial systems. In some instances, staff members received fraudulent emails from the official IT department requesting password updates via links, which led to phishing traps. Furthermore, malware and ransomware attacks present an ongoing threat, with hackers attempting to encrypt critical data within MAIS for ransom."*

The impact of cyber threats on the MAIS at University X is substantial, particularly regarding operational continuity and the institution's reputation. According to interviews with the Finance Team and Internal Auditor:

> *"Disruptions to MAIS could result in delays in financial recording processes, inaccurate financial reporting, and the potential exposure of sensitive data involving students and other stakeholders. If these cyber threats are not adequately addressed, they could significantly lose public trust in the university's data security measures."*

To mitigate these risks, University X has implemented several proactive security measures. These include adopting two-factor authentication (2FA) to enhance login security, regular system updates to address potential vulnerabilities, and email filtering systems to detect and prevent phishing attacks. Additionally, the university has introduced a continuous firewall system and an intrusion detection system (IDS) to monitor network activity, detect suspicious actions, and provide early warnings of potential threats. These measures reflect University X's commitment to safeguarding MAIS and ensuring the security of sensitive financial and academic data, ultimately reinforcing the integrity of the institution's information systems and its reputation for data protection.

Implementing MAIS in PHEIs has yielded substantial advantages in enhancing operational efficiency and informing strategic decision-making. MIS facilitates the transparent, accurate, and real-time management of financial data, thereby supporting more effective resource allocation and budgetary planning within the institutional context (Cavélius et al., 2020; Horodyskyi et al., 2025). Internal constraints encountered in implementing the MAIS within PHEIs encompass limited system usability (user-friendliness), inadequate data integration, and insufficient user comprehension and technical proficiency in operating the system. These challenges hinder the system's effectiveness in delivering timely and relevant information required for managerial decision-making. The findings support the argument concerning the effectiveness of MAIS, as articulated by Cavélius et al. (2020). External constraints impeding the optimal utilization of the MAIS include stringent financial regulations, limited budgetary allocations for system development, and the absence of standardized reporting frameworks. These factors compel universities to navigate diverse policy requirements, reducing the system's flexibility in effectively accommodating institutional needs. Consequently, MAIS also plays a pivotal role in enhancing the effectiveness of financial analysis and strategic planning (Cavélius et al., 2020).

Implementing the MAIS in PHEIs also offers several advantages, including enhanced transparency, strengthened accountability, and the promotion of data-driven decision-making. Through system integration, financial administrative processes become more structured and efficient, improving institutional governance and overall organizational performance. As posited by Sadri (2025), MAIS reflects the implementation of information technology within organizations to produce timely and relevant information that facilitates decision-making across all levels of management. Leadership support plays a pivotal role in reinforcing the control and governance of the MAIS within PHEIs. Leaders who actively endorse MAIS oversight contribute to cultivating an organizational culture that prioritizes integrity, accountability, and transparency. Such a culture fosters greater compliance among academic and administrative personnel with established control policies and procedural guidelines. The practical implementation of MAIS is critically influenced by leadership, organizational culture, and structural support through technology, which is recognized as key success factors, as emphasized by McMillan et al. (2025).

The findings of this study offer significant implications for the field of cybersecurity, particularly in the context of managing MAIS within PHEIs. As higher education institutions increasingly rely on digital platforms for financial administration, cybersecurity emerges as a critical determinant in safeguarding data integrity, mitigating cyber threats, and ensuring the continuity and resilience of institutional operations. Azem Qashou, Bahar, Mohamed, and Privacy (2025) also emphasized that a comprehensive understanding of the specific data security risks linked to the implementation of MAIS in Higher Education Institutions (HEIs) is essential, as this awareness facilitates the formulation of tailored services and solutions that effectively respond to the unique operational needs of these institutions.

This study provides theoretical implications by exploring the challenges and benefits associated with the implementation of MAIS through the lens of the RBV theory (Barney, 1986) and TAM (Davis, 1989). According to the RBV theory, sustainable competitive advantage arises from effectively utilizing resources that are valuable, rare, and difficult to imitate (Jay Barney, 1991). MAIS possesses the potential to serve as a strategic assets. This potential is actualized when the implementation of MAIS is accompanied by ongoing enhancement of user knowledge and technical skills. From the perspective of the RBV theory (Barney, 1986; Barney, 1991), organizational resources such as financial capital and technological infrastructure are critical for improving operational efficiency and achieving sustainable competitive advantage. The TAM also suggests that the successful adoption of a system is primarily influenced by users' perceived ease of use and their understanding of the technology (Davis, 1989), particularly in relation to data security concerns. The TAM emphasizes that effective technology adoption relies not only on users' perceived usefulness and ease of use but also on adequate support resources and institutional commitment (Davis, 1989). The findings of this study also underscore several practical implications. Firstly, they highlight the potential for strategic collaboration between PHEIs, financial institutions, and technology providers to enhance access to development funding. This finding supports the argument put forward by McMillan et al. (2025). Secondly, there is a pressing need to promote harmonizing accounting regulations across PHEIs to improve system adaptability and ensure that MAIS comply with standardized financial reporting frameworks. Finally, given the growing importance of data security within digital financial environments, it is imperative to conduct comprehensive evaluations of cybersecurity measures and risk mitigation strategies to support the effective implementation of MAIS. This finding also supports the argument Azem Qashou et al. (2025) put forward.

Conclusion

Several key conclusions can be drawn based on the findings from the exploration of the challenges and benefits of implementing MAIS at University X. The implementation of MAIS at University X demonstrates both significant potential and notable challenges. While the system has contributed to increased transparency, operational efficiency, and enhanced decision-making capabilities in financial management, its effectiveness is hindered by several internal and external constraints. Internally, the challenges include limited user competence, suboptimal system usability, insufficient data integration, and a general lack of cybersecurity awareness. These factors reduce the effectiveness of MAIS in delivering timely and accurate information to support managerial decision-making. Externally, rigid financial regulations, restricted budget allocations for technological development, and inconsistent financial reporting standards limit the system's adaptability and scalability. Cybersecurity remains one of the most pressing issues. Despite MAIS's operational benefits, it remains vulnerable to cyber threats such as phishing, ransomware, and system exploitation. The absence of standardized security protocols and low user awareness regarding digital security risks exacerbate these vulnerabilities. The internal and external constraints identified in this study can be examined through the Resource-Based View (RBV) and the Technology Acceptance Model

(TAM) theoretical lenses. RBV highlights that the strategic optimization of organizational resources such as human capital, technological infrastructure, and financial capabilities can generate sustained competitive advantage. Meanwhile, TAM emphasizes that successful technology adoption is significantly influenced by users' perceptions of its usefulness and ease of use. These frameworks suggest that University X can enhance its institutional competitiveness by maximizing resource utilization and fostering greater acceptance and effective use of the MAIS.

Nevertheless, the benefits of MAIS are evident. It has enabled real-time financial monitoring, improved budget allocation processes, and promoted more transparent and accountable institutional governance. Integrating academic and financial data within the system has supported more strategic and data-driven decisions at the managerial level. To optimize MAIS implementation and ensure its sustainability, it is recommended that University X develop and implement a comprehensive cybersecurity strategy. This should include adopting multi-factor authentication (MFA), end-to-end data encryption, deploying an Intrusion Detection System (IDS), and extensive cybersecurity literacy programs for academic and administrative personnel. These measures are crucial for safeguarding financial data integrity and supporting the continued digital transformation of PHEIs in Indonesia.

Based on the findings of this study, several potential directions for future research are recommended to enrich further the understanding of Management Accounting Information Systems (MAIS) implementation in Private Higher Education Institutions (PHEIs). First, Enhance System Usability: Improving the user interface of the Management Accounting Information System (MAIS) to be more intuitive and user-friendly is essential. This effort should be complemented by routine training programs for administrative staff and academic personnel, ensuring they possess the necessary competencies to utilize the system effectively. Second, Strengthen System Integration: Promoting seamless integration between MAIS and other institutional platforms such as academic, payroll and human resource systems will facilitate better synchronization of financial data, minimize redundancy, and enhance overall information accuracy. Third, Sustain Investment Through Strategic Budgeting: Optimizing institutional budgeting processes is necessary to ensure continuous investment in MAIS development is financially sustainable. Private Higher Education Institutions (PHEIs) should actively seek partnerships with financial institutions or technology vendors to secure funding and technical support for ongoing system enhancements. Fourth, Promote Regulatory Harmonization: There is a need to advocate for harmonizing accounting standards and regulatory frameworks across PHEIs to allow greater flexibility in system customization while maintaining compliance with nationally accepted financial reporting standards. Last, Strengthen Cybersecurity and Risk Mitigation: Given the sensitivity of financial data, conducting comprehensive evaluations of cybersecurity protocols and risk mitigation strategies within MAIS is imperative. This includes addressing potential vulnerabilities, implementing robust data protection mechanisms, and fostering a culture of security awareness among system users.

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Conflicts of Interest

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