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# The Effects of Digitalization and Accounting Information Systems on Financial Reporting Quality in Hospitals

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***Abstract***

*This study examines how digitalization strengthens Accounting Information Systems (AIS) and how these enhancements subsequently improve the quality of internal and external financial reporting in hospitals. Data were collected through structured questionnaires distributed to hospital financial and administrative personnel. The results show that digitalization significantly enhances the effectiveness of AIS, which in turn improves the accuracy, timeliness, and reliability of both internal and external financial reports in hospitals. These findings underscore the importance of integrating advanced digital systems to support decision-making and strengthen organizational governance. Overall, the study contributes to the growing literature on digital transformation in healthcare and highlights the critical role of AIS in promoting trustworthy financial information for stakeholders.*

***Keywords: Accounting Information Systems, digitalization, financial reporting quality, transparency.***

**Abstrak**

Studi ini meneliti bagaimana digitalisasi memperkuat Sistem Informasi Akuntansi (SIA) dan bagaimana peningkatan ini selanjutnya meningkatkan kualitas pelaporan keuangan internal dan eksternal di rumah sakit. Data dikumpulkan melalui kuesioner terstruktur yang didistribusikan kepada personel keuangan dan administrasi rumah sakit. Hasil menunjukkan bahwa digitalisasi secara signifikan meningkatkan efektivitas SIA, yang pada gilirannya meningkatkan akurasi, ketepatan waktu, dan keandalan laporan keuangan internal dan eksternal di rumah sakit. Temuan ini menggarisbawahi pentingnya mengintegrasikan sistem digital canggih untuk mendukung pengambilan keputusan dan memperkuat tata kelola organisasi. Secara keseluruhan, studi ini berkontribusi pada literatur yang berkembang tentang transformasi digital di bidang kesehatan dan menyoroti peran penting SIA dalam mempromosikan informasi keuangan yang dapat dipercaya bagi para pemangku kepentingan.

**Kata Kunci: sistem informasi akuntansi, digitalisasi, kualitas laporan keuangan, transparansi**

## 1. INTRODUCTION

Digitalization has rapidly transformed organizational processes across various sectors, including healthcare, where hospitals increasingly rely on integrated information systems to manage clinical and financial operations (Mauro et al., 2024; Rahayu and Rifandi, 2023). Despite these advancements, many hospitals continue to experience issues such as inconsistent financial data, delays in reporting, and risks of fraud phenomena that highlight ongoing challenges in ensuring transparency and accountability. Given the critical need for reliable financial information in healthcare decision-making, understanding how digital transformation affects the effectiveness of Accounting Information Systems (AIS) becomes essential (Hamdy et al., 2025).

Accounting Information Systems (AIS) play a crucial role in enhancing the quality of financial reports by improving the accuracy, completeness, and reliability of financial information produced by organizations. Prior research shows that effective AIS strengthen internal control mechanisms, reduce human error, and ensure that financial data are processed consistently across departments, ultimately supporting more accurate and timely reporting (Thuy, 2025; Vo et al., 2025). Studies in healthcare and public sector institutions further demonstrate that well-functioning AIS enhance auditability, support regulatory compliance, and increase transparency by providing clear, traceable, and real-time financial records (BinSaeed et al., 2023; Yadiati et al., 2024). These findings highlight that AIS are not merely technical systems, but strategic organizational resources that directly contribute to the credibility, accountability, and decision usefulness of both internal and external financial reports.

However, existing studies present mixed evidence regarding the impact of digitalization and AIS on financial reporting outcomes. Some scholars argue that digitalization significantly strengthens the accuracy and timeliness of financial information by reducing human error and automating key processes (Hendratni, 2025; Kusumawardhani et al., 2024). Hendratni, (2025), using data from multinational companies, found that the adoption of digital financial reporting tools such as standardized electronic formats and automated validation systems enhanced the transparency and accuracy of external reports by minimizing manual intervention and enabling real-time data checks. Similarly, Kusumawardhani et al., (2024), who surveyed SMEs across various sectors, reported that digitalized accounting systems improved information quality by reducing processing time, lowering operational costs, and increasing data integration across units. Both studies emphasize that digitalization can directly enhance reporting quality, although the magnitude of the improvement depends on the level of system adoption and user capability.

Others, however, report that technology adoption does not necessarily improve reporting quality due to limited user readiness, inadequate system integration, or differing organizational contexts, a view supported by findings in hospital settings where AIS performance is strongly influenced by user and organizational factors (Rahayu and Rifandi, 2023). Several studies provide evidence that contradicts the assumption that digitalization consistently improves financial reporting quality. Rahayu and Rifandi (2023), drawing on data from hospital staff involved in financial and administrative functions, found that AIS performance is often limited by user readiness and organizational support. Their study reported that employees who lacked adequate digital literacy struggled to operate integrated financial systems, resulting in delays, input errors, and inconsistent financial records. Similarly, Asmira and Sulkiah (2025) showed that in organizations with fragmented system integration and weak internal controls, digitalization did not lead to improvements in reporting accuracy or timeliness. Their findings revealed that the absence of proper training, insufficient coordination between departments, and resistance to technological change often negated the potential benefits of digital tools.

These studies collectively illustrate that, without adequate user competence and organizational readiness, digital adoption may fail to enhance and may even hinder financial reporting quality.

Although digitalization has become increasingly prominent across organizational settings, prior research does not offer a consistent conclusion regarding its influence on financial reporting quality. While some studies highlight that digital tools improve accuracy and timeliness through automated processing (Huy and Phuc, 2024), others indicate that these benefits may not materialize when user competence, system integration, or organizational readiness is limited (Neri Asmira and Sulkiah, 2025). These contrasting findings suggest that the effectiveness of digitalization and AIS may vary depending on institutional context. More importantly, they reveal a clear research gap: empirical investigations in the healthcare sector particularly in hospitals remain considerably fewer than studies conducted in corporate or manufacturing environments.

The purpose of this study is to empirically examine how digitalization and Accounting Information Systems (AIS) jointly influence the quality of internal and external financial reporting in hospitals, where accurate and timely financial information is essential for supporting clinical operations, resource allocation, and public accountability. The study offers a clear novelty by integrating digitalization and AIS within a single analytical framework and simultaneously evaluating their effects on two dimensions of reporting quality, an approach that remains limited in existing research, particularly in healthcare settings. While prior studies often investigate these variables separately or in non-healthcare contexts, this research provides a more comprehensive understanding of how technological integration and system effectiveness interact in hospitals. The findings contribute to the literature by clarifying inconsistent results reported in earlier studies and by identifying the organizational conditions under which digitalization enhances or fails to improve reporting quality. Practically, the study provides hospitals with evidence-based insights to strengthen digital readiness, improve system integration, and reinforce governance mechanisms to achieve more transparent, reliable, and accountable financial reporting.

## 2. LITERATURE REVIEW AND HYPOTHESES FORMULATION

### Digitalization

Digitalization in accounting refers to the use of integrated digital technologies such as cloud-based systems, enterprise resource planning (ERP), and automated data processing to transform traditional accounting procedures into more efficient, real-time, and data-driven processes. (Hamdy et al., 2025; Kusumawardhani et al., 2024). Recent empirical studies show that the digitalization of accounting systems can enhance the accuracy and timeliness of accounting information, reduce processing costs, and support more informed decision-making, especially in small and medium enterprises (Hamdy et al., 2025; Huy and Phuc, 2024; Kusumawardhani et al., 2024).

In the public sector, however, the impact of digitalization is not always uniformly positive. While several studies report substantial improvements in accuracy, efficiency, and information quality as a result of adopting digital accounting systems (Hendratni, 2025; Kusumawardhani et al., 2024), other research highlights inconsistent outcomes driven by limited user readiness, fragmented technological infrastructures, and partially implemented systems (Hamdy et al., 2025; Neri Asmira and Sulkiah, 2025). A cross-country study in emerging markets found that, at early stages of digital transformation, newly introduced technologies may actually reduce the perceived quality of accounting information systems because systems are still fragmented, users are not fully prepared, and integration across departments is incomplete (Hamdy et al., 2025). Several empirical studies also demonstrate a positive relationship between digitalization and the effectiveness of Accounting Information Systems (AIS). Evidence shows that digital tools such as automated processing, cloud-based platforms, and integrated information systems can enhance data accuracy, accelerate reporting cycles, and improve overall system reliability across both private and public organizations (Huy and Phuc, 2024; Kusumawardhani et al., 2024).

The findings from these studies collectively suggest that the benefits of digitalization depend on the maturity of the digital infrastructure, user readiness, and organizational capacity to manage change. Within financial reporting, digitalization of financial reports has been shown to significantly improve transparency and accuracy by enabling real-time access, automated validation, and better traceability of financial data (Rahayu and Rifandi, 2023).

In healthcare settings, digital transformation initiatives in accounting are increasingly viewed as strategic instruments that enhance cost control, performance monitoring, and accountability to stakeholders (Mauro et al., 2024; Pinheiro and Almeida, 2025; Rahayu and Rifandi, 2023). These developments collectively indicate that digitalization functions as a critical contextual factor that can strengthen existing accounting structures by improving information flow and organizational transparency, while simultaneously presenting challenges related to system integration, user adaptation, and institutional readiness.

**Accounting Information Systems (AIS)**

An Accounting Information System (AIS) is a formal system designed to collect, process, store, and communicate financial information to support organizational decision-making and compliance (Rahayu and Rifandi, 2023). Recent research conceptualizes AIS quality through dimensions such as reliability, timeliness, relevance, and completeness of financial data (Vo et al., 2025). High-quality AIS has been shown to improve investment decisions, support risk management, and enhance organizational performance.

Empirical evidence consistently shows that Accounting Information Systems (AIS) play a crucial mediating role in linking organizational business processes with financial reporting outcomes (Fayyaz et al., 2025; Vo et al., 2025). Prior quantitative studies indicate that when AIS are well-designed and effectively managed, they enhance the ability of organizations to process financial data accurately, integrate information flows, and support more reliable reporting (Thuy, 2025). In complex environments such as hospitals, AIS effectiveness is also influenced by human and organizational factors, including user competence, training, communication, and managerial support. (Rahayu and Rifandi, 2023) These findings suggest that digital systems alone are not sufficient; rather, the success of AIS depends on the alignment between technological infrastructure and the readiness of the individuals and institutions that operate them (Rahayu and Rifandi, 2023).

At the same time, studies in public and private organizations suggest that AIS effectiveness can be constrained by limited digital literacy, weak internal controls, or fragmented system architectures, conditions that may undermine the potential benefits of digitalization for reporting quality and governance (Hamdy et al., 2025; Neri Asmira and

Sulkiah, 2025; Yadiati et al., 2024). These studies also indicate that organizations frequently struggle to optimize digital systems when users are insufficiently trained or when system components are not fully integrated. These mixed results further emphasize the need to examine AIS within specific institutional settings such as hospitals, where the stakes for accuracy, reliability, and timely financial information are particularly high due to their direct implications for service delivery, regulatory compliance, and public accountability.

**Financial Reporting Quality**

Financial reporting quality refers to the extent to which financial statements faithfully represent an entity's economic reality, providing information that is accurate, timely, relevant, and free from material bias (Fayyaz et al., 2025; Mauro et al., 2024). In both corporate and public sector contexts, high-quality financial reporting is essential for supporting efficient resource allocation, regulatory compliance, and stakeholder trust. Recent studies have documented that digital accounting and financial report digitalization can significantly enhance transparency, accuracy, and usefulness of financial information (Hendratni, 2025; Tohang and Lusiana, 2022).

Evidence from service companies and public entities indicates that the effectiveness of Accounting Information Systems (AIS) is positively associated with financial reporting quality, particularly through strengthened internal controls, reduced data redundancy, and improved auditability (Fayyaz et al., 2025). In healthcare-related organizations, digital and sustainability-oriented reporting practices have similarly been linked to better integration of financial and non-financial information, supporting more holistic accountability to patients, regulators, and the broader community (Pisarra and Marsilio, 2025).

Despite these positive developments, Although prior studies have documented several positive developments such as improvements in transparency, accuracy, and reporting efficiency resulting from digitalization and strengthened AIS research continues to report variability in outcomes across sectors and countries, suggesting that the relationship between digitalization, AIS, and financial reporting quality is highly dependent on institutional factors such as governance structures, regulatory environments, and technological readiness(Mauro et al., 2024). Hamdy et al., (2025) found that early-stage digitalization can reduce the perceived quality of AIS when organizational readiness and system integration are insufficient, providing evidence of conflicting results in the literature. This variability underscores the importance of examining how these relationships manifest specifically in hospitals, where the need for accurate, reliable, and timely financial information is directly tied to service capacity, resource allocation, and public trust.

**Digitalization and Accounting Information Systems**

Digitalization introduces integrated platforms, automated workflows, and real-time data processing that strengthen the reliability and responsiveness of Accounting Information Systems (AIS). Several studies support this view, showing that automation and integrated digital tools improve data accuracy and system responsiveness (Huy and Phuc, 2024; Kusumawardhani et al., 2024). Prior research shows that digital transformation can significantly influence AIS quality, although the direction and magnitude of its impact depend on how effectively the technology is implemented and aligned with organizational processes (Hamdy et al., 2025). Previous findings also explain that digitalization enhances AIS by reducing manual intervention, enabling real-time validation, and improving information flow when supported by adequate user readiness and system integration. In hospitals, where financial transactions are inherently complex and closely linked to clinical operations, digitalization is expected to enhance AIS performance by improving data capture, accelerating processing speed, and facilitating seamless system integration. Empirical studies in hospital settings confirm this expectation, noting that digital integration improves reporting accuracy, strengthens internal controls, and reduces inconsistencies in financial data (Mauro et al., 2024; Rahayu and Rifandi, 2023).

**H1: Digitalization has a positive effect on the effectiveness of Accounting Information Systems in hospitals.**

**Digitalization and Financial Reporting Quality**

Digitalization improves the transparency and accuracy of financial information by reducing manual processing, enhancing data integration, and enabling real-time validation. Automated reporting tools, standardized electronic formats, and cloud-based systems help create clearer audit trails, minimize human error, and ensure that financial data are recorded consistently across units. These digital features allow organizations to produce financial reports that are more reliable, timely, and verifiable, supporting better oversight and decision-making. Empirical evidence also shows that digitalized financial reporting environments enhance both transparency and accuracy by increasing data traceability and reducing discrepancies in financial records (Hendratni, 2025; Kusumawardhani et al., 2024; Tohang and Lusiana, 2022).

Hendratni (2025), drawing on data from multinational corporations, reported that automated reporting tools significantly enhanced financial accuracy and disclosure transparency by reducing manual intervention and enabling real-time validation. (Kusumawardhani et al., 2024), using survey data from small and medium-sized enterprises, found that digital accounting systems improved reporting efficiency and data quality by accelerating processing times and strengthening system integration. Meanwhile, Tohang and Lusiana (2022), examining firms that implemented XBRL-based reporting, documented that standardized digital formats reduced reporting errors and increased the clarity and comparability of financial disclosures. Collectively, these studies indicate that digitalization meaningfully enhances reporting quality by streamlining data processing, strengthening integration, and improving the overall reliability of financial information.

Digitalization also exerts a direct and positive influence on the quality of internal financial reporting in hospitals. By integrating financial data with operational processes and enabling real-time monitoring, digital systems enhance the timeliness, relevance, and accuracy of internal reports that support budgeting, cost control, and managerial decision-making. Evidence from healthcare organizations further indicates that digitalized reporting environments reduce inconsistencies between administrative and clinical units, strengthen internal controls, and provide managers with more reliable financial information for operational planning and resource allocation (Mauro et al., 2024; Rahayu and Rifandi, 2023). These improvements highlight the critical role of digital technologies in fostering more informed, data-driven decisions within hospital financial management.

**H2: Digitalization has a positive effect on the quality of internal financial reporting in hospitals.**

Digitalization is also expected to improve the quality of external financial reporting, which differs from internal reporting in its emphasis on regulatory compliance, transparency, and accountability to outside stakeholders such as regulators, insurers, and funding agencies. Digital reporting platforms through standardized data formats, automated reconciliation routines, and traceable audit trails help ensure that externally disclosed financial information is accurate, complete, and consistent. Prior studies on digital disclosure frameworks, including XBRL adoption and automated reporting systems, have shown that digitalization enhances external reporting quality by reducing input errors, increasing disclosure transparency, and improving the verifiability of financial statements (Hendratni, 2025; Tohang and Lusiana, 2022). In hospital settings, these advantages are especially critical, as external financial reports serve as the basis for budget approvals, claims processing, public accountability, and regulatory oversight.

**H3: Digitalization has a positive effect on the quality of external financial reporting in hospitals.**

**Accounting Information Systems and Financial Reporting Quality**

A growing body of recent literature shows that the quality of Accounting Information Systems (AIS) is strongly associated with improved financial reporting outcomes. (Thuy, 2025; Vo et al., 2025). Effective AIS enhance internal control, reduce errors, strengthen data reliability, and promote consistency in financial processing, as demonstrated in recent open-access research (Thuy, 2025). Thuy, (2025), using survey data from accounting and finance staff in medium-sized enterprises, demonstrated that AIS quality is a key factor driving reliable financial reporting. The study showed that high-quality AIS strengthen internal controls, minimize human error, and ensure consistent processing of financial data across departments. Thuy further reported that organizations with stronger AIS experience fewer reporting discrepancies and improved audit readiness, supporting the argument that AIS effectiveness directly enhances overall financial reporting quality. Research across the public sector and regulated industries likewise highlights that well-functioning AIS contribute to more transparent public financial reporting and stronger institutional accountability, particularly when supported by effective internal audit and governance mechanisms (BinSaeed et al., 2023). Studies in government agencies show that integrated AIS platforms significantly reduce reporting discrepancies and enhance compliance with regulatory standards by improving audit trails and centralizing financial documentation (BinSaeed et al., 2023). Similarly, research in healthcare and nonprofit organizations demonstrates that AIS implementation strengthens oversight functions, increases data accuracy, and improves coordination between operational and financial units, thereby reinforcing organizational accountability (Fayyaz et al., 2025; Yadiati et al., 2024). These findings collectively illustrate that AIS effectiveness is not only a technical issue but also a key driver of institutional transparency and governance quality.

Within hospital environments where financial information is essential for decisions involving resource allocation, investment in medical equipment, and contractual engagements with insurers, a well-functioning AIS is especially critical. Recent empirical evidence indicates that when organizations adopt integrated digital systems and support them with user engagement, training, and leadership backing, the risks of reporting errors and inconsistencies decrease significantly (Rahayu and Rifandi, 2023). Additional research further confirms that effective AIS strengthen internal control mechanisms, improve audit readiness, and enhance the overall reliability of financial information, thereby reducing the likelihood of reporting failures (Fayyaz et al., 2025). These findings underscore the importance of studying AIS not only as a technical system but also as a core organizational capability that shapes financial accountability in healthcare institutions.

Accounting Information Systems (AIS) positively influence the quality of internal financial reporting in hospitals because an effective AIS enhances the accuracy, completeness, and timeliness of financial data used for managerial planning and decision-making. Integrated AIS platforms streamline information flows between administrative and clinical units, reduce manual errors, and ensure consistent internal records that support budgeting, cost control, and operational oversight. Empirical studies show that strong AIS performance strengthens internal controls and improves the reliability of internal information, enabling hospital managers to make more informed and timely decisions (Fayyaz et al., 2025; Rahayu and Rifandi, 2023).

AIS also plays a critical role in improving the quality of external financial reporting in hospitals. A well-designed AIS ensures that financial statements comply with regulatory standards, maintain transparency, and present reliable information to external stakeholders such as regulators, insurers, and funding bodies. Research in public and regulated sectors demonstrates that robust AIS enhances auditability, strengthens governance mechanisms, and reduces inconsistencies in reported information, resulting in clearer and more trustworthy external financial reports (BinSaeed et al., 2023; Yadiati et al., 2024). These findings highlight AIS as an essential organizational mechanism that supports accountability and regulatory compliance in hospital financial reporting.

**H4: Accounting Information Systems have a positive effect on the quality of internal financial reporting in hospitals.**

Unlike internal financial reports, external financial reporting requires strict regulatory compliance, transparent disclosures, and verifiable information for regulators, insurers, and the public. Accounting Information Systems (AIS) support these demands by ensuring consistent data processing, accurate documentation, and strong audit trails. Prior research shows that well-functioning AIS enhance external reporting quality by improving disclosure accuracy, reducing reporting errors, and strengthening regulatory compliance. (BinSaeed et al., 2023) found that integrated AIS platforms increase audit readiness and support standardized reporting practices, while (Yadiati et al., 2024) documented that effective AIS improve the transparency and reliability of externally disclosed financial information. These findings suggest that AIS plays a critical role in producing accurate and trustworthy external financial reports in hospital settings.

**H5: Accounting Information Systems have a positive effect on the quality of external financial reporting in hospitals.**

## 3. RESEARCH METHODS

### Population and Sample

The population of this study consists of employees working in the financial and administrative divisions of hospitals, including accounting staff, financial analysts, reporting officers, billing personnel, and internal auditors. These individuals were selected because they possess firsthand experience related to digitalization processes, Accounting Information Systems (AIS), and financial reporting practices within hospital settings. The use of organizational staff who directly interact with digital platforms is consistent with prior studies examining AIS effectiveness and digital transformation in healthcare institutions (Rahayu and Rifandi, 2023).

A purposive sampling technique was employed to ensure that respondents met specific inclusion criteria: 1) having worked in the finance or administration department for at least one year. 2) being familiar with the hospital's AIS or financial reporting procedures. 3) actively using digital tools or platforms in their daily accounting or reporting tasks. Purposive sampling is widely used in quantitative survey research involving latent variables and technology adoption constructs because it enhances the accuracy of responses by ensuring the sample directly aligns with the research objectives (Nassani et al., 2023). Respondents who did not meet the criteria or who submitted incomplete questionnaires were excluded from the final dataset to maintain data quality and statistical validity. Table 1 presents the summary of sample selection procedure and figure 1 shows the number of observations available for the test of hypotheses.

**Table 1. Population and Sample Characteristics**

| Category | Description |
|---|---|
| Population | Hospital employees in finance and administration units |
| Sample Criteria | Employees directly involved with AIS or financial reporting |
| Sampling Technique | Purposive sampling |
| Respondents | Accounting staff, reporting officers, billing personnel, financial analysts, internal auditors |
| Inclusion Requirements | ≥1 year experience, AIS exposure, digital tools usage |
| Rationale | Ensures respondent relevance and data validity for AIS and digitalization research |
| Justification in Literature | Supported by digital transformation and AIS studies in healthcare (Nassani et al., 2023; Rahayu and Rifandi, 2023) |

Figure 1 presents the sample selection process used in this study. The process began with an initial population of 312 hospital employees working in finance and administrative units.

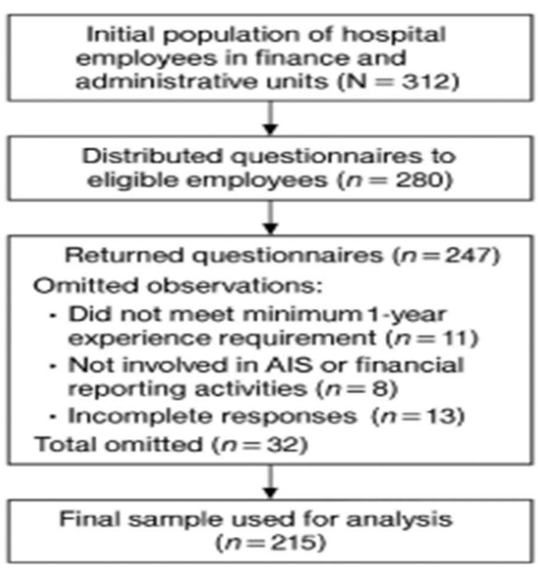


**Figure 1. Sample Selection Flowchart**

From this population, 280 eligible employees received the questionnaires, and 247 responses were returned. After excluding 32 responses due to insufficient experience, lack of involvement in AIS or financial reporting activities, and incomplete answers, a final sample of 215 valid observations was retained for analysis. This process ensures that the sample accurately reflects respondents with direct relevance to digitalization, AIS usage, and financial reporting practices in hospitals.

**Research Design**

This study employs a quantitative explanatory research design to examine the causal relationships among digitalization, Accounting Information Systems (AIS), and the quality of internal and external financial reporting in hospitals. The design follows a systematic sequence beginning with a review of relevant literature, followed by hypothesis formulation, and continuing with data collection through structured questionnaires administered to hospital financial and administrative personnel. Quantitative explanatory designs are commonly used to measure latent constructs and validate causal pathways in digital transformation and AIS research, as supported by findings from recent open-access studies in the field (Nassani et al., 2023).

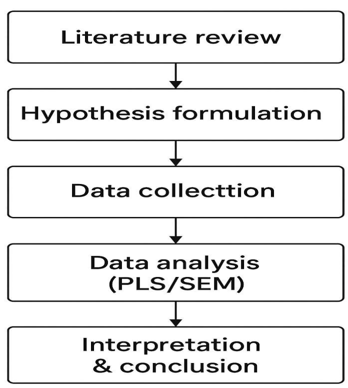


**Figure 2. Research Design**

Figure 2 outlines the overall research process used in this study. The procedure begins with a comprehensive literature review, followed by the formulation of hypotheses based on theoretical and empirical insights. Data collection was carried out through structured questionnaires, and the responses were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). The final stage involves interpreting the results and drawing conclusions to address the research objectives.

**Variable Measurement**

This study employs four main constructs: Digitalization, Accounting Information Systems (AIS), Internal Financial Reporting Quality, and External Financial Reporting Quality. All variables were measured using multi-item Likert scales ranging from 1 (“strongly disagree”) to 5 (“strongly agree”). The measurement items were adapted from validated indicators used in recent open-access studies on digital transformation and AIS in organizational settings (Hamdy et al., 2025; Nassani et al., 2023; Rahayu and Rifandi, 2023).

This approach ensures conceptual consistency, content validity, and alignment with prior empirical research in healthcare and digital accounting environments.

Digitalization measures the extent to which hospitals adopt and integrate digital technologies into their accounting and financial processes. Items evaluate automation, system integration, real-time data processing, and the use of digital reporting tools. Accounting Information Systems (AIS) capture the effectiveness of systems used to collect, process, store, and distribute financial information. Indicators include reliability, timeliness, accuracy, completeness, and system accessibility.

Internal Financial Reporting Quality reflects the accuracy, relevance, completeness, and timeliness of internal reports used for budgeting, cost control, and managerial decision making. External Financial Reporting Quality assesses transparency, compliance, clarity, and reliability of financial reports prepared for external stakeholders such as regulators and funders.

All operational definitions and indicators were structured to correspond with the study's conceptual framework and hypotheses (H1–H5), ensuring coherence between measurement and theoretical expectations.

**Table 2. Operational Definitions and Variable Measurement**

| VariableS | Operational Definition | Indicators (Examples) | Sources |
|---|---|---|---|
| Digitalization | The degree to which hospitals utilize integrated digital technologies to support accounting and financial processes. | Automation, real-time processing, system integration, digital reporting tools | (Hamdy et al., 2025; Rahayu and Rifandi, 2023) |
| Accounting Information Systems (AIS) | Effectiveness of systems used to collect, process, store, and communicate financial information. | Reliability, timeliness, accuracy, completeness, accessibility | (Kusumawardhani et al., 2024; Nassani et al., 2023) |
| Internal Financial Reporting Quality | Quality of internal reports used for managerial decision-making. | Accuracy, detail, relevance, timeliness | (Rahayu and Rifandi, 2023a) |
| External Financial Reporting Quality | Quality of financial reports prepared for external stakeholders. | Compliance, transparency, clarity, reliability | (Hendratni, 2025; Mauro et al., 2024) |

**Research Model**

This study employs a structural model to test the hypothesized relationships among digitalization, Accounting Information Systems (AIS), and the quality of internal and external financial reporting. The model is grounded in prior empirical work showing that digital transformation can shape AIS effectiveness and, subsequently, financial reporting outcomes in organizational settings (Nassani et al., 2023). In the context of hospitals, AIS performance is closely linked to system integration, digital readiness, and user competence, making structural modelling an appropriate analytical approach for examining these interconnected variables (Rahayu and Rifandi, 2023).

Given the predictive nature of the study and the involvement of latent constructs, Partial Least Squares Structural Equation Modeling (PLS-SEM) was employed. PLS-SEM is well suited for complex models, smaller sample sizes, and exploratory environments in which digital transformation processes vary across institutions. Analysis was conducted using SmartPLS, allowing simultaneous assessment of both the measurement model and the structural model.

The structural relationships in this study can be expressed through the following equations:

$$AIS = \beta 1(DIG) + \epsilon 1$$

$$INTFRQ = \beta_2(DIG) + \beta_3(AIS) + \epsilon_2 EXTFRQ = \beta_4(DIG) + \beta_5(AIS) + \epsilon_3$$

Where: DIG = Digitalization, AIS = Accounting Information Systems, INTFRQ = Internal Financial Reporting Quality, EXTFRQ = External Financial Reporting Quality, β = Path coefficients representing hypothesized direct effects, ε = Error terms

Model evaluation followed standard PLS-SEM procedures, including assessments of reliability, convergent validity, and discriminant validity, followed by hypothesis testing using bootstrapping to determine the statistical significance of each structural path. This approach ensures robust analysis of how digitalization and AIS interact to influence financial reporting quality in hospital environments.

Figure 1 illustrates the conceptual research model applied in this study. The model proposes that digitalization directly influences AIS (H1), internal financial reporting quality (H2), and external financial reporting quality (H3). In addition, AIS is hypothesized to affect both internal (H4) and external (H5) financial reporting quality. These hypothesized relationships reflect theoretical and empirical insights suggesting that digital integration enhances system reliability, data quality, and information consistency, which in turn strengthen financial reporting processes within hospitals. Figure 1 provides the structural foundation for the PLS-SEM analysis conducted in this research.

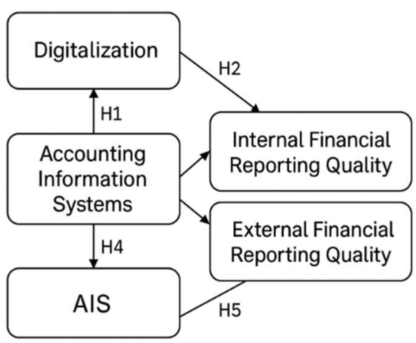


**Figure 3. Research Model**

## 4. RESULTS AND DISCUSSION

### Descriptive Statistics

Descriptive analysis was conducted to provide an initial overview of respondents' perceptions of digitalization, Accounting Information Systems (AIS), and the quality of internal and external financial reporting. All constructs were measured using a five-point Likert scale, and the mean values indicate generally positive assessments across the sample. As shown in Table 3, The categorization of the mean values is based on the interval width formula for a 5-point Likert scale, where the range of 3.41–4.20 is classified as 'High'.  all variables fall within the "High" category based on the instrument's scoring guidelines, indicating strong digital integration and favourable perceptions of AIS and financial reporting quality across participating hospitals.

**Table 3. Descriptive Statistics of Main Variables**

| Variable | N | Indicators | Mean | Category |
|---|---|---|---|---|
| Digitalization | 222 | 12 | 3.80 | High |
| Accounting Information Systems (AIS) | 222 | 5 | 3.86 | High |
| Internal Financial Reporting Quality | 222 | 4 | 3.78 | High |
| External Financial Reporting Quality | 222 | 5 | 3.80 | High |

Source: Primary data processed with SmartPLS 4.1 (2025)

The highest mean value is observed for AIS (3.86), indicating that respondents generally perceive the system as reliable, timely, and supportive of financial reporting tasks. The slightly lower but still strong means for digitalization and external reporting quality (3.80) suggest that hospitals are actively integrating digital tools into financial processes. Internal reporting quality, with a mean of 3.78, remains within the high category, showing that digital support and AIS functionalities contribute meaningfully to internal decision-making processes. Overall, these descriptive findings provide preliminary insights that justify further examination of the structural relationships explored in the subsequent sections.

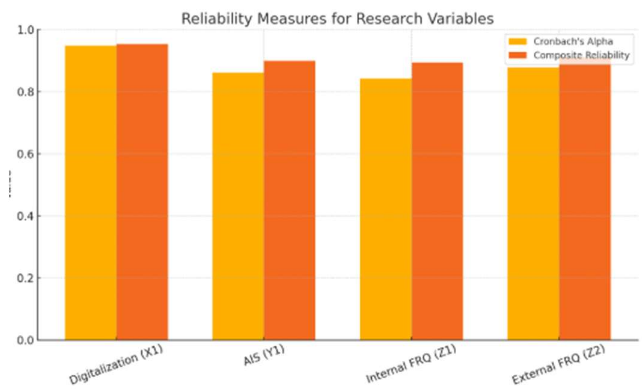


**Figure 4. Reliability Measures for Research Variables**

The results of the reliability assessment indicate that all constructs meet the recommended thresholds for internal consistency. As shown in Figure X, Cronbach's Alpha values for all variables exceed 0.84, while Composite Reliability (CR) values range from 0.89 to 0.95, demonstrating strong reliability across constructs. These values confirm that the measurement items exhibit stable and consistent performance in capturing the underlying constructs of digitalization, AIS, and financial reporting quality. This reliability evidence supports the suitability of the instrument for use in subsequent structural model analysis.

**Hypothesis Testing Results**

Structural model evaluation was conducted using PLS-SEM to assess the causal relationships among digitalization, AIS, and financial reporting quality. The bootstrapping procedure with 5,000 resamples generated the coefficients, t-statistics, and significance levels shown in Table 4. All five hypotheses are statistically supported, indicating that digitalization and AIS play meaningful roles in shaping financial reporting quality in hospitals. These results demonstrate strong predictive relationships that align with prior empirical evidence on digital transformation and accounting system performance in healthcare organizations (Nassani et al., 2023; Rahayu and Rifandi, 2023).

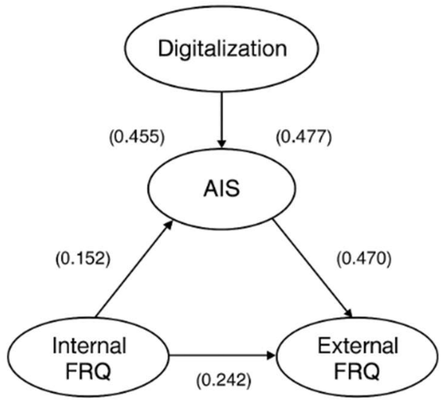


**Figure 5. Structural Model (Path Analysis)**

Figure 5 presents the structural model results estimated using PLS-SEM. The diagram shows the standardized path coefficients for the relationships among Digitalization, Accounting Information Systems (AIS), and both internal and external financial reporting quality. Digitalization exhibits strong and significant effects on AIS (β = 0.455), Internal FRQ (β = 0.477), and External FRQ (β = 0.470), indicating that higher digital integration enhances both system functionality and reporting outcomes. AIS also positively influences Internal FRQ (β = 0.152) and External FRQ (β = 0.242), reflecting its role in improving data consistency, audit readiness, and reporting reliability. Overall, the model demonstrates that Digitalization and AIS jointly contribute to strengthening financial reporting processes in hospitals.

**Table 4. Hypothesis Testing Results**

| Hypothesis | Relationship | Coefficient | t-value | p-value | Result |
|---|---|---|---|---|---|
| H1 | Digitalization → AIS | 0.455 | 8.342 | 0.000 | Supported |
| H2 | Digitalization → Internal FRQ | 0.477 | 7.225 | 0.000 | Supported |
| H3 | Digitalization → External FRQ | 0.470 | 7.051 | 0.000 | Supported |
| H4 | AIS → Internal FRQ | 0.152 | 2.311 | 0.021 | Supported |
| H5 | AIS → External FRQ | 0.242 | 3.129 | 0.002 | Supported |

Source: SmartPLS Bootstrapping Output (2025).

The results show that digitalization has a strong and significant effect on AIS (H1), indicating that hospitals with higher digital integration such as automated workflows and real-time processing operate more effective accounting systems, consistent with previous findings on digital transformation in healthcare (Hamdy et al., 2025; Rahayu and Rifandi, 2023). Digitalization also enhances both internal and external financial reporting quality (H2 and H3), reflecting its role in reducing manual errors and improving the accuracy and timeliness of financial information (Hendratni, 2025). Furthermore, AIS effectiveness contributes meaningfully to reporting quality (H4 and H5), although with smaller coefficients, suggesting that well-functioning AIS provide structured, consistent, and audit-ready data that support managerial decisions and compliance requirements, aligning with studies emphasizing the importance of robust AIS for reporting integrity and organizational accountability (Fayyaz et al., 2025; Mauro et al., 2024). Overall, these findings indicate that digitalization and AIS work synergistically to strengthen hospital financial reporting processes.

**Discussion**

The findings demonstrate that digitalization significantly strengthens AIS effectiveness and enhances both internal and external financial reporting quality, supporting earlier studies that highlight the role of integrated digital technologies in improving the reliability, transparency, and timeliness of accounting processes in healthcare organizations (Hendratni, 2025; Nassani et al., 2023; Rahayu and Rifandi, 2023). AIS effectiveness also contributes meaningfully to reporting outcomes, aligning with prior evidence that robust systems improve internal control, minimize inconsistencies, and support auditability across regulated environments (Fayyaz et al., 2025; Mauro et al., 2024). Overall, these results confirm that digitalization and AIS operate synergistically in hospitals, suggesting that technological integration, user readiness, and organizational support remain key determinants in maximizing the benefits of digital transformation (Hamdy et al., 2025).

## 5. CONCLUSIONS AND SUGGESTIONS

**Conclusions**

This study was conducted as a quantitative explanatory analysis designed to examine how digitalization and Accounting Information Systems (AIS) interact to influence the quality of financial reporting in hospitals. The research was motivated by persistent issues in the healthcare sector, including data inconsistency, reporting delays, and vulnerabilities in financial governance that undermine transparency and accountability. By focusing on the causal relationships among digitalization, AIS effectiveness, and both internal and external financial reporting quality, this study addresses a key gap in the existing literature, which has tended to prioritize corporate or manufacturing contexts over healthcare institutions.

The results of this research demonstrate that digitalization plays a critical role in strengthening Accounting Information Systems (AIS) and improving both internal and external financial reporting quality in hospitals. The empirical results demonstrate that higher levels of digital integration significantly enhance AIS effectiveness, which in turn supports more accurate, timely, and transparent financial reporting. Digitalization also directly contributes to improved reporting quality by reducing manual errors and improving data consistency. Furthermore, AIS effectiveness independently supports reporting integrity, confirming its essential role in financial governance and decision-making within healthcare institutions. Overall, the findings highlight that digitalization and AIS function synergistically to strengthen financial accountability and transparency in hospital environments.

**Suggestions**

The findings of this study suggest that hospitals should strengthen their digital infrastructure, improve user competence through continuous training, and enhance system integration across financial, clinical, and administrative units to support more accurate and consistent financial reporting. Strengthening governance mechanisms and internal controls is also essential to ensure transparency and minimize reporting risks. Future research may extend this study by exploring qualitative perspectives on digitalization challenges, examining moderating or mediating factors such as digital literacy or organizational culture, and conducting comparative or longitudinal studies across different hospital types to broaden the generalizability of the findings.

Future studies may incorporate qualitative methods to gain deeper insight into organizational challenges and user experiences related to digitalization. Researchers could expand the model to include moderating or mediating variables, such as digital literacy, organizational culture, or management support. Comparative studies across different hospital types or regions may provide stronger generalizations regarding digital transformation in healthcare. Longitudinal research is recommended to measure changes in reporting quality as digitalization continues to evolve.

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**Appendix Research Instrument (Questionnaire)**

**Scale:**

1: Strongly Disagree

2: Disagree

3: Neutral

4: Agree

5: Strongly Agree

| **Appendix 1. Digitalization Questionnaire** | |
|---|---|
| **Code** | **Statement** |
| DIG1 | My hospital uses digital systems to automate accounting and financial processes. |
| DIG2 | Digital tools help reduce manual work in financial reporting. |
| DIG3 | The hospital's digital systems provide real-time access to financial data. |
| DIG4 | Digital platforms used in this hospital are integrated across departments. |
| DIG5 | Digitalization helps improve the accuracy of financial data. |
| DIG6 | Digitalized processes help accelerate financial data processing. |
| DIG7 | The hospital uses electronic standards (e.g., e-reporting) for financial reporting. |
| DIG8 | Digital technologies enable better data validation and error checking. |
| DIG9 | The hospital uses digital tools for financial monitoring and control. |
| DIG10 | Digital systems help ensure data traceability and auditability. |
| DIG11 | The hospital actively invests in upgrading digital financial systems. |
| DIG12 | Employees frequently use digital platforms in their daily financial tasks. |
| **Appendix 2. AIS Questionnaire** | |
| **Code** | **Statement** |
| AIS1 | The AIS used in this hospital produces accurate financial information. |
| AIS2 | The AIS processes and delivers information in a timely manner. |
| AIS3 | The system is easy to access and supports daily financial tasks. |
| AIS4 | The AIS integrates financial data from different departments. |
| AIS5 | The AIS enhances consistency and reliability of financial records. |
| **Appendix 3. Internal FRQ Questionnaire** | |
| **Code** | **Statement** |
| IFRQ1 | Internal financial reports provide accurate and complete information. |
| IFRQ2 | Internal financial reports are submitted in a timely manner. |
| IFRQ3 | Internal reports are clear, structured, and easy to understand. |
| IFRQ4 | Internal financial information is useful for managerial decision-making. |
| **Appendix 4. External FRQ Questionnaire** | |
| **Code** | **Statement** |
| EFRQ1 | External financial reports comply with applicable regulations and standards. |
| EFRQ2 | External reports provide transparent and reliable information. |
| EFRQ3 | External financial reports are complete and free of material errors. |
| EFRQ4 | External financial information can be easily verified by external parties. |
| EFRQ5 | External financial reports are presented clearly for stakeholders. |