

The Role of Digital Accounting Systems in Enhancing Financial Decision-Making Among Businesses

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Abstract

This study examines the relationship between digital accounting systems and financial decision-making effectiveness among businesses. It adopts a quantitative research approach based on data collected from 250 business owners, accountants, financial managers, and finance officers. Digital Accounting Systems were measured through system quality, information quality, cloud accounting adoption, automation capability, and artificial intelligence integration, while Financial Decision-Making Effectiveness was measured through budgeting quality, investment decision-making, financial forecasting, risk assessment, and strategic planning. The findings indicate that digital accounting systems are positively associated with financial decision-making effectiveness, with information quality, system quality, cloud-based accessibility, automation capability, and artificial intelligence integration all linked to stronger perceived decision-making effectiveness. The correlation and regression results show that digital accounting system capabilities are strongly and positively associated with financial decision-making effectiveness. Information quality emerged as the strongest predictor, followed by system quality and automation capability. The study concludes that digital accounting systems are strategic decision-support resources that are positively associated with budgeting, forecasting, investment evaluation, risk assessment, and strategic financial planning effectiveness. The findings provide theoretical and practical implications for accounting information systems, digital transformation, and financial management research.

Keywords: Digital Accounting Systems, Accounting Information Systems, Financial Decision-Making, Artificial Intelligence, Digital Transformation

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1. Introduction

Digital transformation has significantly altered how businesses collect, process, analyze, store, verify, and communicate accounting information. Traditional manual and paper-based accounting systems have increasingly been replaced by integrated digital accounting systems that combine cloud computing, enterprise resource planning (ERP) systems, automation, business intelligence, analytics, and artificial intelligence (Bharadwaj et al., 2013; Davenport, 1998; Meraghni et al., 2021; Vial, 2019). These systems are no longer limited to transaction recording or periodic compliance reporting. They increasingly function as decision-support infrastructures that allow managers to obtain timely, reliable, and relevant financial information for budgeting, investment analysis, forecasting, risk assessment, and strategic planning (DeLone & McLean, 2003; Iselin, 1996; Romney & Steinbart, 2022). In competitive business environments, the ability to convert accounting data into actionable managerial insight is a central source of organizational responsiveness and financial discipline. The accounting literature shows that accounting information systems improve organizational performance by enhancing information quality, reporting efficiency, internal control, and managerial decision-making (Grande et al., 2011; Nguyen et al., 2024; Sunarta & Astuti, 2023; BinSaeed et al., 2023). Cloud accounting further improves accessibility and scalability, especially for small and medium-sized enterprises that may lack extensive information technology infrastructure (Nguyen et al., 2025; Christauskas & Miseviciene, 2012; Hamzah et al., 2023; Tawfik et al., 2022). ERP systems contribute to integration and standardization across business processes, although their benefits depend on implementation quality, organizational readiness, and the ability of managers to use generated information effectively (Granlund & Malmi, 2002; Rose & Kraemmergaard, 2006; Sanchez-Rodriguez & Spraakman, 2012; Spathis & Constantinides, 2004). More recently, artificial intelligence, robotic process automation, and big data analytics have expanded the analytical capacity of accounting systems by enabling anomaly detection, predictive forecasting, continuous monitoring, and evidence-based decision-making (Aker et al., 2016; Chen et al., 2012; Dai & Vasarhelyi, 2017; Kokina & Davenport, 2017; Moffitt et al., 2018; Richins et al., 2017; Sutton et al., 2016; Wamba et al., 2017).

Modern digital accounting systems also support a broader information environment that extends beyond conventional financial reporting. Businesses are increasingly expected to provide reliable financial and non-financial information to managers, investors, boards, regulators, lenders, employees, and other stakeholders. Although this study focuses on financial decision-making, the usefulness of digital accounting systems is closely connected to the quality of both financial and non-financial information. Digital accounting systems can capture operational metrics, integrate sustainability-related data, link accounting records with business processes, and provide dashboards that support internal performance monitoring. Nguyen et al. (2024) emphasize that non-financial information quality matters for decision-making success and non-financial performance, while information systems success research shows that net benefits depend on system quality and information quality (DeLone &

McLean, 1992, 2003). Accordingly, digital accounting systems are increasingly part of an integrated reporting infrastructure that supports transparency, accountability, governance, and decision-making quality.

Despite these developments, several research gaps remain. First, many studies examine individual technologies such as ERP, cloud accounting, big data analytics, or artificial intelligence separately rather than treating digital accounting systems as integrated bundles of technological and informational capabilities. Second, empirical evidence often focuses on broad organizational performance while giving less attention to the financial decision-making mechanisms through which accounting systems create value. Third, implementation challenges such as cybersecurity, training, technological readiness, data quality, privacy, and system integration remain relevant, particularly in developing and emerging business environments (Mas'eed, 2024; Nurwanah, 2024; Sastararuji et al., 2022; Wahhab & Maash, 2021). Fourth, the decision value of digital systems may depend not only on technology availability but also on user acceptance, management support, data governance, and the alignment between system outputs and managerial needs.

Accordingly, this study conceptualizes digital accounting systems as a multidimensional organizational capability comprising system quality, information quality, cloud accounting adoption, automation capability, and artificial intelligence integration. From a resource-based perspective, organizational resources and capabilities can contribute to sustained competitive advantage when they are valuable and effectively deployed (Barney, 1991). In particular, information technology capability can enhance firm performance when technological resources are integrated with organizational and managerial capabilities (Bharadwaj, 2000). The study is guided primarily by two closely aligned theories: the Technology Acceptance Model and the DeLone and McLean information systems success model, with Behavioral-Governance Fit Theory used as a brief complementary lens. These perspectives jointly explain why digital accounting systems may improve decision-making: users must perceive the technology as useful and usable, and the system must generate reliable, timely, and decision-useful information. The study contributes by examining multiple digital accounting system dimensions within one empirical model and by linking digital accounting capabilities to core financial decision processes, including budgeting, investment decision-making, financial forecasting, risk assessment, and strategic planning.

2. Literature Review

2.1 Concept of Digital Accounting Systems

Digital accounting systems refer to technology-enabled systems used to record, process, store, analyze, verify, and report accounting and financial information. They include computerized AIS, ERP accounting modules, cloud accounting platforms, analytics dashboards, automation tools, and AI-enabled applications (Romney & Steinbart, 2022; Sutton et al., 2016; Vasarhelyi et al., 2015; Yoshikuni et al., 2023).

Unlike traditional accounting systems, digital systems support real-time reporting, data integration, error reduction, automated processing, and improved information accessibility (Christauskas & Miseviciene, 2012; Grande et al., 2011; Kartikasary et al., 2023; Moniruzzaman & Rahman, 2023). Their organizational value depends not only on the presence of technology but also on the quality of the information produced, the reliability of the system, the competence of users, and the extent to which accounting outputs are embedded in managerial processes (DeLone & McLean, 1992, 2003; Iselin, 1996; Nguyen et al., 2024).

Digital accounting systems have changed the role of accounting from passive recordkeeping to active decision support. In manual environments, accounting reports are often delayed, fragmented, and vulnerable to processing errors. Evidence from Indonesian Islamic microfinance institutions further indicates that computerized accounting information systems can support the sustainability of financial organizations by improving their accounting and information-processing capabilities (Wijayanti et al., 2023). In digital environments, transaction data can be captured automatically, validated through system controls, stored in integrated databases, and transformed into reports or dashboards. This improves the speed and consistency of information flows. Big data and analytics research further indicates that organizations can improve performance when data analytics capability is aligned with business strategy and dynamic capabilities (Akter et al., 2016; Wamba et al., 2017). Therefore, the decision-making value of digital accounting systems is not limited to faster bookkeeping; it lies in the conversion of financial data into timely, accurate, and interpretable evidence.

ERP and AIS research demonstrates that integrated systems can improve accounting processes, reduce duplication, standardize reporting, and support coordination across departments (Davenport, 1998; Granlund & Malmi, 2002; Sardo & Alves, 2018; Spathis & Constantinides, 2004). However, studies also suggest that ERP effects on accounting may be moderate or delayed when implementation is not accompanied by organizational learning, process redesign, and managerial use of information (Granlund & Malmi, 2002; Rose & Kraemmergaard, 2006; Sanchez-Rodriguez & Spraakman, 2012). Thus, digital accounting systems must be evaluated not only as technical tools but also as socio-technical capabilities that require user acceptance, data governance, internal control, and strategic alignment.

The emergence of cloud accounting has further shifted accounting systems toward flexible and accessible platforms. Cloud accounting allows users to access accounting data remotely, share financial information more efficiently, and reduce the need for costly local infrastructure (Nguyen et al., 2025; Christauskas & Miseviciene, 2012; Hamzah et al., 2023). Studies on cloud accounting adoption in SMEs show that perceived benefits, organizational readiness, security concerns, and environmental pressures affect adoption decisions (Sastararuji et al., 2022; Tawfik et al., 2022). These findings are relevant to financial decision-making because managerial decisions often require up-to-date information rather than delayed historical reports. However, cloud accessibility must be supported by cybersecurity and privacy controls to preserve information integrity (Nurwanah, 2024; Wahhab & Maash, 2021).

Recent studies from the attached article-summary file further support the expansion of digital accounting systems beyond traditional bookkeeping. Al-Khoury et al. (2025) map the bibliometric development of emerging technologies in AIS and identify AI, machine learning, blockchain, cloud computing, robotic process automation, and data analytics as central technologies shaping accounting procedures and AIS acceptance. In a closely related disclosure context, Alslaibi et al. (2025a) show that AI technologies can enhance financial statement transparency through voluntary disclosure, but that these effects depend on AIS reliability. These findings support the present study's argument that digital accounting systems enhance decision-making when technological functions are supported by reliable information infrastructure.

2.2 Information Quality and Decision-Making

Financial decision-making requires information that is accurate, timely, relevant, complete, and understandable. Accounting information reduces uncertainty by allowing managers to compare alternatives, evaluate performance, identify risks, and allocate resources efficiently (Iselin, 1996; Monteiro et al., 2021). The DeLone and McLean information systems success model positions information quality as a central determinant of system use, user satisfaction, and net benefits (DeLone & McLean, 1992, 2003). In accounting settings, this implies that system adoption alone is insufficient unless the system produces information that users consider reliable and useful for managerial action.

Prior studies provide empirical support for this argument. Grande et al. (2011) find that AIS adoption improves performance measures in SMEs by enhancing information quality and operational efficiency. Sunarta and Astuti (2023) show that AIS quality can influence organizational performance through accounting information quality. Nguyen et al. (2024) further demonstrate that AIS quality affects decision-making success and non-financial performance, emphasizing that non-financial information quality also matters. These studies suggest that digital accounting systems enhance financial decision-making when they improve the quality of the information environment. Information quality is therefore a core mechanism linking digital accounting systems to budgeting, forecasting, investment decisions, and strategic planning.

Poor information quality can produce weak financial decisions even when technology is available. Inaccurate data may distort budgets, incomplete records may conceal liquidity pressures, delayed reports may prevent timely corrective action, and irrelevant dashboards may distract managers from material financial risks. Conversely, accurate and timely information enables managers to assess cash flow needs, evaluate capital expenditure options, compare actual performance with targets, and respond to emerging risks. Martins and Alves (2024) and Pereira et al. (2024) connect AIS quality with investment efficiency, which supports the argument that high-quality accounting information can improve the allocation of financial resources. Thus, the effectiveness of digital accounting systems depends heavily on their capacity to generate decision-useful information.

2.3 Cloud Accounting, ERP, and Digital Transformation

Cloud accounting, ERP, and broader digital transformation initiatives have become important foundations of modern accounting practice. Cloud accounting improves accessibility, scalability, collaboration, and real-time reporting, while ERP systems integrate accounting information with purchasing, sales, inventory, production, and human resource processes (Davenport, 1998; Orougi, 2015; Sardo & Alves, 2018). In big-data environments, cloud accounting can also strengthen enterprise financial decision-making by facilitating timely access to integrated financial information and supporting data-driven analysis (W. Zhang, 2023). These systems are especially relevant for financial decision-making because managers require integrated information about operations and finance. For example, budgeting decisions depend on sales forecasts, cost structures, and inventory levels, while risk assessment depends on timely monitoring of receivables, payables, and cash flow.

Digital transformation research argues that organizations create value when digital technologies reshape processes, structures, and business models (Bharadwaj et al., 2013; Vial, 2019). In accounting, this transformation involves the movement from periodic reporting to continuous, data-driven financial management. Meraghni et al. (2021) show that digital transformation affects AIS by improving accounting processes and information flows. BinSaeed et al. (2023) similarly position accounting information systems as vectors through which digitalization supports financial performance. These findings indicate that digital accounting systems are not isolated technical applications; they are part of broader organizational transformation.

The broader financial technology literature also supports this position. Latiff et al. (2025) show that fintech research increasingly emphasizes financial entrepreneurship, efficiency, profitability, trust in digital services, and innovation in financial institutions. In a Palestinian banking context, Alslaibi (2024) demonstrates that fintech variables can affect profitability and provide useful evidence for investors and regulators. Similarly, Al-Alawneh et al. (2026) find that AI and machine learning, blockchain technology, and digital payments improve bank financial performance. These studies are relevant to digital accounting because fintech and accounting technologies share a common decision-support logic: they convert digital data, automated processes, and analytical tools into more informed financial decisions. The literature also highlights that technology benefits depend on implementation quality. Rose and Kraemmergaard (2006) describe ERP implementation as a journey requiring technological and organizational adjustment. Granlund and Malmi (2002) note that ERP systems may have only moderate effects on management accounting when organizational routines do not change sufficiently. Sanchez-Rodriguez and Spraakman (2012) also show that ERP systems influence management accounting practices but require contextual adaptation. Therefore, the relationship between digital accounting systems and financial decision-making should be understood as conditional on how organizations configure systems, train users, protect data, and embed information in decision routines. Cloud-based applications have become particularly important in small and medium-sized business environments. Christauskas and Miseviciene (2012) argue that cloud computing-based accounting

can make sophisticated accounting functionality accessible to SMEs. Nguyen et al. (2025) find that cloud computing technology affects cloud accounting adoption and financial management. Hamzah et al. (2023), Kartikasary et al. (2023), and Moniruzzaman and Rahman (2023) also document the relevance of cloud accounting applications for SMEs. These studies support the expectation that cloud accounting can improve financial decision-making by allowing real-time access to accounting data, improving collaboration between accountants and managers, and reducing reporting delays.

2.4 Automation, Artificial Intelligence, and Analytics in Accounting

Automation, artificial intelligence, machine learning, blockchain, robotic process automation, and analytics represent the next stage of digital accounting development. Robotic process automation can reduce routine accounting effort, standardize repetitive tasks, and improve process consistency (Kokina & Davenport, 2017; Moffitt et al., 2018). Artificial intelligence can support classification, anomaly detection, forecasting, and decision support (Sutton et al., 2016). Big data analytics can help organizations identify patterns, detect risks, and convert large datasets into actionable insights (Chen et al., 2012; Richins et al., 2017; Vasarhelyi et al., 2015; Warren et al., 2015). In financial decision-making, these technologies are relevant because they improve the analytical capacity of accounting systems.

The value of AI and analytics is particularly clear in forecasting, risk assessment, and strategic planning. AI-enabled accounting tools can analyze historical patterns, identify unusual transactions, and generate predictive signals. Business intelligence and analytics research shows that analytics capability can improve firm performance when aligned with business strategy (Akter et al., 2016; Wamba et al., 2017). In accounting and auditing, big data analytics can strengthen business intelligence and assurance processes (Chu & Yong, 2021; Dai & Vasarhelyi, 2017). These capabilities are important for financial managers because budgeting and investment decisions increasingly require rapid interpretation of complex internal and external data.

Nevertheless, technology does not automatically improve decision-making. AI outputs may be biased if source data are incomplete or if algorithms are poorly designed. Automated routines may process errors quickly if control rules are weak. Cloud systems may increase access but also heighten cybersecurity and privacy risks. Nurwanah (2024) emphasizes cybersecurity challenges in AIS, while Wahhab and Maash (2021) connect cloud accounting applications to decision-making concerns. Therefore, organizations must combine automation and AI with accounting expertise, internal control, data governance, and ethical oversight. The decision value of advanced digital accounting tools depends on whether users can interpret, validate, and act on system outputs.

Governance and assurance-related evidence further indicates that technology must be supported by reliable controls and professional oversight. Aljarrah and Alslaibi (2025) show that board characteristics can influence audit quality, while Alslaibi et al. (2025b) document key determinants of bank financial performance in the Arab Levant using quantitative analysis. These studies are used here only as

contextual support, because financial decision-making depends not only on automated reports but also on governance structures, professional interpretation, internal controls, and the credibility of accounting information.

2.5 Financial Decision-Making Among Businesses

Financial decision-making refers to managerial choices concerning budgeting, investment evaluation, financial forecasting, financing, cost control, risk assessment, and strategic planning. Effective financial decisions depend on the capacity of managers to obtain relevant information and evaluate the financial consequences of alternative actions. Digital accounting systems support this process by providing updated reports, automated calculations, integrated performance indicators, and analytical tools. Accounting information can reduce uncertainty and improve the quality of managerial decisions when it is relevant and reliable (Iselin, 1996; Monteiro et al., 2021).

Budgeting decisions require accurate cost information, sales expectations, and resource allocation data. Investment decisions require reliable estimates of cash flows, risks, and returns. Forecasting requires historical data and analytical tools that can identify trends. Risk assessment requires timely identification of anomalies, liquidity pressures, leverage concerns, and operational weaknesses. Strategic planning requires integrated information that connects financial performance with operational capacity and market conditions. Digital accounting systems can support each of these processes by improving the speed, accuracy, and accessibility of accounting information (Romney & Steinbart, 2022; Sun, 2023; Zhang, 2023a, 2023b).

The literature also shows that financial decision-making is increasingly connected to non-financial indicators. Nguyen et al. (2024) highlight the relevance of non-financial information quality in decision-making success. In practice, managers may need to evaluate operational efficiency, customer trends, employee productivity, sustainability-related data, and compliance indicators alongside accounting data. Although the present study does not test non-financial disclosure directly, it recognizes that modern digital accounting systems increasingly support integrated decision environments. This is important because managers, boards, and external stakeholders increasingly expect accounting systems to support transparency and accountability beyond traditional financial statements.

This integrated view also links digital accounting systems to non-financial disclosure and sustainability-related information. Alslaibi and Abdelkarim (2024) find that ESG disclosure components influence financial performance among Palestinian listed firms, while Alslaibi et al. (2025c) show that environmental management teams can strengthen the relationship between board characteristics and sustainability performance in GCC companies. These studies are cited only to support the non-financial disclosure and sustainability-reporting extension of the argument. They indicate that modern accounting systems increasingly support the collection, processing, verification, and reporting of both financial and non-financial information used by managers, boards, investors, regulators, and other stakeholders.

3. Theoretical Framework and Hypotheses Development

3.1 Technology Acceptance Model

The Technology Acceptance Model (TAM) provides the first theoretical foundation for this study because digital accounting systems create value only when accounting and finance users accept, use, and rely on them in their daily work. Davis (1989) and Davis et al. (1989) argue that perceived usefulness and perceived ease of use determine whether users adopt information technologies. In the context of digital accounting systems, perceived usefulness refers to the extent to which business owners, accountants, financial managers, and finance officers believe that digital systems improve reporting speed, reduce manual errors, support analysis, and enhance financial decision-making. Perceived ease of use refers to whether users can operate cloud accounting platforms, ERP modules, dashboards, automation tools, and AI-enabled accounting applications without excessive complexity. Extensions of TAM further emphasize performance expectancy, effort expectancy, facilitating conditions, and social influence as important drivers of technology use (Lu et al., 2003; Venkatesh & Davis, 2000; Venkatesh et al., 2003).

TAM is directly connected to the current study because the independent variable is not simply the existence of digital accounting technology but the perceived and practical use of system quality, information quality, cloud accounting adoption, automation capability, and AI integration. A technically advanced accounting system may fail to improve decisions if users perceive it as difficult, unreliable, or disconnected from budgeting, forecasting, investment analysis, and risk assessment. Conversely, when accountants and managers perceive digital accounting systems as useful, accessible, and compatible with their work requirements, they are more likely to use these systems intensively and convert system outputs into managerial action. Recent AIS and fintech studies reinforce this logic by showing that emerging technologies such as cloud computing, AI, machine learning, blockchain, robotic process automation, and analytics are increasingly important in accounting practice, but their benefits depend on acceptance, implementation, and organizational use (Latiff et al., 2025). Thus, TAM supports the expected positive association between digital accounting system adoption and financial decision-making effectiveness.

3.2 DeLone and McLean Information Systems Success Model

The DeLone and McLean Information Systems Success Model provides the second and most directly aligned theoretical foundation for this study. The model explains information system success through system quality, information quality, service quality, use, user satisfaction, and net benefits (DeLone & McLean, 1992, 2003; Ojo, 2017; Seddon et al., 1999). System quality refers to the technical reliability, usability, integration, responsiveness, and functionality of a system. Information quality refers to the accuracy, relevance, completeness, timeliness, and understandability of system outputs. Net benefits refer to the positive consequences of system use for individuals and organizations. These dimensions correspond closely to the present study, which examines whether system quality, information quality, cloud accounting adoption,

automation capability, and AI integration improve financial decision-making effectiveness.

The model is especially useful because it explains why digital accounting systems affect decisions through information and system mechanisms rather than through technology ownership alone. If a system is unreliable, poorly integrated, or difficult to use, it may reduce trust and delay managerial action. If the information generated by the system is inaccurate, incomplete, or outdated, budgeting, investment evaluation, forecasting, and risk assessment may be weakened. By contrast, reliable systems that generate timely and accurate information can reduce uncertainty and support evidence-based decision-making. This logic supports the treatment of AIS reliability, information quality, system quality, and data integrity as core conditions for useful digital accounting outputs.

As a complementary perspective, Behavioral-Governance Fit Theory argues that performance outcomes depend on the fit between internal behavioral dynamics and governance quality (Alslaibi et al., 2026). Applied to digital accounting systems, this suggests that technological capabilities improve financial decision-making only when system outputs are aligned with user competence, internal controls, governance oversight, and managerial decision routines. This theory is therefore used only as a supporting lens, while TAM and the DeLone and McLean model remain the main theoretical foundations of the study.

3.3 Hypotheses Development

Digital accounting systems are expected to enhance financial decision-making because they improve the speed, completeness, reliability, and accessibility of financial information. Accounting information is central to decision quality because it reduces uncertainty, clarifies resource allocation alternatives, and supports the evaluation of financial consequences (Iselin, 1996; Monteiro et al., 2021; Nguyen et al., 2024). Prior AIS studies show that system quality and information quality are associated with improved organizational performance and decision-making outcomes (Anggraeni & Winarningsih, 2021; DeLone & McLean, 2003; Grande et al., 2011; Sunarta & Astuti, 2023). In digital environments, these benefits are stronger because accounting systems can integrate operational and financial data, produce real-time reports, automate calculations, and support management dashboards (Chen et al., 2012; Davenport, 1998; Romney & Steinbart, 2022; Warren et al., 2015).

H1: Digital accounting system adoption is positively associated with financial decision-making effectiveness.

Information quality is one of the strongest theoretical mechanisms linking accounting systems to financial decision-making. The DeLone and McLean model treats information quality as a core determinant of information system success, while accounting research shows that accurate, relevant, timely, and complete information improves managerial decision quality (DeLone & McLean, 1992, 2003; Iselin, 1996; Nguyen et al., 2024). In financial management, poor information quality can distort forecasts, weaken budgeting accuracy, misguide investment decisions, and increase

risk exposure. Conversely, high-quality accounting information enables managers to compare alternatives, detect financial problems, evaluate performance, and align strategic plans with available resources (Pereira et al., 2024; Monteiro et al., 2021; Pereira et al., 2024).

H2: Information quality is positively associated with financial decision-making effectiveness.

Cloud accounting adoption may enhance financial decision-making because it improves data accessibility, scalability, collaboration, and timeliness. Cloud-based accounting allows authorized users to access updated financial information from different locations and devices, reducing delays in reporting and increasing managerial responsiveness (Nguyen et al., 2025; Christauskas & Miseviciene, 2012; Hamzah et al., 2023). Studies on SMEs show that cloud accounting can reduce infrastructure costs, support financial monitoring, and improve reporting efficiency, although adoption depends on perceived benefits, organizational readiness, security concerns, and environmental pressures (Kartikasary et al., 2023; Moniruzzaman & Rahman, 2023; Sastararujji et al., 2022; Tawfik et al., 2022).

H3: Cloud accounting adoption is positively associated with financial decision-making effectiveness.

Automation and AI integration are expected to strengthen financial decision-making by shifting accounting work from repetitive manual processing toward analytical and strategic tasks. Robotic process automation can reduce routine accounting effort and improve process consistency, while AI can support anomaly detection, predictive analytics, classification, and decision support (Kokina & Davenport, 2017; Moffitt et al., 2018; Sutton et al., 2016). Big data analytics further expands the capacity of organizations to identify patterns, forecast outcomes, and convert large datasets into actionable insights (Akter et al., 2016; Chen et al., 2012; Richins et al., 2017; Vasarhelyi et al., 2015; Wamba et al., 2017).

H4: Automation capability is positively associated with financial decision-making effectiveness.

H5: Artificial intelligence integration is positively associated with financial decision-making effectiveness.

Taken together, these hypotheses do not assume that technology alone improves decisions. Rather, they position digital accounting systems as socio-technical capabilities whose effects depend on accurate data, reliable system design, accessible platforms, automated routines, AI-supported analysis, and competent users. This framing is consistent with prior evidence that information systems create value when technological investments are aligned with organizational strategy, business processes, and managerial decision needs (Akter et al., 2016; Bharadwaj et al., 2013; Brynjolfsson & Hitt, 2000; Wamba et al., 2017). Accordingly, each hypothesis is grounded in both accounting information quality logic and broader information systems value creation theory.

4. Methodology

4.1 Research Approach and Design

This study adopts a quantitative research approach to examine the role of digital accounting systems in enhancing financial decision-making effectiveness among businesses. A quantitative design is appropriate because the study tests associations between measurable constructs and evaluates the predictive relationships between digital accounting system dimensions and financial decision-making effectiveness. The study uses a descriptive and explanatory research design. The descriptive design was used to summarize respondents' perceptions of digital accounting systems and financial decision-making practices, while the explanatory design was applied to test the relationships between digital accounting system dimensions and financial decision-making effectiveness (Creswell & Creswell, 2018; Hair et al., 2019).

The methodological logic is consistent with prior accounting information systems, digital accounting, cloud accounting, fintech, governance, ESG, and information systems research that uses structured quantitative data to evaluate technology adoption, information quality, reporting quality, and performance-related outcomes (Akadi & Olaoye, 2024; Anggraeni & Winarningsih, 2021; Grande et al., 2011; Sunarta & Astuti, 2023; BinSaeed et al., 2023; Andonia, 2026). It is also consistent with accounting and finance studies that apply SPSS, STATA, regression, correlation analysis, SEM, PLS-SEM, or panel methods to examine technology, governance, reporting quality, and performance-related outcomes. These precedents justify the use of a structured quantitative design without overstating the methodological contribution of any single related study.

4.2 Population, Sample, and Data Collection

The study population consisted of large companies operating in Italy that use digital accounting systems in their accounting and financial management activities. For this study, large companies were defined as firms employing more than 250 employees. The accessible sampling frame was established through purposive identification of eligible firms using publicly available company directories, professional business listings, industry association networks, chambers of commerce sources, and the researchers' professional contacts. Firms were screened for two inclusion criteria before outreach: (1) they operated in Italy and employed more than 250 employees, and (2) they used digital accounting systems such as ERP-based accounting modules, cloud accounting platforms, accounting information systems, or comparable digitally enabled financial reporting tools. To preserve sectoral breadth while remaining aligned with the study's general business focus, the accessible pool primarily covered manufacturing, wholesale and retail trade, logistics and transportation, and professional and business services, which are sectors in which large firms commonly rely on integrated accounting and reporting systems.

The target respondents included business owners, accountants, financial managers, and finance officers, as these individuals are directly involved in

accounting processes and financial decision-making. The study used purposive outreach rather than a true probability-based sampling procedure. Specifically, a stratified purposive sampling logic was applied. First, eligible firms were purposively identified from the accessible sampling frame. Second, within the contacted firms, respondents were sought across four predefined respondent strata: business owners, accountants, financial managers, and finance officers. These strata were specified *ex ante* because they represent distinct roles in the production, interpretation, and use of accounting information for budgeting, forecasting, investment evaluation, and financial control. Thus, stratification was used to improve coverage across relevant respondent categories, but the final sample should be interpreted as a non-probability purposive sample rather than a statistically random sample.

Potential respondents were approached electronically. Initial contact was made through corporate email, professional networking channels, and direct communication with finance or administrative departments, with a request that the questionnaire be completed by individuals who met the inclusion criteria. The survey link was then distributed to eligible participants in the identified firms. The final sample comprised 250 usable responses. Accordingly, the sampling process reflects purposive access to qualified respondents within large Italian companies, with role-based stratification used to improve analytical coverage across respondent groups.

Primary data were collected through a structured questionnaire distributed electronically using an online survey format. Structured questionnaires are commonly used in quantitative AIS and technology adoption studies because they allow researchers to measure perceptions consistently across respondents and to analyze relationships among latent constructs (Creswell & Creswell, 2018; Hair et al., 2019). The questionnaire items were measured using a five-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree (Likert, 1932). This measurement approach is suitable for capturing respondent perceptions regarding system quality, information quality, cloud accounting adoption, automation capability, AI integration, and financial decision-making effectiveness.

The use of a structured questionnaire is also consistent with recent studies that collected perceptual data from managers, financial professionals, technical employees, or banking respondents to examine technology-enabled performance and reporting outcomes. For example, Amarna et al. (2025) used questionnaire data and PLS-SEM to analyze AI, corporate governance, and firm performance. This methodological precedent supports the appropriateness of measuring perceptions of digital accounting system quality and financial decision-making effectiveness through Likert-scale items, while the present study remains focused specifically on digital accounting systems.

4.3 Variables and Measurement

Digital Accounting Systems served as the independent variable and was measured through five dimensions: system quality, information quality, cloud accounting adoption, automation capability, and artificial intelligence integration. The questionnaire items were operationalized from the accounting information systems,

cloud accounting, and digital technology adoption literature and were adapted to fit the context of digital accounting systems and financial decision-making among businesses. Specifically, the items for system quality and information quality were aligned with the information systems success literature, while the items for cloud accounting adoption, automation capability, and artificial intelligence integration were adapted from prior digital accounting, cloud accounting, and technology-enabled accounting studies cited in the literature review. The items for Financial Decision-Making Effectiveness were designed to capture the five decision-related dimensions examined in this study, namely budgeting quality, investment decision-making, financial forecasting, risk assessment, and strategic planning. All questionnaire items were measured on a five-point Likert scale, and construct scores were computed by averaging the item responses for each construct so that higher values indicate stronger perceived presence of the relevant construct. For transparency, Table X reports the number of items used to measure each construct, the main literature basis for item adaptation, the Cronbach's alpha coefficient, and the scale-computation approach

Financial Decision-Making Effectiveness served as the dependent variable and was measured through budgeting quality, investment decision-making, financial forecasting, risk assessment, and strategic planning. These dimensions reflect core financial management processes that rely on accounting information. The conceptualization is consistent with the argument that accounting systems create value when they improve managerial decision quality rather than merely producing transaction records (Iselin, 1996; Monteiro et al., 2021; Nguyen et al., 2024).

4.4 Validity, Reliability, and Data Analysis

To ensure validity, the questionnaire was reviewed by academic and professional experts for content validation. Expert review helped ensure that the items were conceptually aligned with the study variables and were suitable for respondents involved in accounting and financial decision-making. Reliability was assessed using Cronbach's alpha, with a threshold value of 0.70 or above considered acceptable (Cronbach, 1951; Nunnally & Bernstein, 1994). This threshold is widely used in social science and accounting research to assess internal consistency reliability. In addition, the construct-level reliability results, item counts, and measurement sources are reported in Table X to improve transparency regarding instrument development and operationalization. This threshold is widely used in social science and accounting research to assess internal consistency reliability.

Data were analyzed using SPSS. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to summarize the demographic characteristics of respondents and the measured study variables. Inferential analysis was conducted using Pearson correlation and multiple regression analysis to test the association and predictive relationship between digital accounting system dimensions and financial decision-making effectiveness. Pearson correlation was used to assess the strength and direction of the relationship between digital accounting systems and financial decision-making effectiveness. Multiple regression

was used to estimate the relative association of system quality, information quality, cloud accounting adoption, automation capability, and AI integration with financial decision-making effectiveness. The level of statistical significance was set at 0.05.

The choice of SPSS, descriptive statistics, Pearson correlation, and multiple regression is therefore appropriate for the study's objective and is aligned with related accounting and finance studies that used statistical packages and regression-based techniques to test associations among governance, reporting, fintech, and financial performance variables. Although more advanced techniques such as SEM and panel regression can be useful in future research, the present cross-sectional design justifies the use of correlation and regression to examine predictive relationships among the measured constructs.

Ethical considerations were observed throughout the research process. Respondents were informed about the purpose of the study, participation was voluntary, confidentiality and anonymity were maintained, and collected data were used strictly for academic research purposes. These procedures are important because the study relied on questionnaire-based responses from professionals and business decision-makers.

5. Results

The study analyzed responses from 250 participants comprising business owners, accountants, financial managers, and finance officers from various industries. Before presenting the descriptive and inferential findings, Table 1 reports the operationalization and internal consistency of the study constructs. The table shows the number of items used to measure each construct, indicates whether the items were adapted from prior literature, reports the Cronbach's alpha value for each construct, and clarifies that construct scores were computed as the mean of the corresponding item responses. Reporting these results improves transparency regarding the measurement properties of the questionnaire and allows readers to evaluate the internal consistency of the scales used in the analysis.

TABLE 1. Measurement Operationalization and Reliability of Constructs

Construct	Main dimensions reflected in the construct	Number of items	Item source/basis	Scale computation	Cronbach's alpha
System Quality	reliability, usability, integration, technical performance	6	Adapted from AIS / IS success literature	Mean of item scores	0.84
Information	accuracy,	4	Adapted from AIS /	Mean of item	0.94

Quality	relevance, timeliness, completeness, usefulness		IS success literature	scores
Cloud Accounting Adoption	cloud-based use of accounting platforms, accessibility, remote financial data access	6	Adapted from cloud accounting literature	Mean of item scores 0.97
Automation Capability	extent of automation in accounting tasks and processes	6	Adapted from digital accounting / automation literature	Mean of item scores 0.88
AI Integration	use of intelligent tools for analysis, forecasting, anomaly detection, and decision support	4	Adapted from AI-in-accounting literature	Mean of item scores 0.83
Financial Decision-Making Effectiveness	budgeting quality, investment decision-making, financial forecasting, risk assessment, strategic planning	6	Adapted/developed in line with financial decision-making literature	Mean of item scores 0.90

The demographic analysis in table 2 provides insights into the characteristics of the respondents and confirms that the sample represents businesses utilizing digital accounting systems.

TABLE 2. Distribution of Respondents by Gender

Gender	Frequency	Percentage (%)
Male	145	58.0
Female	105	42.0
Total	250	100.0

The results indicate that 58.0% of respondents were male, while 42.0% were

female, suggesting relatively balanced representation of both genders.

TABLE 3. Distribution of Respondents by Position

Position	Frequency	Percentage (%)
Business Owner	52	20.8
Accountant	88	35.2
Financial Manager	65	26.0
Finance Officer	45	18.0
Total	250	100.0

In table 3 Accountants constituted the largest group of respondents (35.2%), followed by financial managers (26.0%), business owners (20.8%), and finance officers (18.0%). This distribution is appropriate for the study because accountants and financial managers are directly involved in preparing, interpreting, and using accounting information for financial decision-making.

TABLE 4. Adoption of Digital Accounting Systems

Adoption Level	Frequency	Percentage (%)
Low	30	12.0
Moderate	70	28.0
High	150	60.0
Total	250	100.0

The results in Table 4 reveal that 60.0% of businesses reported a high level of digital accounting system adoption, indicating widespread utilization of digital accounting technologies. This finding suggests that digital accounting systems are becoming common tools in business accounting practice rather than optional or peripheral applications.

TABLE 5. Descriptive Statistics of Digital Accounting System Variables

Variable	Mean	Standard Deviation
System Quality	4.31	0.58
Information Quality	4.27	0.62

Cloud Accounting Adoption	4.15	0.71
Automation Capability	4.36	0.54
AI Integration	4.02	0.77
Financial Decision-Making Effectiveness	4.40	0.51

The mean scores in table 5 indicate strong agreement among respondents that digital accounting systems possess high levels of quality, automation, and information reliability. Financial decision-making effectiveness recorded the highest overall mean score ($M = 4.40$), suggesting positive perceptions regarding the influence of digital accounting technologies. Automation capability recorded a high mean score ($M = 4.36$), indicating that businesses recognize the value of automated accounting processes in reducing manual workload and improving process consistency. AI integration recorded the lowest mean among the digital accounting dimensions ($M = 4.02$), although the score still indicates agreement. This pattern suggests that AI is present but may be less mature than general automation and system quality in the sampled businesses.

TABLE 6. Correlation Matrix

Variable	DAS	FDM
Digital Accounting Systems (DAS)	1.000	0.742**
Financial Decision-Making Effectiveness (FDM)	0.742**	1.000

Note. ** $p < 0.01$.

The results in table 6 show a strong positive correlation ($r = 0.742$, $p < 0.01$) between digital accounting systems and financial decision-making effectiveness. This suggests that improvements in digital accounting capabilities are associated with better financial decision-making outcomes. The strength of the association supports the argument that digital accounting systems are not merely administrative tools but are closely connected to managerial decision quality.

TABLE 7. Model Summary

Statistic	Value
R	0.782
R Square	0.611

Adjusted R Square	0.603
Standard Error	0.418

The model summary in table 7 explains approximately 61.1% of the variation in financial decision-making effectiveness, indicating strong explanatory power. The adjusted R square value of 0.603 suggests that the explanatory capacity remains substantial after accounting for the number of predictors included in the model.

TABLE 8. ANOVA Results

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	68.294	5	13.659	78.244	0.000
Residual	42.592	244	0.175		
Total	110.886	249			

The ANOVA results in table 8 indicate that the regression model is statistically significant ($F = 78.244$, $p < 0.001$), confirming that the independent variables collectively influence financial decision-making effectiveness. This result provides evidence that the combined dimensions of digital accounting systems significantly explain differences in financial decision-making effectiveness among the surveyed businesses.

TABLE 9. Regression Coefficients

Predictor	Beta (β)	t-value	p-value
Constant	0.874	3.426	0.001
System Quality	0.241	4.892	0.000
Information Quality	0.287	5.476	0.000
Cloud Accounting Adoption	0.164	3.187	0.002
Automation Capability	0.219	4.214	0.000
AI Integration	0.152	2.985	0.003

The regression results table 9 demonstrate that all dimensions of digital accounting systems significantly contribute to financial decision-making effectiveness. Information quality emerged as the strongest predictor ($\beta = 0.287$), followed by system quality ($\beta = 0.241$), automation capability ($\beta = 0.219$), cloud accounting

adoption ($\beta = 0.164$), and AI integration ($\beta = 0.152$). These results support H1 through H5 and indicate that businesses benefit from digital accounting systems through multiple complementary mechanisms. The strongest role of information quality suggests that the usefulness of digital accounting systems depends primarily on whether the systems generate accurate, timely, relevant, and complete information for managerial decisions.

6. Discussion

The findings support H1 by showing that digital accounting system adoption is positively associated with financial decision-making effectiveness. This result is consistent with AIS and information systems success research, which argues that system quality and information quality enhance system usefulness and organizational benefits (DeLone & McLean, 1992, 2003; Grande et al., 2011; Ojo, 2017; Seddon et al., 1999). The result also aligns with studies showing that digital transformation and AIS capabilities support financial performance, internal control, and decision-making quality (Meraghni et al., 2021; Nguyen et al., 2024; BinSaeed et al., 2023). The implication is that digital accounting systems are closely linked to managerial information use and can be interpreted as important elements of contemporary managerial infrastructure.

The findings support H2 because information quality was the strongest predictor of financial decision-making effectiveness. This confirms that accurate, relevant, timely, and complete financial information is central to budgeting, forecasting, investment evaluation, risk assessment, and strategic planning (Iselin, 1996; Pereira et al., 2024; Monteiro et al., 2021; Pereira et al., 2024). The finding is theoretically consistent with the DeLone and McLean model, which positions information quality as a key determinant of IS success and net benefits (DeLone & McLean, 2003). It also supports the argument that managers cannot make high-quality financial decisions unless the information environment is reliable. Therefore, businesses should view information quality controls as part of financial governance rather than as a purely technical matter.

The findings also support H3 by showing that cloud accounting adoption is significantly and positively associated with financial decision-making effectiveness. This result is consistent with prior cloud accounting studies showing that cloud systems improve accessibility, scalability, reporting speed, and financial management efficiency (Nguyen et al., 2025; Christauskas & Miseviciene, 2012; Hamzah et al., 2023; Tawfik et al., 2022). Cloud accounting is particularly useful for businesses that require timely access to financial data across locations, branches, or remote work arrangements. However, the positive effect of cloud accounting should be interpreted alongside the need for cybersecurity, privacy, backup, and access control procedures (Nurwanah, 2024; Wahhab & Maash, 2021).

The findings support H4 and H5 by showing that automation capability and AI integration are significantly and positively associated with financial decision-making effectiveness. Automation reduces manual errors and processing time, while AI and

analytics support forecasting, anomaly detection, risk assessment, and data-driven decision-making (Kokina & Davenport, 2017; Moffitt et al., 2018; Sutton et al., 2016; Vasarhelyi et al., 2015; Warren et al., 2015). These findings reinforce the view that digital accounting systems create value when technological capabilities are combined with accounting expertise, organizational readiness, and managerial use of information. AI integration had a significant but smaller coefficient than information quality and system quality, suggesting that AI benefits may depend on foundational system reliability and data quality. In other words, AI cannot compensate for weak accounting data or poor system design.

The significant but smaller AI coefficient is also compatible with the complementary BGFT interpretation discussed earlier: advanced digital tools contribute most when they fit the organization's information reliability, control environment, user behavior, and governance routines.

The results also contribute to the broader debate on digital transformation. Bharadwaj et al. (2013) and Vial (2019) emphasize that digital transformation is not merely technology adoption but a transformation in organizational processes and value creation. The present findings are consistent with this argument by indicating that digital accounting systems are linked to financial decision processes rather than merely to technology ownership alone. Businesses that use digital systems to support budgeting, investment evaluation, forecasting, and risk assessment are more likely to experience decision benefits. This aligns with Brynjolfsson and Hitt (2000), who argue that information technology contributes to performance when accompanied by organizational transformation.

The findings also have implications for the role of accounting professionals. As automation and AI expand, accountants are expected to move from transaction processing toward analysis, interpretation, control, and strategic advice. Internet-related and digital technologies are reshaping accountants' work, responsibilities, required competencies, and relationships with organizational information systems (Moll & Yigitbasioglu, 2019). The accounting profession therefore requires stronger digital competencies in data analytics, cloud systems, AI-supported reporting, cybersecurity awareness, and information systems governance.. Richins et al. (2017) and Warren et al. (2015) argue that big data creates both opportunities and threats for accounting. The present results support the opportunity side, but only when organizations invest in the skills and controls necessary to convert digital outputs into reliable decisions.

7. Conclusion and Implications

This study finds that digital accounting systems are positively associated with financial decision-making effectiveness among businesses. Across the estimated model, information quality emerged as the strongest predictor, followed by system quality, automation capability, cloud accounting adoption, and AI integration, indicating that decision benefits depend most strongly on the quality of the accounting information environment.

The study contributes by examining digital accounting systems as a multi-dimensional capability rather than as a single technology and by linking that capability directly to financial decision-making effectiveness. The findings support the relevance of TAM and the DeLone and McLean model in explaining why digital accounting systems create value when users can rely on accessible systems that generate timely, accurate, and decision-useful information. Overall, the evidence suggests that digital accounting systems strengthen decision-making when they are supported by sound data governance, user competence, and appropriate organizational controls.

The findings indicate that managers should evaluate digital accounting systems primarily as decision-support infrastructure. In practice, this means prioritizing system quality and information quality when selecting or upgrading accounting platforms, because the usefulness of digital accounting depends less on technology ownership alone than on the reliability, timeliness, and interpretability of the information generated for budgeting, forecasting, investment evaluation, and risk assessment.

For accountants and financial managers, the results imply that digitalization increases the value of analytical judgment rather than replacing it. Organizations should therefore strengthen data validation, reconciliation, reporting discipline, and user capability so that automated and AI-supported outputs are interpreted correctly and incorporated into financial decisions with appropriate professional oversight.

For implementation, the evidence also suggests that cloud, automation, and AI investments should be accompanied by governance safeguards. Firms should align access controls, cybersecurity procedures, backup arrangements, staff training, and review mechanisms with their level of digital adoption so that accessibility and efficiency gains are not undermined by weak control environments.

8. Limitations and Future Research

Although the study provides useful evidence, several limitations should be acknowledged. First, the study used a cross-sectional design, which limits the ability to make causal claims over time. The findings show significant associations, but they do not demonstrate how digital accounting adoption changes decision-making effectiveness longitudinally or causally. A longitudinal design would provide stronger evidence regarding the long-term impact of digital accounting systems.

Second, the study relied on questionnaire-based perceptions from business owners, accountants, financial managers, and finance officers. Although these respondents are appropriate because they are directly involved in accounting and financial decision-making, perception-based data may be affected by respondent bias, social desirability bias, or differences in individual experience. Future studies could combine survey data with archival financial data, system usage logs, or case-study evidence.

Third, the study examined businesses across a general business context rather than focusing on a specific industry. Digital accounting system needs may vary across

manufacturing, banking, healthcare, retail, services, and technology firms. Industry-specific regulations, transaction complexity, reporting requirements, and technological maturity may influence the effect of digital accounting systems on decision-making. Therefore, the findings should be interpreted as general evidence rather than industry-specific conclusions.

Fourth, the study did not directly measure cybersecurity maturity, implementation quality, user training, or organizational readiness, even though these factors may influence the effectiveness of digital accounting systems. Fifth, the study measured AI integration as one dimension but did not distinguish between different types of AI applications, such as expert systems, machine learning, natural language processing, anomaly detection, or forecasting models. Future research can provide a more detailed analysis of specific AI tools and their decision-making effects.

Future research should conduct longitudinal studies to examine the long-term effects of digital accounting system adoption on financial decision-making. Such studies could track organizations before and after the implementation of cloud accounting, ERP, automation, or AI tools. Longitudinal evidence would clarify whether decision-making improvements are immediate, delayed, or dependent on learning and system maturity.

Future studies should also investigate industry-specific impacts of digital accounting systems across sectors such as manufacturing, healthcare, banking, retail, logistics, and professional services. Different sectors have different data needs, reporting cycles, risk profiles, and regulatory requirements. Industry-level analysis would help identify which digital accounting capabilities matter most in each context. Further research should examine emerging technologies such as blockchain, machine learning, predictive analytics, robotic process automation, and continuous auditing. Blockchain may influence accounting assurance and transaction verification, while predictive analytics may improve forecasting and risk assessment. Research can also examine the interaction between AI integration and AIS reliability, especially in contexts where system integrity, privacy, and cybersecurity are critical. Also explore cybersecurity and AIS reliability as moderators or mediators in the relationship between digital accounting systems and financial decision-making. As accounting systems become more interconnected and cloud-based, cybersecurity risks may directly affect the reliability of financial information. Finally, future research may use SEM, PLS-SEM, mixed-method designs, experimental approaches, or case studies to provide deeper evidence. SEM could test mediating mechanisms such as information quality, user satisfaction, or perceived usefulness. Mixed-method research could explain how managers actually use accounting dashboards, cloud reports, automated alerts, and AI outputs in decision-making. Case studies could provide practical insight into implementation challenges, training needs, and organizational change processes.

Declarations

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Conflict of Interest

The authors declare that they have no competing interests.

Ethics Approval

This study was conducted in accordance with the ethical principles of the Declaration of Helsinki. The study involved voluntary survey participation by adult respondents. According to the applicable institutional requirements, formal ethical approval was not required for this type of non-interventional questionnaire-based research.

Consent to Participate

Informed consent was obtained from all participants prior to their participation in the study.

Consent for Publication

Not applicable.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Authors' Contributions

FA contributed to conceptualization and methodology., data collection, formal analysis, and writing of the original draft., review, and editing. All authors read and approved the final manuscript.

Clinical Trial Number:

Not applicable.

Use of Artificial Intelligence:

The authors declare that generative artificial intelligence (AI) tools were used only to assist with language editing and clarity of expression during the preparation of the manuscript. The authors reviewed and edited all AI-assisted outputs and take full responsibility for the content, interpretation, and conclusions of the manuscript. No AI tools were used to generate, manipulate, or analyze the research data or to produce the scientific results of the study.

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