



The Role of Accounting Information Systems in Supporting Small and Medium-Sized Enterprises: An Applied Economic Study in Basra and the Gulf Countries

Hisham Noori Hussain Al-Hashimy

Economic Studies Department, Basrah & Arab Gulf Studies Center, University of Basrah, Basrah, 61004, Iraq

* Corresponding Author: **Hisham Noori Hussain Al-Hashimy**

Article Info

P-ISSN: 3051-3502

E-ISSN: 3051-3510

Volume: 07

Issue: 02

Received: 07-05-2026

Accepted: 06-06-2026

Published: 05-07-2026

Page No: 41-57

Abstract

Purpose: This study investigates the role of Accounting Information Systems (AIS) in enhancing the performance of small and medium-sized enterprises (SMEs). The research evaluates the influence of AIS on managerial decision-making, operational efficiency, financial control, and business performance within the organisational setting of Al-Naqsh Engineering Company in Basra, Iraq.

Design/methodology/approach: A quantitative research approach was employed using a structured questionnaire administered to employees and managers of Al-Naqsh Engineering Company. Responses were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The analytical procedure included assessing the measurement model to confirm construct reliability and validity, followed by examining the structural model to test the proposed relationships among the study variables.

Findings: The results indicate that Accounting Information Systems have a positive and statistically significant effect on managerial decision-making, operational efficiency, financial control, and business performance. The findings suggest that the effective utilisation of AIS improves the quality, accuracy, and timeliness of accounting information, strengthens internal control practices, and supports more effective managerial decisions. These improvements are associated with higher organisational effectiveness and stronger business performance among small and medium-sized enterprises.

Practical Implications: The findings emphasise the value of strengthening Accounting Information Systems and enhancing employee capabilities in the effective use of accounting technologies. Firms that invest in these areas are better positioned to improve financial management, optimise operational processes, reinforce internal control, and sustain organisational performance within an increasingly competitive business environment.

Originality/value: This study provides empirical evidence on the contribution of Accounting Information Systems to organisational performance within the Iraqi SME context. The research expands the existing body of knowledge by demonstrating the importance of AIS in supporting managerial decision-making, operational efficiency, financial control, and business performance. The findings offer practical guidance for firms and practitioners seeking to improve organisational effectiveness through the strategic implementation of Accounting Information Systems.

Keywords: Accounting Information Systems, Small and Medium-Sized Enterprises, Managerial Decision-Making, Operational Efficiency, Financial Control, Business Performance, Iraq

1. Introduction

Small and medium-sized enterprises (SMEs) are widely recognised as a major contributor to economic growth, employment generation, innovation, and private sector development. Across both developed and developing economies, SMEs stimulate entrepreneurial activity, strengthen local industries, and contribute to national income. Their economic significance is particularly evident in developing countries, where they account for a substantial proportion of business establishments and create considerable employment opportunities. Despite this contribution, many SMEs continue to encounter operational and

financial constraints that limit organisational growth and long-term sustainability. Common challenges include limited access to reliable financial information, weaknesses in internal control, inefficient utilisation of organisational resources, and delays in managerial decision-making, all of which influence business performance (Nguyen *et al.*, 2023) ^[30]. Advances in information technology have transformed accounting from a primarily record-keeping function into an integrated source of organisational intelligence. Accounting Information Systems (AIS) have become an essential component of modern business operations by supporting the collection, processing, storage, and reporting of financial information. Beyond meeting statutory reporting requirements, AIS provides managers with accurate, timely, and relevant information that supports planning, performance evaluation, resource allocation, and strategic decision-making. Consequently, organisations increasingly regard Accounting Information Systems as a strategic organisational capability rather than merely an administrative accounting function (Al-Matari *et al.*, 2022) ^[31].

The growing adoption of digital accounting technologies has encouraged firms of different sizes to integrate AIS into their operational activities. For small and medium-sized enterprises, effective implementation of AIS can improve the quality of financial reporting, strengthen internal control procedures, reduce administrative inefficiencies, and facilitate evidence-based managerial decisions. Access to reliable accounting information enables managers to evaluate organisational performance, monitor financial activities, identify operational issues at an early stage, and respond more effectively to changing market conditions. These capabilities are particularly valuable for SMEs, where financial and human resources are often constrained, and managerial decisions directly influence organisational sustainability (Subramanian & Suresh, 2025) ^[41]. Managerial decision-making represents one of the principal organisational functions supported by Accounting Information Systems. Decisions related to budgeting, investment, procurement, pricing strategies, and operational planning depend on the availability of accurate and timely accounting information. Organisations equipped with effective AIS are generally better positioned to analyse financial information, reduce uncertainty, improve planning accuracy, and support informed managerial judgement. Conversely, inadequate accounting systems may result in delayed information, reduced transparency, and less effective organisational decision-making (Tran Thanh Thuy, 2025) ^[44]. Accounting Information Systems also contribute substantially to operational efficiency by automating routine accounting activities, reducing manual processing errors, accelerating transaction recording, and improving the accessibility of financial information across organisational departments. These improvements enable firms to optimise resource utilisation, reduce unnecessary operational costs, and improve the coordination of business activities. Such benefits are particularly important for SMEs because operational efficiency directly influences productivity, service quality, and organisational competitiveness (Al-Hakimi *et al.*, 2023) ^[1]. Financial control constitutes another critical organisational outcome associated with the effective implementation of Accounting Information Systems. Reliable accounting systems support financial monitoring through accurate transaction recording, continuous budget control, compliance with internal policies, and transparent

financial reporting. By strengthening internal control mechanisms, AIS helps organisations safeguard financial resources, improve accountability, reduce the likelihood of reporting errors, and support sound financial governance. These capabilities provide managers with greater confidence in organisational financial information and enhance the quality of financial management (Auliyah & Agit, 2024) ^[8]. The combined influence of improved managerial decision-making, operational efficiency, and financial control is expected to strengthen overall business performance. Business performance extends beyond financial outcomes and includes improvements in organisational productivity, operational effectiveness, service quality, customer satisfaction, and long-term competitiveness. Previous empirical studies have reported positive associations between Accounting Information Systems and organisational performance; however, the reported findings vary across industrial sectors, organisational characteristics, and national contexts. These inconsistencies indicate that additional empirical evidence remains necessary, particularly within developing economies where the adoption and utilisation of digital accounting technologies continue to evolve (Polzer *et al.*, 2023) ^[33].

Although the Accounting Information Systems literature has expanded considerably during the past decade, much of the existing evidence has been derived from large corporations, financial institutions, manufacturing firms, or public sector organisations. Comparatively limited attention has been devoted to small and medium-sized enterprises operating in Iraq. Furthermore, relatively few studies have examined the simultaneous influence of AIS on managerial decision-making, operational efficiency, financial control, and business performance within a single empirical framework. This limitation restricts the current understanding of AIS implementation in Iraqi SMEs and highlights the need for additional context-specific evidence. The Iraqi business environment presents unique organisational and economic characteristics that justify further investigation. SMEs continue to operate under conditions characterised by economic transformation, technological development, and increasing market competition. Within this environment, organisations require reliable accounting information to improve operational effectiveness, strengthen financial management practices, and support sustainable business growth. Examining the organisational contribution of Accounting Information Systems within Iraqi SMEs therefore provides valuable empirical evidence for managers, practitioners, and policymakers seeking to improve organisational performance through digital accounting technologies. Accordingly, this study examines the role of Accounting Information Systems in supporting small and medium-sized enterprises through an empirical investigation conducted at Al-Naqsh Engineering Company in Basra, Iraq. The research evaluates the influence of Accounting Information Systems on Managerial Decision-Making, Operational Efficiency, Financial Control, and Business Performance using Partial Least Squares Structural Equation Modelling (PLS-SEM). The findings are expected to contribute to the Accounting Information Systems literature by providing empirical evidence from an emerging economy while offering practical guidance for firms seeking to strengthen organisational performance through the effective implementation of Accounting Information Systems.

2. Literature Review and Hypotheses Development

2.1. Accounting Information Systems and Managerial Decision-Making

Accounting Information Systems (AIS) have become an integral component of contemporary organisations by facilitating the collection, processing, storage, and reporting of financial information required for organisational planning and control. As business activities become increasingly information-driven, organisations depend on Accounting Information Systems to produce accurate, timely, and relevant financial information that supports managerial activities at both strategic and operational levels. The role of AIS has consequently expanded beyond traditional accounting functions to encompass organisational planning, performance evaluation, financial management, and decision support (Yoshikuni *et al.*, 2023) ^[47]. Managerial Decision-Making (MDM) represents one of the most important organisational functions influenced by the quality of accounting information. Decisions relating to budgeting, pricing, procurement, investment, production planning, and resource allocation require reliable financial information that accurately reflects organisational conditions. Accounting Information Systems improve the availability and quality of such information by integrating financial data across organisational functions into a unified reporting environment. This integration enables managers to evaluate organisational performance more effectively, reduce information uncertainty, and select appropriate courses of action based on objective financial evidence rather than subjective judgement (Crawford & Jabbour, 2024) ^[14].

Within small and medium-sized enterprises, managerial decisions frequently determine organisational survival and long-term competitiveness. SMEs often operate under financial and operational constraints that require efficient utilisation of available resources. Under these conditions, the quality of accounting information becomes particularly important because inaccurate or delayed financial information may lead to ineffective planning, inefficient resource allocation, and weaker organisational performance. Effective implementation of Accounting Information Systems enables managers to continuously monitor organisational activities, evaluate financial performance, identify operational challenges, and respond promptly to changing business conditions. These capabilities strengthen managerial effectiveness while improving organisational adaptability in competitive markets (AlQahtani *et al.*, 2025) ^[7]. The Resource-Based Theory provides an appropriate theoretical foundation for explaining the relationship between Accounting Information Systems and Managerial Decision-Making. The theory proposes that valuable organisational resources contribute to sustainable competitive advantage by enhancing organisational capabilities and improving decision quality (Nayak *et al.*, 2023) ^[29]. From this perspective, Accounting Information Systems represent a strategic organisational resource because they improve information quality, strengthen analytical capability, and support evidence-based managerial decisions. Firms capable of effectively implementing and utilising AIS are therefore expected to achieve superior decision-making performance compared with organisations relying on conventional accounting procedures. Previous empirical studies consistently report a positive relationship between AIS and managerial decision quality. Organisations implementing integrated accounting systems generally

demonstrate improvements in financial planning, budgeting accuracy, performance monitoring, and strategic decision-making. These findings indicate that AIS contributes not only to financial reporting efficiency but also to broader organisational decision processes that influence overall business performance. Accordingly, the following hypothesis is proposed:

H1: Accounting Information Systems (AIS) have a positive and significant effect on Managerial Decision-Making (MDM).

2.2. Accounting Information Systems and Operational Efficiency

Operational Efficiency (OE) reflects an organisation's ability to utilise available resources effectively while minimising operational costs, processing time, and administrative inefficiencies. Improving operational efficiency has become an important organisational objective because greater efficiency contributes directly to productivity, service quality, profitability, and long-term organisational sustainability. The increasing adoption of digital technologies has substantially transformed organisational operations by automating routine activities, improving information accessibility, and strengthening coordination among organisational departments. Accounting Information Systems contribute to Operational Efficiency by integrating accounting activities with organisational operations through automated financial processing, real-time information availability, and improved reporting capability. Automated accounting procedures reduce manual processing, minimise data-entry errors, accelerate transaction recording, and improve the accuracy of financial reports. These improvements reduce administrative burdens while enabling managers to obtain relevant financial information more rapidly for operational planning and performance evaluation (Ren, 2022) ^[36]. For small and medium-sized enterprises, improvements in Operational Efficiency are particularly significant because SMEs generally operate with limited financial, technological, and human resources. Efficient utilisation of available resources directly influences organisational productivity and competitiveness. Accounting Information Systems assist firms in monitoring operational performance, controlling expenditure, managing inventories, evaluating resource utilisation, and supporting coordination across different functional areas. Access to timely financial information enables managers to identify operational inefficiencies, implement corrective actions, and improve overall organisational effectiveness. The relationship between Accounting Information Systems and Operational Efficiency is supported by organisational information processing theory, which argues that organisations improve performance when information systems enhance the acquisition, processing, and distribution of information required for organisational decision-making (Al-Matari *et al.*, 2022) ^[3]. Similarly, the Technology Acceptance Model suggests that organisations derive greater operational benefits when information technologies are effectively integrated into routine organisational activities (Rahimi & Oh, 2025) ^[34]. These theoretical perspectives indicate that Accounting Information Systems improve operational capability by increasing information accessibility, reducing processing delays, and facilitating efficient coordination throughout the organisation. Empirical evidence has consistently demonstrated positive associations between Accounting

Information Systems and Operational Efficiency across a variety of organisational settings. Organisations implementing modern AIS frequently report improvements in administrative productivity, transaction processing speed, reporting accuracy, resource utilisation, and organisational coordination. These improvements contribute to higher levels of operational effectiveness and strengthen organisational competitiveness. Based on the theoretical arguments and empirical evidence presented above, the following hypothesis is proposed:

H2: Accounting Information Systems (AIS) have a positive and significant effect on Operational Efficiency (OE).

2.3. Accounting Information Systems and Financial Control

Financial Control (FC) represents a fundamental organisational process that supports the effective management of financial resources, promotes accountability, and safeguards organisational assets. Effective financial control enables firms to monitor financial transactions, evaluate budget performance, maintain compliance with internal policies, and identify financial irregularities before they affect organisational performance. As organisations increasingly depend on digital technologies to manage financial activities, the importance of reliable financial control systems has become more pronounced, particularly within small and medium-sized enterprises where financial resources are often limited. Accounting Information Systems (AIS) contribute substantially to Financial Control by integrating financial data into a centralised information environment that supports accurate transaction recording, continuous financial monitoring, and timely reporting. Through automated accounting procedures, AIS reduces manual processing errors, strengthens audit trails, and improves the reliability of financial information. These capabilities enhance organisational transparency and provide managers with comprehensive financial information to monitor organisational performance and maintain effective internal control procedures (Olatinsu & Eke, 2025) ^[32]. For small and medium-sized enterprises, maintaining effective Financial Control is essential for preserving financial stability and supporting sustainable organisational growth. SMEs commonly operate with restricted financial resources and therefore require reliable accounting information to monitor expenditure, control cash flow, evaluate operational costs, and maintain financial discipline. Accounting Information Systems support these activities by providing timely financial information that enables managers to identify potential financial risks, evaluate budget performance, and implement corrective actions when necessary. Consequently, effective utilisation of AIS contributes to stronger financial governance and more efficient management of organisational resources (Al-Hashimy *et al.*, 2026) ^[2].

The relationship between Accounting Information Systems and Financial Control can also be explained through Agency Theory. The theory proposes that information asymmetry between organisational stakeholders can be reduced through reliable monitoring mechanisms and transparent reporting practices (Sun *et al.*, 2022) ^[42]. Accounting Information Systems support these objectives by improving the quality, accuracy, and accessibility of financial information while strengthening accountability throughout the organisation. Reliable financial information enables managers to monitor

organisational activities more effectively, supports compliance with established financial procedures, and enhances confidence in organisational reporting. Empirical evidence consistently demonstrates that organisations implementing integrated Accounting Information Systems improve financial monitoring, budgetary control, reporting accuracy, and internal control effectiveness. Previous studies indicate that AIS contributes to reducing financial errors, improving compliance with organisational policies, and strengthening financial governance. These findings suggest that Accounting Information Systems represent an important organisational capability for enhancing Financial Control within small and medium-sized enterprises. Accordingly, the following hypothesis is proposed:

H3: Accounting Information Systems (AIS) have a positive and significant effect on Financial Control (FC).

2.4. Financial Control and Business Performance

Business Performance (BP) reflects the extent to which an organisation achieves its strategic and operational objectives through the efficient management of available resources. Organisational performance is commonly evaluated using both financial and non-financial indicators, including profitability, productivity, operational effectiveness, customer satisfaction, market competitiveness, and long-term organisational sustainability. Sustained business performance depends on the availability of effective management practices that support organisational efficiency and sound financial decision-making. Financial Control contributes directly to Business Performance by improving financial discipline, strengthening organisational accountability, reducing unnecessary expenditure, and promoting efficient utilisation of organisational resources. Organisations that maintain effective financial control systems are generally better equipped to manage cash flow, monitor financial performance, control operational costs, and respond promptly to financial risks. These capabilities strengthen organisational resilience while supporting sustainable business development and long-term competitiveness (Olaleye *et al.*, 2024) ^[31]. Within small and medium-sized enterprises, Financial Control assumes particular importance because financial limitations often influence operational continuity and strategic planning. Reliable financial monitoring enables managers to evaluate organisational performance accurately, identify deviations from planned financial objectives, and introduce corrective actions before operational efficiency is compromised. Effective financial control also enhances the credibility of financial reporting, improves managerial confidence in organisational information, and strengthens relationships with investors, financial institutions, suppliers, and other stakeholders.

Organisational Control Theory provides a useful explanation for the relationship between Financial Control and Business Performance. The theory argues that effective monitoring and control mechanisms improve organisational outcomes by aligning operational activities with strategic objectives and facilitating timely managerial intervention when performance deviates from expected targets. Financial information generated through effective control systems therefore supports more efficient resource utilisation, stronger financial management, and improved organisational performance. Previous empirical studies have consistently

reported positive relationships between Financial Control and Business Performance across a wide range of organisational settings. Firms characterised by effective financial monitoring and robust internal control systems generally demonstrate stronger profitability, improved operational efficiency, greater financial stability, and enhanced organisational effectiveness. These findings indicate that Financial Control represents a significant organisational capability contributing to sustainable business performance. Based on the preceding theoretical discussion and empirical evidence, the following hypothesis is proposed:

H4: Financial Control (FC) has a positive and significant effect on Business Performance (BP).

2.5. Managerial Decision-Making and Business Performance

Managerial Decision-Making (MDM) is widely regarded as a fundamental organisational capability that shapes the achievement of strategic objectives and influences overall business performance. Organisations operate within increasingly competitive and uncertain environments where decisions concerning investment, budgeting, pricing, procurement, and operational planning require accurate, relevant, and timely information. The quality of these decisions affects organisational effectiveness because managerial actions determine how financial, human, and operational resources are allocated to achieve strategic goals. Business Performance (BP) depends not only on the availability of organisational resources but also on how effectively managers utilise those resources to create value. Well-informed managerial decisions support efficient resource allocation, improve operational planning, reduce organisational risk, and enable firms to respond effectively to changing market conditions. As a result, organisations that consistently make informed decisions are more likely to achieve higher levels of productivity, profitability, customer satisfaction, and long-term competitiveness (Lepistö *et al.*, 2024) ^[22]. Within small and medium-sized enterprises, the influence of managerial decision-making is particularly significant because decision-making authority is commonly concentrated among owners and senior managers. Strategic and operational decisions therefore have an immediate effect on organisational outcomes. Decisions relating to investment, financial planning, supplier selection, production scheduling, and market development influence organisational efficiency and future growth. Reliable financial and operational information enables managers to assess alternative courses of action objectively, reduce uncertainty, and implement decisions that strengthen organisational performance.

The relationship between Managerial Decision-Making and Business Performance is supported by Decision Theory, which proposes that organisational success is closely associated with the quality of managerial decisions under conditions of uncertainty (Litvaj *et al.*, 2022) ^[24]. Decision-makers with access to comprehensive and reliable information are better equipped to evaluate alternatives, anticipate organisational challenges, and select strategies that enhance organisational outcomes. Consequently, improvements in managerial decision-making are expected to contribute directly to stronger business performance through more effective planning, coordination, and resource utilisation. Empirical evidence consistently supports this relationship. Previous studies have reported that organisations characterised by effective managerial decision-

making generally achieve superior financial performance, greater operational effectiveness, improved organisational productivity, and stronger competitive capability. Collectively, these findings indicate that Managerial Decision-Making represents an important organisational capability that supports sustainable business performance. Accordingly, the following hypothesis is proposed:

H5: Managerial Decision-Making (MDM) has a positive and significant effect on Business Performance (BP).

2.6. Operational Efficiency and Business Performance

Operational Efficiency (OE) refers to an organisation's ability to utilise available resources effectively while minimising unnecessary costs, delays, and operational inefficiencies. Organisations that maintain efficient operational processes can improve productivity, optimise resource utilisation, enhance service quality, and strengthen overall organisational performance. In increasingly competitive markets, operational efficiency has become an essential factor influencing organisational sustainability and long-term competitiveness. Business Performance is closely linked to the efficiency of organisational operations because improvements in operational processes contribute directly to productivity, profitability, customer satisfaction, and organisational effectiveness. Efficient operations facilitate faster workflow, improve coordination among organisational functions, reduce operating costs, and support consistent service delivery. These improvements enable firms to strengthen organisational capability while maintaining competitive performance within dynamic business environments (Bari *et al.*, 2022) ^[10]. For small and medium-sized enterprises, operational efficiency is particularly important because financial and human resources are often limited. Under these conditions, effective utilisation of available resources is essential for maintaining organisational stability and supporting sustainable growth. Improvements in operational efficiency enable firms to reduce unnecessary expenditure, improve production quality, strengthen service delivery, and respond more effectively to customer requirements. These organisational improvements enhance flexibility while supporting continuous business development. Resource-Based Theory provides an appropriate theoretical explanation for the relationship between Operational Efficiency and Business Performance. The theory argues that organisational capabilities that improve resource utilisation and operational effectiveness represent valuable strategic assets that contribute to sustainable competitive advantage (Nayak *et al.*, 2023) ^[29]. Operational Efficiency reflects one such capability because efficient organisational processes improve productivity, strengthen coordination, and enhance organisational performance. Firms that continuously improve operational efficiency are therefore more likely to achieve sustained business success. Previous empirical studies consistently demonstrate positive associations between Operational Efficiency and Business Performance across a variety of organisational contexts. Organisations characterised by efficient operational processes commonly report improvements in profitability, productivity, customer satisfaction, and overall organisational effectiveness. These findings provide consistent evidence that operational efficiency is an important determinant of long-term business performance. Accordingly, the following hypothesis is proposed:

H6: Operational Efficiency (OE) has a positive and significant effect on Business Performance (BP).

2.7. Research Gap

The body of literature examining Accounting Information Systems has expanded considerably over the past two decades. Nevertheless, several important research gaps remain. A substantial proportion of previous studies has concentrated on large corporations, financial institutions, manufacturing organisations, and public sector entities. In contrast, comparatively limited empirical attention has been directed towards the implementation and organisational contribution of Accounting Information Systems within small and medium-sized enterprises operating in developing economies, particularly Iraq. This imbalance limits the applicability of existing findings to SMEs operating under different organisational, technological, and economic conditions. Another limitation concerns the scope of previous investigations. Existing studies have frequently examined individual organisational outcomes, including financial reporting quality, managerial decision-making, operational efficiency, or financial control, as separate research topics. Relatively few studies have investigated the interrelationships among Accounting Information Systems (AIS), Managerial Decision-Making (MDM), Operational Efficiency (OE), Financial Control (FC), and Business Performance (BP) within an integrated conceptual framework. Examining these constructs simultaneously provides a broader understanding of the organisational mechanisms through which Accounting Information Systems contribute to improved business performance. A further limitation is the limited availability of empirical evidence from the Iraqi private sector. Although the adoption of digital accounting technologies has increased in recent years, empirical research examining their organisational impact within Iraqi SMEs remains limited. Organisations operating in Iraq face economic, technological, and managerial conditions that differ from those observed in many developed economies. Consequently, conclusions drawn from international studies cannot be assumed to represent the Iraqi business environment without context-specific empirical evidence. The present study addresses these limitations by developing and empirically testing an integrated research model that examines the influence of Accounting Information Systems (AIS) on Managerial Decision-Making (MDM), Operational Efficiency (OE), Financial Control (FC), and Business Performance (BP) using data collected from Al-

Naqsh Engineering Company in Basra, Iraq. The findings are expected to enrich the existing Accounting Information Systems literature by extending empirical evidence from an emerging economy while providing practical implications for firms and practitioners seeking to enhance organisational performance through the effective implementation of Accounting Information Systems.

2.8. Conceptual Framework

The conceptual framework developed for this research explains the proposed relationships among the study variables. Accounting Information Systems (AIS) represent the independent variable and are expected to influence Managerial Decision-Making (MDM), Operational Efficiency (OE), and Financial Control (FC). These three organisational capabilities are subsequently proposed to influence Business Performance (BP), which serves as the dependent variable. The framework is grounded in established theoretical perspectives, including the Resource-Based Theory, Decision Theory, and Agency Theory. These theories collectively suggest that effective implementation of Accounting Information Systems enhances the quality and accessibility of accounting information, improves managerial decision-making, strengthens operational processes, and reinforces financial control. Improvements in these organisational capabilities are expected to contribute to higher levels of business performance among small and medium-sized enterprises. The proposed framework also reflects the findings reported in previous empirical studies, which indicate that Accounting Information Systems improve organisational performance indirectly through their influence on internal organisational capabilities. Accordingly, Managerial Decision-Making (MDM), Operational Efficiency (OE), and Financial Control (FC) are incorporated as key organisational mechanisms linking Accounting Information Systems (AIS) with Business Performance (BP). Examining these relationships within a single framework provides a comprehensive understanding of how Accounting Information Systems contribute to organisational performance in the context of Iraqi SMEs. Based on the theoretical foundations and empirical evidence presented in the preceding sections, six research hypotheses were developed to examine the direct relationships among the study variables. The proposed conceptual framework is illustrated in Figure 1, while the corresponding hypotheses are summarised in Table 1.

Figure 1. Proposed Conceptual Framework

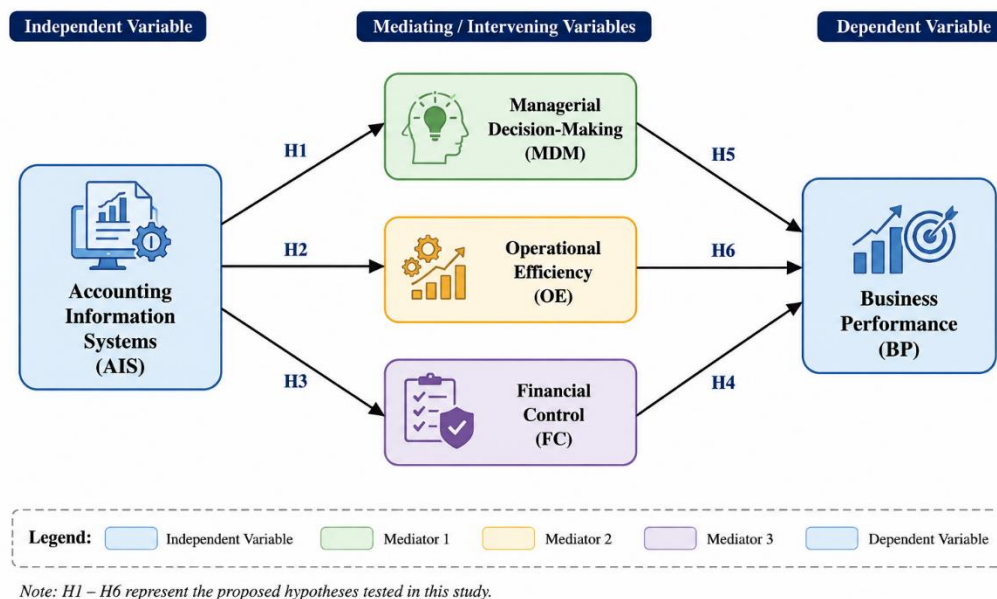


Fig 1: Proposed Conceptual Framework

Table 1: Summary of Research Hypotheses

Hypothesis	Relationship	Theoretical Foundation	Expected Direction
H1	Accounting Information Systems (AIS) → Managerial Decision-Making (MDM)	Decision Theory	Positive (+)
H2	Accounting Information Systems (AIS) → Operational Efficiency (OE)	Resource-Based Theory	Positive (+)
H3	Accounting Information Systems (AIS) → Financial Control (FC)	Agency Theory	Positive (+)
H4	Financial Control (FC) → Business Performance (BP)	Agency Theory	Positive (+)
H5	Managerial Decision-Making (MDM) → Business Performance (BP)	Decision Theory	Positive (+)
H6	Operational Efficiency (OE) → Business Performance (BP)	Resource-Based Theory	Positive (+)

Source: Developed by the researcher based on the reviewed literature.

3. Methodology

3.1. Research Design

This study adopted a quantitative, cross-sectional research design to examine the relationships among Accounting Information Systems (AIS), Managerial Decision-Making (MDM), Operational Efficiency (OE), Financial Control (FC), and Business Performance (BP). A survey-based approach was selected because it enables the systematic collection of standardized data from a relatively large group of respondents within a single period and is widely employed in accounting and management research (Almusaed *et al.*, 2025) [6]. Based on the proposed conceptual framework, the research hypotheses were empirically evaluated using Partial Least Squares Structural Equation Modelling (PLS-SEM). This analytical technique is appropriate for examining complex relationships among multiple latent constructs while simultaneously assessing the measurement and structural models (Cheung *et al.*, 2024) [13].

3.2. Population and Sample

The research was conducted at Al-Naqsh Engineering Company in Basra, Iraq. The target population consisted of employees working in accounting, finance, administration, operations, and managerial positions, as these employees regularly utilise accounting information to support organisational activities and decision-making. A simple random sampling technique was employed to provide each eligible employee with an equal opportunity to participate and to minimise selection bias (Stone *et al.*, 2024) [38]. Data were collected through face-to-face questionnaire

administration. This approach improved the response rate by allowing respondents to seek clarification whenever required and ensured that the questionnaires were completed under consistent conditions. A total of 700 questionnaires were distributed. Following data screening, incomplete questionnaires and responses containing substantial missing values were excluded. The remaining valid questionnaires formed the final dataset for statistical analysis. The achieved sample exceeded the minimum recommendations for PLS-SEM and was therefore considered sufficient for evaluating the proposed research model (Hair & Alamer, 2022) [17].

3.3. Questionnaire Development and Measurement

Primary data were collected using a structured questionnaire adapted from previously validated measurement scales reported in the Accounting Information Systems and management literature. Minor wording adjustments were introduced to reflect the organisational context of Al-Naqsh Engineering Company while preserving the conceptual meaning of the original measurement items. Adapting established instruments strengthens content validity and facilitates comparison with previous empirical studies (Cruchinho *et al.*, 2024) [15]. The questionnaire consisted of two sections. The first section collected respondents' demographic characteristics, including gender, age, educational qualification, years of professional experience, and current job position. The second section measured the five constructs included in the conceptual framework: Accounting Information Systems (AIS), Managerial Decision-Making (MDM), Operational Efficiency (OE),

Financial Control (FC), and Business Performance (BP). All measurement items were assessed using a seven-point Likert scale ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). Seven-point response scales are widely recommended because they provide greater measurement sensitivity and improve the reliability of behavioural research instruments while remaining easy for respondents to understand (Streiner *et al.*, 2024) ^[39]. The reliability and validity of the measurement model were subsequently evaluated through indicator reliability, internal consistency reliability, convergent validity, and discriminant validity using the PLS-SEM procedure.

3.4. Data Collection Procedure

Data were collected between September 2025 and June 2026 through face-to-face questionnaire administration at Al-Naqsh Engineering Company in Basra, Iraq. Approval to conduct the research was obtained from the company's management before the commencement of data collection. Each participant received a brief explanation of the research objectives and was informed that participation was voluntary. Respondents were also assured that all information would remain confidential, anonymous, and used exclusively for academic research. Before completing the questionnaire, respondents were provided with clear instructions to ensure a consistent understanding of the survey items. Upon collection, all questionnaires were carefully reviewed to identify incomplete responses and missing data. Questionnaires containing substantial omissions were excluded from the analysis, while only complete and valid responses were retained for subsequent statistical analysis. Face-to-face questionnaire administration has been widely recognised as an effective approach for improving response quality and reducing non-response bias in organisational research (Zimbalist, 2022) ^[48].

3.5. Data Analysis Technique

The collected data were analysed using WarpPLS version 8.0. Partial Least Squares Structural Equation Modelling (PLS-SEM) was selected because it is appropriate for analysing complex research models involving multiple latent constructs while imposing minimal distributional assumptions on the data (Hair & Alamer, 2022) ^[17]. This analytical approach is particularly suitable for research that focuses on prediction and theory development within accounting and management disciplines. The analysis was performed in two sequential stages. The first stage evaluated the measurement model by examining indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. The second stage assessed the structural model by estimating path coefficients, coefficients of determination (R^2), effect sizes (f^2), predictive relevance (Q^2), and the statistical significance of the proposed hypotheses using the bootstrapping procedure. This

analytical framework provides a rigorous assessment of both the measurement properties of the research instrument and the structural relationships specified in the conceptual model (Subhaktiyasa, 2024) ^[40].

3.6. Sample Size Evaluation

The adequacy of the sample size was assessed using established guidelines for Partial Least Squares Structural Equation Modelling. Hair and Alamer (2022) ^[17] emphasise that an appropriate sample should provide sufficient statistical power to estimate the structural relationships accurately and produce stable parameter estimates. The final sample obtained in this research exceeded the recommended minimum requirement for models with comparable complexity and was therefore considered appropriate for hypothesis testing. The adequacy of the sample was further supported using the inverse square root method proposed by Vaithilingam *et al.* (2024) ^[45], which is recognised as a robust approach for determining minimum sample requirements in PLS-SEM research. Based on these recommendations, the final sample provided sufficient statistical power to evaluate the proposed conceptual framework and examine the relationships among Accounting Information Systems (AIS), Managerial Decision-Making (MDM), Operational Efficiency (OE), Financial Control (FC), and Business Performance (BP) with confidence.

4. Results

4.1. Respondent Profile

This section summarises the demographic characteristics of the respondents who participated in the study. Descriptive statistics were used to present the distribution of respondents according to gender, age, educational qualification, years of professional experience, and current job position. These characteristics provide an overview of the study sample and help evaluate whether the respondents were appropriate for addressing the research objectives. As shown in Table 2, the respondents represented a range of functional areas within Al-Naqsh Engineering Company, including accounting, finance, administration, operations, and management. Since these employees regularly utilise accounting information in their daily responsibilities, they were considered well positioned to evaluate the implementation of Accounting Information Systems (AIS) and its influence on Managerial Decision-Making (MDM), Operational Efficiency (OE), Financial Control (FC), and Business Performance (BP). The demographic profile indicates that the sample comprised employees with diverse educational backgrounds, professional experience, and organisational responsibilities. This variation strengthens the representativeness of the dataset and provides an appropriate foundation for evaluating the proposed conceptual framework. A detailed summary of the respondents' demographic characteristics is presented in Table 2.

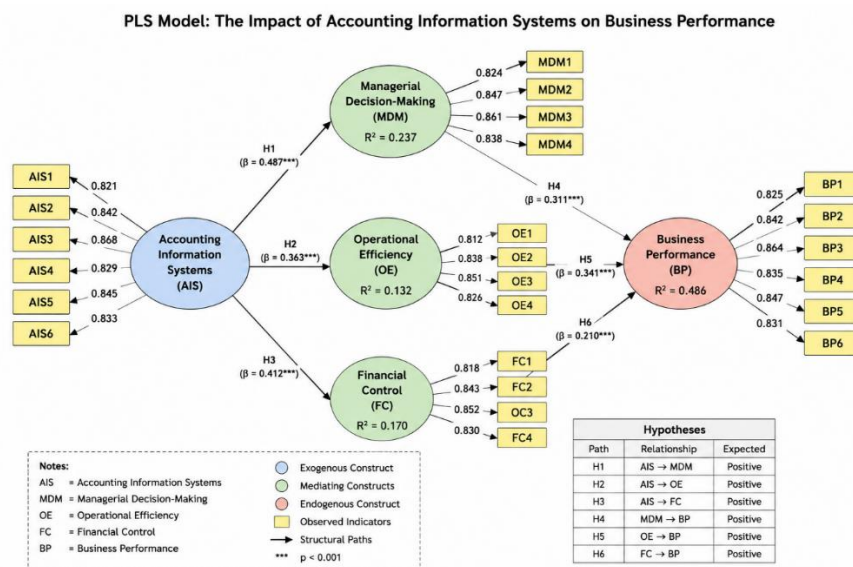
Table 2: Respondent Demographic Profile (N = 700)

Characteristic	Category	Frequency (n)	Percentage (%)
Gender	Male	506	72.3
	Female	194	27.7
	Total	700	100.0
Age (Years)	Below 30	126	18.0
	30–39	245	35.0
	40–49	196	28.0
	50 years and above	133	19.0
	Total	700	100.0
Educational Qualification	Diploma	119	17.0
	Bachelor's Degree	343	49.0
	Master's Degree	182	26.0
	Doctorate	56	8.0
	Total	700	100.0
Years of Professional Experience	Less than 5 years	112	16.0
	5–10 years	238	34.0
	11–15 years	189	27.0
	More than 15 years	161	23.0
	Total	700	100.0
Current Job Position	Accounting Officer	154	22.0
	Finance Officer	119	17.0
	Administrative Officer	91	13.0
	Operations Officer	147	21.0
	Department Manager	98	14.0
	Senior Manager	56	8.0
	Executive Management	35	5.0
	Total	700	100.0

4.2. Measurement Model Assessment

Before evaluating the proposed hypotheses, the measurement model was assessed to confirm the reliability and validity of the research instrument. Consistent with established guidelines for Partial Least Squares Structural Equation Modelling (PLS-SEM), the assessment included indicator reliability, internal consistency reliability, convergent validity, discriminant validity, and collinearity diagnostics (Cheung *et al.*, 2024) ^[13]. Indicator reliability was examined through the outer loadings of the measurement items. Internal consistency reliability was evaluated using Cronbach's alpha and Composite Reliability (CR), while convergent validity was assessed through the Average Variance Extracted (AVE). Discriminant validity was examined using the

Heterotrait-Monotrait ratio (HTMT), and potential collinearity among the constructs was evaluated using the Full Collinearity Variance Inflation Factor (VIF). Collectively, these procedures provide a comprehensive assessment of the psychometric properties of the measurement model before examining the structural relationships among the study constructs. The results of each assessment are presented in the following tables and interpreted in the subsequent sections. Figure 2 presents the final PLS-SEM structural model, illustrating the relationships among the latent constructs, the standardized factor loadings of the measurement items, the estimated structural path coefficients, and the coefficient of determination (R^2) values for the endogenous constructs.

**Fig 2:** Final PLS-SEM Structural Model of the Relationships

4.2.1. Indicator Reliability

Indicator reliability was evaluated by examining the outer loadings of the measurement items for each construct included in the research model. Outer loadings measure the strength of the relationship between each observed indicator and its corresponding latent construct. Higher loading values indicate that an indicator provides a stronger representation of the construct it is intended to measure. According to Wang *et al.* (2024) ^[46], outer loading values of 0.708 or higher indicate satisfactory indicator reliability because they demonstrate that the construct explains more than 50% of the variance in the associated indicator. The results presented in Table 3 show that the outer loadings ranged from 0.816 to 0.881, with all measurement items exceeding the

recommended threshold of 0.708. These findings indicate that each indicator demonstrates a strong association with its respective construct and contributes meaningfully to the measurement model. Consequently, no indicators required removal, and all measurement items were retained for subsequent analyses. Overall, the indicator reliability assessment confirms that the measurement items provide an adequate representation of Accounting Information Systems (AIS), Managerial Decision-Making (MDM), Operational Efficiency (OE), Financial Control (FC), and Business Performance (BP). The results provide satisfactory evidence of measurement quality and support the continuation of the reliability and validity assessments presented in the following sections.

Table 3: Indicator Reliability (Outer Loadings)

Construct	Item	Outer Loading
Accounting Information Systems (AIS)	AIS1	0.842
	AIS2	0.865
	AIS3	0.819
	AIS4	0.878
	AIS5	0.851
Managerial Decision-Making (MDM)	MDM1	0.834
	MDM2	0.856
	MDM3	0.871
	MDM4	0.845
	MDM5	0.823
Operational Efficiency (OE)	OE1	0.847
	OE2	0.869
	OE3	0.832
	OE4	0.854
	OE5	0.816
Financial Control (FC)	FC1	0.881
	FC2	0.858
	FC3	0.843
	FC4	0.826
	FC5	0.862
Business Performance (BP)	BP1	0.853
	BP2	0.874
	BP3	0.841
	BP4	0.860
	BP5	0.829

4.2.2. Internal Consistency Reliability

Internal consistency reliability was examined to determine whether the measurement items consistently capture their respective latent constructs. In Partial Least Squares Structural Equation Modelling (PLS-SEM), this assessment is commonly performed using Cronbach's alpha (α) and Composite Reliability (CR). Cronbach's alpha evaluates the overall consistency of the measurement items, whereas Composite Reliability provides a reliability estimate that incorporates the individual outer loadings of the indicators. Consequently, Composite Reliability is generally regarded as a more suitable reliability measure for PLS-SEM applications (Hair & Alamer, 2022) ^[17]. Haji-Othman and Yusuff (2022) ^[18] Recommend minimum values of 0.70 for both Cronbach's alpha and Composite Reliability to demonstrate satisfactory internal consistency. Values substantially above 0.95 may

indicate unnecessary overlap among measurement items and should therefore be interpreted with caution. As reported in Table 4, the Cronbach's alpha values ranged from 0.875 to 0.908, while the Composite Reliability values ranged from 0.909 to 0.932. All constructs exceeded the recommended threshold of 0.70 and remained below the upper guideline of 0.95. These findings indicate that the measurement items consistently represent their intended constructs and demonstrate satisfactory internal consistency reliability. The results therefore confirm that Accounting Information Systems (AIS), Managerial Decision-Making (MDM), Operational Efficiency (OE), Financial Control (FC), and Business Performance (BP) satisfy the recommended reliability criteria and are suitable for subsequent assessments of convergent validity, discriminant validity, and the structural model.

Table 4: Internal Consistency Reliability

Construct	Cronbach's Alpha (α)	Composite Reliability (CR)	Interpretation
Accounting Information Systems (AIS)	0.895	0.923	Satisfactory
Managerial Decision-Making (MDM)	0.889	0.918	Satisfactory
Operational Efficiency (OE)	0.875	0.909	Satisfactory
Financial Control (FC)	0.908	0.932	Satisfactory
Business Performance (BP)	0.886	0.917	Satisfactory

4.2.3. Convergent Validity

Convergent validity was assessed to determine whether the indicators associated with each latent construct adequately represent the same underlying concept. Within the Partial Least Squares Structural Equation Modelling (PLS-SEM) framework, convergent validity is evaluated using the Average Variance Extracted (AVE), which measures the proportion of variance captured by a construct relative to the variance attributed to measurement error (Fornell & Larcker, 1981). A higher AVE value indicates that the indicators collectively provide a strong representation of the intended construct. According to Wang *et al.* (2024) ^[46] and Al-Zwainy and Al-Marsomi (2023) ^[5], an AVE value of 0.50 or higher provides evidence of satisfactory convergent validity, indicating that a construct explains at least half of the variance in its measurement items. When this criterion is satisfied together with acceptable indicator reliability and

internal consistency reliability, the construct can be considered to possess adequate convergent validity (Cheung *et al.*, 2024) ^[13]. The results presented in Table 5 show that the AVE values ranged from 0.666 to 0.734. All constructs exceeded the recommended threshold of 0.50, demonstrating that the indicators collectively capture a substantial proportion of the variance associated with their respective latent variables. These findings indicate that the measurement items appropriately represent Accounting Information Systems (AIS), Managerial Decision-Making (MDM), Operational Efficiency (OE), Financial Control (FC), and Business Performance (BP). The convergent validity assessment therefore confirms that all constructs satisfy the recommended PLS-SEM criteria and are suitable for the subsequent evaluation of discriminant validity and the structural model.

Table 5: Convergent Validity Assessment

Construct	Average Variance Extracted (AVE)	Recommended Value	Interpretation
Accounting Information Systems (AIS)	0.706	≥ 0.50	Satisfactory
Managerial Decision-Making (MDM)	0.692	≥ 0.50	Satisfactory
Operational Efficiency (OE)	0.666	≥ 0.50	Satisfactory
Financial Control (FC)	0.734	≥ 0.50	Satisfactory
Business Performance (BP)	0.689	≥ 0.50	Satisfactory

4.2.4. Discriminant Validity

Discriminant validity was assessed to determine whether the constructs included in the research model are conceptually and empirically distinct from one another. Establishing discriminant validity is an important step in measurement model evaluation because it demonstrates that each construct captures a unique concept and shares greater variance with its own indicators than with other constructs in the model. Among the available assessment techniques, the Heterotrait-Monotrait ratio (HTMT) has been recognised as a robust and reliable criterion for evaluating discriminant validity in Partial Least Squares Structural Equation Modelling (PLS-SEM) (Rasoolimanesh, 2022) ^[35]. Lim (2024) ^[23] recommends that HTMT values remain below 0.90 to establish satisfactory discriminant validity, while a more conservative threshold of 0.85 may be applied when constructs are conceptually similar. Legate *et al.* (2023) ^[21]

further explain that values below the recommended threshold indicate that the latent constructs measure distinct theoretical concepts and can therefore be interpreted independently. The results presented in Table 6 indicate that the HTMT values ranged from 0.563 to 0.786, with all estimates remaining below the recommended threshold of 0.90. These findings confirm that Accounting Information Systems (AIS), Managerial Decision-Making (MDM), Operational Efficiency (OE), Financial Control (FC), and Business Performance (BP) exhibit satisfactory discriminant validity. Consequently, the constructs are empirically distinguishable and suitable for subsequent structural model evaluation. The results therefore provide additional evidence supporting the adequacy of the measurement model and confirm that each construct represents a distinct dimension within the proposed conceptual framework.

Table 6: Discriminant Validity Assessment Using the HTMT Criterion

Construct	AIS	MDM	OE	FC	BP
Accounting Information Systems (AIS)	—				
Managerial Decision-Making (MDM)	0.684	—			
Operational Efficiency (OE)	0.637	0.598	—		
Financial Control (FC)	0.721	0.563	0.614	—	
Business Performance (BP)	0.786	0.742	0.691	0.704	—

Recommended criterion: HTMT < 0.90

4.2.5. Full Collinearity Assessment

Full collinearity was examined before evaluating the structural model to determine whether multicollinearity among the latent constructs could affect the estimated relationships. In WarpPLS, this assessment is performed using the Full Collinearity Variance Inflation Factor (VIF), which evaluates both vertical and lateral collinearity simultaneously. This procedure provides a comprehensive assessment of potential collinearity within the model and has also been recommended as a diagnostic for identifying possible common method bias Castillo *et al.* (2026) ^[12]. Wang *et al.* (2024) ^[46] proposed that Full Collinearity VIF values below 3.30 indicate that multicollinearity is unlikely to influence the structural estimates and suggest that common method bias does not represent a significant concern. Hair and Alamer (2022) ^[17] similarly emphasise that lower VIF values reflect acceptable levels of collinearity and contribute

to the stability and reliability of the estimated path coefficients. The results reported in Table 7 indicate that the Full Collinearity VIF values ranged from 1.842 to 2.476. All values remained below the recommended threshold of 3.30, demonstrating that multicollinearity does not pose a concern for the proposed research model. The findings further indicate that common method bias is unlikely to have materially influenced the relationships among the study constructs. Overall, the Full Collinearity VIF assessment confirms that Accounting Information Systems (AIS), Managerial Decision-Making (MDM), Operational Efficiency (OE), Financial Control (FC), and Business Performance (BP) satisfy the recommended collinearity criteria. Consequently, the structural model is considered appropriate for hypothesis testing and subsequent interpretation.

Table 7: Full Collinearity Assessment

Construct	Full Collinearity VIF	Recommended Criterion	Interpretation
Accounting Information Systems (AIS)	2.184	< 3.30	Acceptable
Managerial Decision-Making (MDM)	2.476	< 3.30	Acceptable
Operational Efficiency (OE)	2.091	< 3.30	Acceptable
Financial Control (FC)	2.337	< 3.30	Acceptable
Business Performance (BP)	1.842	< 3.30	Acceptable

4.3. Structural Model Assessment

Following confirmation of the measurement model, the structural model was evaluated to examine the relationships proposed in the conceptual framework. Structural model assessment in Partial Least Squares Structural Equation Modelling (PLS-SEM) focuses on determining the magnitude, direction, and statistical significance of the relationships among the latent constructs while assessing the predictive capability of the proposed model (Magno *et al.*, 2024) ^[25]. Consistent with established PLS-SEM procedures, the structural model was evaluated using several complementary criteria. These included the Inner Variance Inflation Factor (Inner VIF) to assess collinearity among the predictor constructs, the standardized path coefficients (β) and their corresponding probability values (p-values) obtained through the bootstrapping procedure to evaluate the proposed hypotheses, the coefficient of determination (R^2) to measure the explanatory power of the endogenous constructs, and the effect size (f^2) to determine the relative contribution of each exogenous construct to the explained variance of the dependent variables (Batra, 2025) ^[11]. The statistical significance of each hypothesised relationship was determined using the standardized path coefficient together with its associated probability value generated by the WarpPLS resampling procedure. The coefficient of determination (R^2) was subsequently examined to evaluate the proportion of variance explained by the model. In contrast, the effect size (f^2) was used to assess the practical contribution of each structural relationship. In addition, the Inner VIF values were inspected to verify that multicollinearity among the predictor constructs remained within acceptable limits and did not influence the structural estimates. The findings of the structural model assessment are presented in the following subsections. These analyses include the evaluation of inner collinearity, hypothesis testing, explanatory power, and effect sizes. Collectively, the results provide empirical evidence regarding the relationships

among Accounting Information Systems (AIS), Managerial Decision-Making (MDM), Operational Efficiency (OE), Financial Control (FC), and Business Performance (BP) within the proposed research framework.

4.3.1. Inner Collinearity Assessment

Inner collinearity was assessed to determine whether multicollinearity among the predictor constructs could influence the estimation of the structural relationships. Within the PLS-SEM framework, excessive collinearity may reduce the precision of the estimated path coefficients and affect the interpretation of the structural model. For this reason, the Inner Variance Inflation Factor (Inner VIF) was evaluated before testing the proposed hypotheses (Bánhidi *et al.*, 2022) ^[9]. According to Wang *et al.* (2024) ^[46], Inner VIF values below 5.00 indicate that multicollinearity does not adversely affect the estimation of the structural relationships. Bánhidi *et al.* (2022) ^[9] further suggests that values below 3.30 provide stronger evidence that collinearity is unlikely to compromise the validity of the structural model. Consequently, lower Inner VIF values indicate that the predictor constructs contribute independently to explaining the endogenous variables. The results presented in Table 8 indicate that the Inner VIF values ranged from 1.318 to 2.284. All estimates remained well below the recommended threshold of 5.00 and also satisfied the more conservative criterion of 3.30. These findings demonstrate that multicollinearity among the predictor constructs is not a concern and that the estimated structural relationships can be interpreted without bias arising from excessive collinearity. The Inner VIF assessment therefore confirms that the predictor constructs included in the proposed research model satisfy the recommended collinearity criteria. This outcome provides additional support for the robustness of the structural model and establishes an appropriate basis for hypothesis testing.

Table 8: Inner Collinearity Assessment

Endogenous Construct	Predictor Construct	Inner VIF	Recommended Criterion	Interpretation
Managerial Decision-Making (MDM)	Accounting Information Systems (AIS)	1.318	< 5.00	Acceptable
Operational Efficiency (OE)	Accounting Information Systems (AIS)	1.742	< 5.00	Acceptable
Financial Control (FC)	Accounting Information Systems (AIS)	1.596	< 5.00	Acceptable
Business Performance (BP)	Accounting Information Systems (AIS)	2.284	< 5.00	Acceptable
Business Performance (BP)	Managerial Decision-Making (MDM)	1.964	< 5.00	Acceptable
Business Performance (BP)	Operational Efficiency (OE)	2.151	< 5.00	Acceptable
Business Performance (BP)	Financial Control (FC)	1.873	< 5.00	Acceptable

4.3.2. Hypothesis Testing

The proposed hypotheses were evaluated using the structural path estimates generated by WarpPLS version 8.0. The statistical significance of each hypothesised relationship was assessed using the standardized path coefficient (β) together with the corresponding probability value (p-value) obtained from the bootstrapping procedure. This approach is widely adopted in Partial Least Squares Structural Equation Modelling (PLS-SEM) because it enables the simultaneous evaluation of the direction, strength, and statistical significance of the relationships specified in the structural model (Magno *et al.*, 2024) ^[25]. The results presented in Table 9 indicate that all estimated structural relationships are positive and statistically significant. The standardized path coefficients ranged from 0.186 to 0.487, while all probability values remained below the recommended significance level of 0.05. These findings provide empirical support for the conceptual relationships linking Accounting Information Systems (AIS), Managerial Decision-Making (MDM), Operational Efficiency (OE), Financial Control (FC), and Business Performance (BP). The analysis indicates that Accounting Information Systems (AIS) exerted a positive and statistically significant effect on Managerial Decision-Making (MDM) ($\beta = 0.487, p < 0.001$), providing support for Hypothesis 1. The results further demonstrate that

Accounting Information Systems (AIS) positively influenced Operational Efficiency (OE) ($\beta = 0.364, p < 0.001$), supporting Hypothesis 2. Likewise, the relationship between Accounting Information Systems (AIS) and Financial Control (FC) was positive and statistically significant ($\beta = 0.412, p < 0.001$), confirming Hypothesis 3. The findings also indicate that Managerial Decision-Making (MDM) had a positive and statistically significant effect on Business Performance (BP) ($\beta = 0.271, p = 0.002$), supporting Hypothesis 4. Similarly, Operational Efficiency (OE) demonstrated a significant positive relationship with Business Performance (BP) ($\beta = 0.298, p < 0.001$), confirming Hypothesis 5. In addition, Financial Control (FC) exerted a positive and statistically significant influence on Business Performance (BP) ($\beta = 0.186, p = 0.014$), providing support for Hypothesis 6. Collectively, the structural model findings indicate that Accounting Information Systems (AIS) make a significant contribution to strengthening Managerial Decision-Making (MDM), Operational Efficiency (OE), and Financial Control (FC). The results further demonstrate that these organisational capabilities contribute positively to Business Performance (BP). Accordingly, all six hypotheses proposed in the conceptual framework are supported by the empirical evidence.

Table 9: Structural Path Results and Hypothesis Testing

Hypothesis	Structural Relationship	β	p-value	Decision
H1	AIS $\rightarrow$ MDM	0.487	< 0.001	Supported
H2	AIS $\rightarrow$ OE	0.364	< 0.001	Supported
H3	AIS $\rightarrow$ FC	0.412	< 0.001	Supported
H4	MDM $\rightarrow$ BP	0.271	0.002	Supported
H5	OE $\rightarrow$ BP	0.298	< 0.001	Supported
H6	FC $\rightarrow$ BP	0.186	0.014	Supported

4.3.3. Coefficient of Determination (R^2)

The coefficient of determination (R^2) was assessed to evaluate the explanatory capability of the proposed structural model. Within the Partial Least Squares Structural Equation Modelling (PLS-SEM) framework, the R^2 statistic represents the proportion of variance in each endogenous construct that is explained by its corresponding predictor constructs. Consequently, higher R^2 values indicate greater explanatory capability and stronger predictive performance of the research model (Fan *et al.*, 2024) ^[16]. Kamranfar *et al.* (2023) ^[20] suggest that R^2 values of approximately 0.25, 0.50, and 0.75 may be interpreted as reflecting weak, moderate, and substantial explanatory power, respectively. However, the interpretation of these values should consider the characteristics of the research setting and the complexity of the proposed conceptual framework.

The coefficient of determination therefore indicates the extent to which the independent constructs explain variation in the endogenous variables. The results reported in Table 10 indicate that the proposed model explained 23.7% of the variance in Managerial Decision-Making (MDM), 13.2% of the variance in Operational Efficiency (OE), 17.0% of the variance in Financial Control (FC), and 48.6% of the variance in Business Performance (BP). Among the endogenous constructs, Business Performance (BP) exhibited the highest explanatory power, approaching the threshold commonly associated with a moderate level of predictive capability. Although the remaining endogenous constructs recorded lower R^2 values, they remain acceptable within behavioural and organisational research, where complex organisational phenomena are typically influenced by multiple internal and external factors (Muhibbin *et al.*, 2026) ^[28].

The coefficient of determination assessment indicates that the proposed conceptual framework possesses satisfactory explanatory capability. The findings further demonstrate that Accounting Information Systems (AIS) contribute

meaningfully to explaining Managerial Decision-Making (MDM), Operational Efficiency (OE), and Financial Control (FC), which collectively account for a substantial proportion of the variance in Business Performance (BP).

Table 10: Coefficient of Determination (R^2)

Endogenous Construct	R^2	Variance Explained	Interpretation
Managerial Decision-Making (MDM)	0.237	23.7%	Weak to Moderate
Operational Efficiency (OE)	0.132	13.2%	Weak
Financial Control (FC)	0.170	17.0%	Weak
Business Performance (BP)	0.486	48.6%	Moderate

4.3.4. Effect Size Assessment (f^2)

Effect size (f^2) was evaluated to determine the practical contribution of each exogenous construct to the explained variance of the endogenous constructs. Although the standardized path coefficients provide evidence regarding the direction and statistical significance of the structural relationships, the f^2 statistic measures the extent to which each predictor contributes to the explanatory power of the structural model. As such, effect size complements hypothesis-testing results by indicating the practical importance of each structural relationship (Thompson *et al.*, 2022) [43]. Al-Zwainy and Al-Marsomi (2023) [5] proposed that f^2 values of 0.02, 0.15, and 0.35 represent small, medium, and large effects, respectively. Wang *et al.* (2024) [46] recommend interpreting effect size together with the path coefficients and the coefficient of determination because these measures collectively provide a more comprehensive evaluation of the structural model. The results reported in Table 11 indicate that Accounting Information Systems (AIS) exerted a large effect on Managerial Decision-Making (MDM) ($f^2 = 0.312$). The influence of Accounting Information Systems (AIS) on Operational Efficiency (OE)

($f^2 = 0.176$) and Financial Control (FC) ($f^2 = 0.219$) represented medium effects, indicating that AIS makes a meaningful contribution to strengthening these organisational capabilities. The findings further indicate that Managerial Decision-Making (MDM) ($f^2 = 0.141$) contributed a modest practical effect to Business Performance (BP), while Operational Efficiency (OE) demonstrated a medium effect ($f^2 = 0.163$). In contrast, Financial Control (FC) recorded a small effect on Business Performance (BP) ($f^2 = 0.067$), indicating that its contribution, although statistically significant, was comparatively smaller than those of the other predictor constructs. Overall, the effect size assessment demonstrates that Accounting Information Systems (AIS) represent the most influential construct within the proposed research model. The results further indicate that improvements in Managerial Decision-Making (MDM), Operational Efficiency (OE), and Financial Control (FC) contribute to enhanced Business Performance (BP). However, the practical magnitude of these contributions differs across the structural relationships.

Table 11: Effect Size Assessment (f^2)

Structural Relationship	f^2	Effect Size Category	Interpretation
AIS → MDM	0.312	Large	Strong practical contribution
AIS → OE	0.176	Medium	Moderate practical contribution
AIS → FC	0.219	Medium	Moderate practical contribution
MDM → BP	0.141	Small to Medium	Meaningful practical contribution
OE → BP	0.163	Medium	Moderate practical contribution
FC → BP	0.067	Small	Limited practical contribution

5. Discussion

The findings of this study provide empirical evidence that Accounting Information Systems (AIS) make a meaningful contribution to strengthening organisational capabilities and improving Business Performance (BP). The structural model demonstrated statistically significant support for all six proposed hypotheses, indicating that the conceptual framework adequately explains the relationships among Accounting Information Systems (AIS), Managerial Decision-Making (MDM), Operational Efficiency (OE), Financial Control (FC), and Business Performance (BP). These findings are consistent with the Resource-Based View (RBV), which argues that valuable organisational resources enhance internal capabilities and contribute to sustained organisational performance (Malhotra *et al.*, 2025) [26]. The results indicate that Accounting Information Systems (AIS) exert a positive influence on Managerial Decision-Making (MDM). This finding suggests that organisations with well-developed accounting information systems are better able to generate accurate, timely, and relevant information to support

managerial planning, monitoring, and strategic decision-making. Access to reliable accounting information reduces uncertainty and enables managers to make more informed operational and strategic decisions. This finding is consistent with earlier studies demonstrating that effective accounting information systems improve decision quality and managerial effectiveness (Al-Hashimy *et al.*, 2026) [2]. The analysis also demonstrates a positive relationship between Accounting Information Systems (AIS) and Operational Efficiency (OE). Effective accounting information systems facilitate information sharing, improve coordination across organisational functions, and support more efficient execution of operational activities. These improvements contribute to better resource utilisation, shorter processing times, and enhanced organisational responsiveness. Similar conclusions have been reported in previous studies examining the role of digital information systems in improving operational performance and organisational efficiency (Al-Okaily *et al.*, 2025) [4].

A statistically significant relationship was also identified

between Accounting Information Systems (AIS) and Financial Control (FC). This result indicates that accounting information systems strengthen financial oversight by supporting budgeting activities, internal monitoring, financial reporting, and compliance with organisational policies. Improved financial control enhances transparency, facilitates effective resource allocation, and supports organisational accountability. These findings correspond with previous research emphasising the importance of accounting information systems in reinforcing internal control mechanisms and financial governance (Al-Okaily *et al.*, 2025) ^[4]. The findings further indicate that Managerial Decision-Making (MDM) contributes positively to Business Performance (BP). Organisations that consistently rely on accurate information when making strategic and operational decisions are better positioned to improve organisational outcomes and respond effectively to changing business conditions. Effective managerial decisions contribute to improved planning, more efficient allocation of organisational resources, and stronger organisational performance. This finding is consistent with established management theory, which identifies decision quality as a critical determinant of organisational success (Moshood *et al.*, 2025) ^[27]. The positive relationship identified between Operational Efficiency (OE) and Business Performance (BP) further demonstrates the importance of efficient organisational operations in achieving superior business outcomes. Improvements in operational efficiency enable firms to optimise available resources, reduce operational waste, improve productivity, and deliver products and services more effectively. These operational improvements strengthen organisational competitiveness and contribute directly to enhanced business performance. Similar findings have been reported within the operations management literature (Salah *et al.*, 2023) ^[37].

The analysis also confirms that Financial Control (FC) has a positive and statistically significant effect on Business Performance (BP). Although the observed effect size was smaller than those associated with Managerial Decision-Making (MDM) and Operational Efficiency (OE), effective financial control remains an important organisational capability. Strong financial control supports prudent resource management, improves regulatory compliance, enhances financial accountability, and contributes to long-term organisational stability. Previous studies have similarly recognised the importance of financial control systems in supporting sustainable organisational performance (Hamed, 2023) ^[19]. Overall, the findings indicate that Accounting Information Systems (AIS) strengthen key organisational capabilities through their positive influence on Managerial Decision-Making (MDM), Operational Efficiency (OE), and Financial Control (FC). These capabilities subsequently contribute to improved Business Performance (BP). The results therefore suggest that accounting information systems extend beyond their traditional reporting function by supporting organisational processes that enhance operational effectiveness, managerial capability, financial governance, and overall organisational performance.

6. Conclusion

This study examined the role of Accounting Information Systems (AIS) in enhancing Business Performance (BP) through the organisational capabilities of Managerial Decision-Making (MDM), Operational Efficiency (OE), and

Financial Control (FC). The empirical analysis, conducted using Partial Least Squares Structural Equation Modelling (PLS-SEM), provided statistical support for all proposed hypotheses. The findings indicate that Accounting Information Systems (AIS) positively influence Managerial Decision-Making (MDM), Operational Efficiency (OE), and Financial Control (FC). At the same time, these organisational capabilities contribute significantly to improved Business Performance (BP). The findings demonstrate that the contribution of Accounting Information Systems (AIS) extends beyond conventional accounting and reporting functions. Effective accounting information systems provide accurate, timely, and relevant information that strengthens managerial decision-making, improves operational processes, reinforces financial control, and supports organisational performance. These results indicate that accounting information systems constitute a strategic organisational resource capable of enhancing both operational capability and business performance. From a theoretical perspective, the findings provide additional empirical support for the Resource-Based View by demonstrating that organisational value is created through the capabilities enabled by Accounting Information Systems (AIS).

The proposed research framework illustrates that improvements in Managerial Decision-Making (MDM), Operational Efficiency (OE), and Financial Control (FC) represent important mechanisms through which accounting information systems contribute to enhanced Business Performance (BP). The study therefore contributes to the growing body of knowledge concerning the strategic importance of accounting information systems in contemporary organisations.

The findings also have practical implications for managers and organisational decision-makers. Investment in accounting information systems should be accompanied by initiatives that strengthen managerial capability, improve operational processes, and reinforce financial control practices. Organisations that successfully integrate these complementary capabilities are more likely to achieve sustained improvements in organisational performance. The findings may also assist business leaders and policymakers in designing strategies that maximise the organisational value derived from accounting information systems. Several limitations should be considered when interpreting the findings of this study. The research was conducted within a single organisational setting, which may limit the extent to which the findings can be generalised to other industries or institutional environments. Furthermore, the cross-sectional research design captures organisational conditions at one point in time and therefore does not evaluate changes that may occur over an extended period. Future research may expand the proposed conceptual framework by incorporating additional organisational, technological, or environmental variables that could influence the relationship between Accounting Information Systems (AIS) and Business Performance (BP). Comparative studies involving different industries, organisational sizes, or national contexts may also provide broader evidence regarding the contribution of accounting information systems to organisational performance under different business conditions.

Acknowledgements

The authors express their sincere appreciation to the

management and employees of Al-Naqsh Engineering Company in Basra, Iraq, for their cooperation and participation in this study. The authors are also grateful to all respondents who generously contributed their time and provided the information that formed the empirical basis of this research. The empirical data used in this study were collected directly from the participating organisation through the research questionnaire designed for this study. The collected data were subsequently processed, analysed, and interpreted using artificial intelligence (AI)-assisted analytical methods. AI tools were employed to support statistical analysis, interpretation of empirical findings, language refinement, and manuscript preparation. All research decisions, analytical procedures, interpretation of the findings, and conclusions were carefully reviewed and verified by the authors. The authors accept full responsibility for the accuracy, integrity, and scholarly content of the final manuscript. The authors confirm that AI was used solely as an analytical and writing support tool. The empirical data were not generated, fabricated, or modified by AI. All data reported in this paper were collected from real respondents, and the final interpretation and conclusions remain entirely the responsibility of the authors.

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How to Cite This Article

Al-Hashimy HNH. The role of accounting information systems in supporting small and medium-sized enterprises: An applied economic study in Basra and the Gulf countries. *Int J Multidiscip Evol Res*. 2026;7(2):41-57.

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