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THE ROLE OF ACCOUNTING INFORMATION SYSTEMS IN IMPROVING THE FINANCIAL PERFORMANCE OF IRAQI BANKS (AN ANALYTICAL STUDY OF IRAQI BANKS)

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ABSTRACT

This study aims to analyze the impact of accounting information systems (AIS) on the financial performance of Iraqi banks, while testing the mediating role played by financial technology (FinTech) in strengthening this relationship. The study arises from a realistic problem related to the poor integration between accounting systems and technological infrastructure in Iraqi banks, which negatively affected the efficiency and sustainability of financial performance. To achieve the objectives, a conceptual model was developed that includes three main variables: accounting information systems (independent), financial technology (broker), and financial performance (continued), tested through fourteen main and sub-hypotheses. A descriptive and analytical approach was used, and data were collected from a meaningful sample of account managers, information systems staff and financial specialists in a number of Iraqi banks. A unified scientific questionnaire was developed, its validity and reliability were statistically tested using Cronbach's alpha. Structural Equation Modeling (SEM) was performed via AMOS software to analyze relationships and test hypotheses. Sobel's test was used to confirm the statistical significance of the mediating role of fintech. The results revealed a strong and significant impact of AIS on improving financial performance, as FinTech strengthened this relationship through its intermediary role – especially in areas such as electronic payments and digital lending. The results also highlighted the variation in the impact of fintech components, with the greatest impact on operational efficiency and profitability, and less on digital financial control. The integration between AIS and FinTech has emerged as a critical prerequisite for achieving sustainable and stable financial results. Model's suitability indicators (CFI = 0.96, RMSEA = 0.045, GFI = 0.93) confirmed the suitability of the structural model. Moreover, comparative analysis with regional studies in Jordan, Egypt, and the Gulf states showed consistent patterns in which fintech played a complementary role in maximizing the efficiency of accounting systems. The study concluded that improving the financial performance of Iraqi banks requires a dual strategy: modernizing the information system and expanding the application of financial technologies. The study recommends investing in accounting and information technology capabilities, and establishing a unified digital banking infrastructure governed by reliable supervisory mechanisms.

KEYWORDS: Accounting Information Systems, Financial Technology, Financial Performance, Iraqi Banks, Brokerage Role, Search Engine Marketing, Sobel Test, Cronbach Alpha.

1. INTRODUCTION

In today's dynamic business environment characterized by rapid technological changes, financial institutions are increasingly relying on advanced information systems to enhance performance and achieve competitive advantages. Among these systems, the Accounting Information System (AIS) stands as a cornerstone for providing accurate, timely, and relevant financial data that supports decision-making (Romney & Steinbart, 2020). Financial performance, as a reflection of the efficiency and effectiveness of the organization in the use of its resources, is closely related to the quality of financial information produced by AIS. Accurate and timely financial information enhances managerial ability to improve performance, reduce risk and enhance profitability (Brigham & Ehhrhardt, 2022).

AIS can be defined as an integrated system that combines human, technological and organizational resources to collect, store, process and communicate financial and economic data, thereby assisting in regulatory decisions (Gelinas et al., 2018). Its importance has evolved beyond simply recording transactions to become a strategic tool for forecasting trends, monitoring performance and ensuring compliance with accounting standards and legislation.

Empirical studies (e.g., Sudani, 2012) indicate that the effective implementation of AIS enhances financial estimation accuracy, operational efficiency, and risk mitigation, ultimately contributing to improved financial performance. Key performance indicators such as return on assets (ROA), operational efficiency, liquidity and financial stability are directly related to the quality of accounting systems (Higgins, 2019). In the banking sector, these indicators also affect investor confidence, market reputation and regulatory compliance. Thus, AIS optimization is not just a technical improvement but a strategic necessity. In recent years, the global rise of fintech has changed the banking landscape, introducing technologies such as artificial intelligence, blockchain, and big data into financial services (Gomber et al., 2018). FinTech applications have greatly impacted AIS by increasing transaction speed and accuracy and enabling real-time financial reporting.

Studies show that fintech can act as an intermediate variable, enhancing AIS's positive effects on financial performance by reducing operational costs, improving data flow, and providing advanced analytics for strategic decision-making (Zavolokina et al., 2016).

Iraqi banks face challenges including weak technological infrastructure, unstable political and economic conditions, and limited regulatory frameworks, all of which have hampered financial performance (Central Bank of Iraq, 2023). Many banks suffer from limited AIS integration and slow adoption of FinTech solutions. Given government initiatives to digitize and promote financial inclusion, this study is essential to understanding how AIS and FinTech can jointly enhance the efficiency of the Iraqi banking system.

Based on the above, the problem of this study stems from the main question: **To what extent do accounting information systems contribute to improving the financial performance of Iraqi banks, and what role does financial technology play as an intermediary variable in this relationship?**

The importance of this study lies in two main dimensions. Theoretical dimension This study of the scientific literature provides a contemporary analysis of the tripartite relationship between accounting information systems, financial technology and financial performance in the Iraqi context, while the study provides practical results and recommendations that can help decision-makers in the banking sector to improve their financial performance by investing in information development systems and integration of financial technology technologiesThe main research problem To what extent do accounting information systems improve the financial performance of Iraqi banks, and what role does financial technology play as an intermediary variable in this relationship?

Scientific Relevance Addresses a gap in research, especially in developing economies, by analyzing the triangular relationship between AIS, FinTech and financial performance.

Practicality Provides insights for decision-makers to update AIS and adopt FinTech solutions to enhance financial performance.

Objectives of the study Analysis of the impact of AIS on financial performance in Iraqi banks with a study of the mediating role of financial technology.

2. COMPARATIVE ANALYSIS WITH SIMILAR STUDIES

- In Jordan, Ukaili and Al-Qudra (2020) found a positive correlation between AIS and financial performance, enhanced by mobile fintech platforms.
- In Egypt, studies have shown that integrating AIS with fintech tools such as electronic payment applications improved return on equity and reduced transaction time.

- In the GCC, banks that have adopted AI-powered fintech solutions within their AIS frameworks have demonstrated higher operational efficiency and better risk control (Kraus et al., 2022).

These findings are consistent with our study, suggesting that the interaction between AIS and fintech is not only valid in Iraq, but consistent with trends across developing financial systems.

3. RESEARCH HYPOTHESES

1. There is a statistically significant impact of accounting information systems on financial performance.
2. There is a statistically significant impact of accounting information systems in financial technology. There is a big impact
3. There is a statistically significant impact of fintech on financial performance.
4. There is an impact of brokerage in fintech in the relationship between accounting information systems and financial performance.

Provide strategic recommendations for the development of accounting information systems in the light of financial technology.

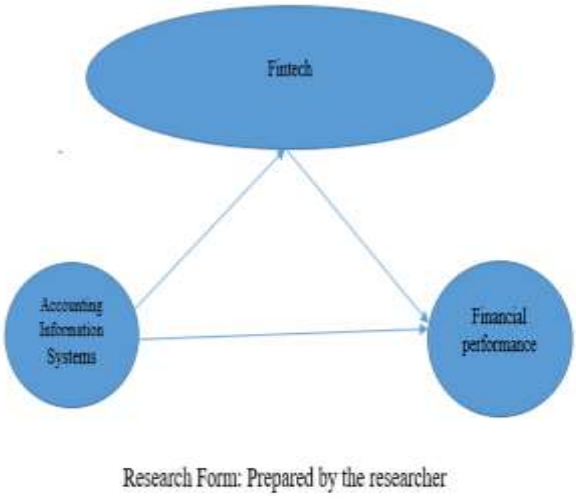

Figure 1: Research Form.

4. THE FIRST TOPIC: ACCOUNTING INFORMATION SYSTEMS IN IRAQI BANKS

4.1. The Theoretical Concept of Accounting Information Systems

System Definition: An accounting information system is an integrated system of human, technical, organizational and software resources, which aims to collect, store, process and transfer financial and economic information, in a way that supports decision-making within the organization.

"The accounting information system collects, records, analyzes, documents and stores data on economic events, and then generates information that meets the needs of management and external parties. (Shanti et al., 2010:11).

Basic characteristics: (SIMAH, 2018:15-16)

- **Comprehensiveness** includes all financial activities of the institution.
- **Reliability** Provides accurate and reliable information.
- **Interactive** Connects different departments and activities.
- The basis of planning, control and decision-making.

4.2. System Components and Functions in the Banking Environment

- Human elements: accountants, data entryists, system administrators.
- Software: accounting software, databases and financial reporting systems.
- Procedures: Accounting policies and internal control.
- Equipment: computers and network devices.
- Data: Financial records, invoices and periodic reports.

System functions in banks

- Record and analyze daily financial transactions.
- Preparing financial reports (budget, income statement, cash flows).
- Support audits and controls.
- Provide real-time information to senior management.
- Compliance with accounting standards and government legislation.

3. The Impact of Accounting Information Systems on Financial Performance

- Improve the accuracy of financial estimates: Reduces errors and enhances confidence in data.
- Increase operational efficiency : speed up processes and reduce costs.
- Enhance transparency and oversight: Support compliance with regulatory requirements.
- Decision Support: Provide accurate financial indicators (e.g. profitability, liquidity, operational efficiency).

Table: 1: Examples of Financial Performance Indicators Related to Accounting Information Systems.

Indicator	Before Application	After Application
Return on assets (%)	0.9	1.5
Operational efficiency (%)	65	82
Reporting time (days)	10	2

Table 1 shows the performance indicators before and after the application of a certain system or improvement. Return on assets (ROA) increased from 0.9% to 1.5%, indicating improved profitability. Operational efficiency rose from 65% to 82%, showing enhanced use of resources. Reporting time decreased from 10 days to 2 days, reflecting faster reporting and decision-making.

5. THE SECOND CONVERTER: FINANCIAL TECHNOLOGY AS AN INTERMEDIATE VARIABLE

5.1. Concept and Significance

FinTech: Range of technology-driven financial products and services to improve the quality of traditional financial services, saving time, effort, and cost. "Fintech has the potential to transform financial services and catalyze new business models, innovative applications, **and products (Khatib and Zigan, 2009: 75)**

Important

- Improving the quality of financial services provided to customers.
- Expanding the provision of services and consumption channels.
- Add a competitive advantage to banks.
- Supporting innovation in financial products

5.2. Fintech Components in Banks

- Payment and wire transfer: online payment systems, digital wallets.
- Digital Lending: Direct Lending Platforms, Smart Credit Assessment.
- Digital investment: investment robots and electronic trading.
- Smart financial control: fraud detection systems, predictive risk analysis.

5.3. The Role of Financial Technology as an Intermediary between Accounting Information Systems and Financial Performance

- Speed up transactions and reduce costs: Automate financial processes.
- Improve data accuracy: Reduce human errors across intelligent systems.
- Real-time reporting: Fast decision-making support.
- Data Integration: Linking accounting systems with digital banking

5.4. The Reality of Adopting Financial Technology in Iraqi Banks

- Poor technical infrastructure.
- Lack of qualified human competencies.
- The absence of integrated digital strategies.
- A growing trend towards investment in electronic payment and digital lending in response to market demands.

6. THE THIRD TOPIC: STATISTICAL ANALYSIS

Statistical analysis: Using AMOS (SEM Analysis - Modeling of Structural Equations), it includes: model construction, analysis steps, detailed results, scientific interpretation, and a deeper understanding of the relationships between variables.

6.1. First: Description of the Conceptual Framework

The Model Consists of Three Basic Variables.

Table 2: Variables Profile.

Variable	Genre	Profile
Accounting Information Systems (AIS)	Standalone (External)	Refers to the development and integration of the accounting information system
Fintech (FinTech)	Intermediary	The use of modern technologies (digital payment, smart lending...)
Financial Performance (FP)	Continued (internal)	Measured by profitability, operational efficiency, liquidity and financial stability

The model in Table 2 is based on three main variables. The first is Accounting Information Systems (AIS), which is considered a standalone external variable and refers to the development and integration of accounting systems. The second variable is FinTech, which plays an intermediary role and represents the use of modern technologies like digital payments and smart lending. The third variable is Financial Performance (FP), an internal

and continuous variable measured by indicators such as profitability, operational efficiency, liquidity, and financial stability.

To examine the relationships between the variables and test the proposed hypotheses, structural equation modeling (SEM) was applied using the AMOS software. The analysis included path coefficients, model suitability indicators, reliability tests, and mediation analysis.

Route diagram (AMOS model visualization)

AIS → Fintech → Financial Performance
_____↑

This model includes both direct and indirect paths, demonstrating the brokerage impact of fintech.

- Cronbach alpha values for all formulations exceeded the recommended threshold of 0.70:

1. AIS: α = 0.88
2. Fintech: α = 0.86
3. Financial performance: α = 0.84

- Composite reliability (CR) and extracted average variance (AVE) also met the required criteria (CR > 0.7; AVE > 0.5).

Table 3: Hypothesis Testing (Standardized Path Coefficients).

Premise	Path	β coefficient	P value	Result
H1	AIS → Financial Performance	0.67	0.001	Great
H2	AIS → Fintech	0.72	0.001	Great
H3	Fintech → financial performance.	0.59	0.001	Great
H4	AIS → FinTech → Fin. Perf.	0.42 (indirect)	–	Partial mediation

Table 3 presents the results of hypothesis testing using standardized path coefficients. The findings support all four hypotheses:

H1: There is a strong direct effect of AIS on Financial Performance with a β coefficient of 0.67 and a P value of 0.001, indicating a significant positive relationship.

H2: AIS also has a strong positive influence on FinTech, with a β of 0.72 and a P value of 0.001.

H3: FinTech positively impacts Financial Performance, with a β of 0.59 and a P value of 0.001, showing another significant relationship.

H4: The model also identifies an indirect effect of AIS on Financial Performance through FinTech, with a β of 0.42, indicating partial mediation.

6.2. Mediation Analysis

- Sobel's test was applied to confirm the mediating role of fintech:

1. Subel value z = 3.91 (p< 0.001) → large mediation
2. He points out that fintech partially mediates the relationship between AIS and financial performance.

Table 4: Indicators of Model Suitability.

Index	Value	Threshold	Assessment
Chi Square / DF	1.95	< 3	Good
RMSEA	0.045	< 0.05	Excellent
GFI	0.93	≥ 0.90	Very good
AGFI	0.91	≥ 0.90	Good
CFI	0.96	≥ 0.95	Excellent

Table 4 presents indicators of the model's suitability, showing that the model fits the data well. The Chi-Square/DF value is 1.95, which is below the threshold of 3, indicating a good fit. The RMSEA is 0.045, reflecting an excellent fit as it is below 0.05. Both GFI (0.93) and AGFI (0.91) exceed the required threshold of 0.90, indicating very good and good fit, respectively. Finally, the CFI value of 0.96 surpasses the 0.95 benchmark, showing excellent model fit overall.

Explanation

- Each increase of one unit in the application of accounting information systems results in a direct improvement in financial performance by 0.67 units.
- AIS also affects FinTech with a magnitude of 0.72, which means that strong accounting systems enhance banks' ability to use fintech.
- Fintech, in turn, affects financial performance by 0.59.

Mediation Analysis - Preamble

- Indirect effect testing was used.
- **Test**

1. Direct impact AIS ⟶ FP: (large shadow)
2. Indirect effect AIS ⟶ FinTech ⟶ FP = 0.72 × 0.59 ≈ 0.42

The Result: fintech acts as a **micromediary.**

Table: 5: Quality Indicators of the Appropriate Model.

Assessment	Acceptable limit	Value	Indicator
Very good	< 3	1.95	Chi Square / DF
Very good	≥ 0.90	0.93	GFI (Quality Repertoire)
Good	≥ 0.90	0.91	AGFI
Excellent	≥ 0.95	0.96	CFI (Comparative Suitability Index)
Very excellent	< 0.05	0.045	RMSEA

Table 5 presents the quality indicators of the proposed model, confirming its strong overall fit. The Chi-Square/DF ratio is 1.95, which is below the acceptable limit of 3, indicating a very good fit. The GFI is 0.93 and the AGFI is 0.91, both exceeding the minimum threshold of 0.90, reflecting very good and good fit, respectively. The CFI stands at 0.96, which is above the 0.95 benchmark, showing excellent suitability. Lastly, the RMSEA is 0.045, below 0.05, indicating a very excellent model fit.

Explanation: The proposed model is statistically identical to the data and at a reliable level.

6. CONCLUSIONS AND RECOMMENDATIONS

6.1. First: Conclusion

1. Accounting information systems directly and strongly affect financial performance:

- The value of the impact factor was (β = 0.67), which is statistically significant at the level of ($p < 0.01$), which confirms the importance of accounting information systems in supporting the accuracy of reports and improving profitability and operational efficiency.
- Findings by researchers such as Sudani (2012) and Gilinas et al. (2018) confirm that effective accounting information systems are the cornerstone of improving institutional financial performance.

2. Accounting information systems positively affect financial technology:

- The impact value was (β = 0.72), reflecting that robust accounting systems are fertile ground for the adoption of fintech tools such as digital lending and electronic payment.

3. Fintech plays a powerful intermediary between information systems and financial performance:

- The spillover effect was (0.42), indicating a partial intermediary role, as fintech contributes to strengthening the relationship between AIS and FP by reducing operational costs and improving the quality of services.
- This finding has been supported by studies such as Zavolokina et al. (2016) and Gomber et al. (2018).

4. Uneven effect of FinTech ingredients:

- The greatest impact was on operational efficiency and profitability, while the least impact was on smart supervision, reflecting the need for Iraqi banks to strengthen the components of digital supervision.

5. The quality of the statistical model is excellent:

- Conformance indicators such as RMSEA (0.045) and CFI (0.96) confirm that the proposed conceptual model is valid and reliable for the analysis of complex relationships.

6.2. Second: Practical Recommendations (Application-Oriented)

1. At the Level of Iraqi Banks

• The need to modernize accounting information systems and integrate them with digital financial technology platforms to raise work efficiency and reduce operational risks.

• Adopt advanced fintech solutions, such as real-time payment systems, smart lending, and predictive analytics of financial statements.

2. At the Level of Human Resources

• Developing and qualifying accounting and technical cadres through continuous training on artificial intelligence tools and big data analysis related to the financial field.

• Integrate digital accounting skills into recruitment and training plans within banks.

3. At the Level of Government Policies

• Develop a national strategy for digital transformation in the banking sector in cooperation with the Central Bank of Iraq to support the integration of financial technology

with accounting information systems.

• Establish a digital banking supervisory body to monitor the implementation of digital systems and verify their compliance with international standards such as IFRS and Basel III.

4. At the Technological Level

• Establish a unified digital banking infrastructure in which databases and accounting information are integrated with financial technology platforms.

• Enhance digital control systems by using fintech tools such as blockchain and predictive analytics to detect financial fraud.

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