Innovation in Financial Auditing: Leveraging FinTech to Enhance Digital Audit Processes in Jordan

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Abstract

This study examines the role of financial technology (FinTech) in strengthening digital audit processes within Jordanian financial institutions. The research adopts a quantitative, descriptive, and analytical design and relies on primary data collected through a five-point Likert-scale questionnaire distributed to finance managers and executives working in FinTech companies operating in Jordan. Of the 140 questionnaires distributed, 125 valid responses were retained for statistical analysis. The data were analyzed using SPSS through descriptive statistics and one-way analysis of variance (ANOVA).

The findings indicate that Jordanian financial institutions demonstrate a generally high level of readiness to adopt FinTech solutions in auditing. Respondents reported positive perceptions regarding technological infrastructure, staff training, organizational support for innovation, and the capacity of FinTech applications to improve audit efficiency. The results further show that integrating advanced technologies such as artificial intelligence, machine learning, blockchain, and data analytics into auditing procedures contributes significantly to time reduction, higher productivity, improved reporting accuracy, enhanced fraud detection, and greater transparency. Although concerns remain with respect to cybersecurity readiness, regulatory compliance, and collaboration with external FinTech partners, the overall evidence suggests that FinTech adoption has a significant and positive effect on digital auditing practices in Jordan.

The study concludes that FinTech integration can serve as a strategic enabler of audit modernization and institutional resilience. By adopting emerging digital tools and addressing implementation challenges proactively, Jordanian financial institutions can improve both the effectiveness and credibility of their auditing systems.

Keywords: auditors; audit efficiency; digital auditing; financial auditing; financial institutions; FinTech; Jordan

1. Introduction

Jordan has experienced notable economic development over the past decade, accompanied by increasing demands for stronger governance, transparency, and regulatory compliance. Within this environment, financial auditing plays a critical role in preserving accountability, protecting investors, and reinforcing confidence in financial reporting. Nevertheless, many traditional audit procedures still depend heavily on manual processes, paper-based documentation, and fragmented verification practices. These conventional methods often reduce efficiency, delay reporting, and increase the risk of human error.

In Jordan, the regulatory environment places significant emphasis on compliance with international auditing standards and sound financial oversight. Institutions such as the Central Bank of Jordan and the Jordan Securities Commission have contributed to the development of a more structured and technology-oriented financial environment. In this context, financial technology (FinTech) has emerged as a transformative force capable of modernizing audit procedures and addressing long-standing operational inefficiencies (Central Bank of Jordan 2024).

FinTech broadly refers to the application of advanced digital technologies to financial services and related functions. In the auditing context, FinTech includes blockchain, artificial intelligence (AI), machine learning (ML), advanced analytics, and real-time monitoring systems. These technologies are reshaping auditing by automating repetitive tasks, increasing analytical depth, improving data integrity, and enabling continuous or near-real-time assurance (Han et al. 2023; Zhang et al. 2020).

The relevance of FinTech to auditing is particularly strong in environments where institutions seek to improve both efficiency and trust. Automated procedures reduce the time required for data

collection, reconciliation, and validation. AI-driven systems can identify anomalies and patterns across large datasets more effectively than traditional manual techniques, while blockchain can provide transparent and immutable audit trails, thereby improving both traceability and confidence in transaction records (Bonsón and Bednárová 2019; Qasim and Kharbat 2020). For Jordanian financial institutions, such developments offer a promising path toward more responsive, accurate, and cost-effective auditing.

This study therefore investigates how FinTech contributes to the enhancement of digital audit processes in Jordan. It focuses specifically on two interrelated dimensions: the extent to which financial institutions are prepared to adopt FinTech solutions and the degree to which those solutions improve audit efficiency. By examining these issues in the Jordanian context, the study contributes to the growing literature on digital transformation in auditing and provides evidence relevant to both practitioners and policymakers.

2. Review of Literature

2.1 The Evolution of Auditing in the Digital Era

Auditing has historically been a labor-intensive process grounded in manual documentation, physical verification, and retrospective analysis. The digitization of business systems gradually introduced software-assisted controls, electronic records, and automated calculations, thereby increasing speed and accuracy. More recently, the rise of FinTech has accelerated this transformation by enabling deeper automation and more sophisticated forms of analytical review (Tschakert et al. 2016).

The integration of digital technologies has changed the role of auditors from routine verifiers into analytical professionals who interpret data, assess risk, and support strategic decision-making. This shift reflects a broader movement from periodic and sample-based auditing toward more continuous and intelligence-driven assurance (Han et al. 2023).

2.2 FinTech Applications in Auditing

FinTech introduces a wide range of applications with direct relevance to audit quality. AI and ML can automate repetitive procedures such as invoice matching, anomaly detection, and data reconciliation. Advanced analytics can process large datasets rapidly and identify trends, inconsistencies, and risk signals that may otherwise remain undetected. Blockchain technology strengthens auditability by creating immutable records and more transparent transaction histories (Bonsón and Bednárová 2019; Zhang et al. 2020).

These applications improve not only operational efficiency but also the scope and depth of audit analysis. Real-time or continuous auditing becomes more feasible when financial data can be captured, processed, and reviewed automatically. In turn, this enables faster responses to irregularities and more informed managerial oversight (Alkan 2021; Cetinoglu 2021).

2.3 FinTech and the Jordanian Context

Jordan has made visible progress in digital finance, particularly through regulatory support, the expansion of electronic payment systems, and the growing presence of FinTech firms. This development has created favorable conditions for the use of digital technologies in financial control and assurance functions. Jordanian organizations have increasingly explored tools for data analysis, compliance monitoring, and process automation (Central Bank of Jordan 2024).

Despite this progress, FinTech adoption in auditing is not without constraints. Regulatory uncertainty, cybersecurity concerns, data privacy issues, and the shortage of professionals with both accounting and technological expertise remain significant challenges. Successful implementation therefore depends not only on technological availability but also on institutional readiness, governance structures, and workforce development (Balicka 2023; Ebirim et al. 2024).

2.4 Theoretical and Empirical Insights

Prior literature suggests that advanced technologies can substantially improve the quality and timeliness of accounting and auditing work. AI and ML support more accurate data processing and reduce human error. Predictive analytics can enhance risk management and internal control evaluation, while blockchain improves traceability and reduces opportunities for manipulation by maintaining consistent and tamper-resistant transaction records (Qasim and Kharbat 2020; Zhang et al. 2020).

Empirical studies also indicate that the benefits of FinTech are maximized when institutions align technological adoption with training, organizational culture, and regulatory compliance. In other words, technological tools alone do not guarantee improvement unless they are supported by appropriate institutional capabilities and strategic commitment (Ebirim et al. 2024; Han et al. 2023). Accordingly, the present study contributes to the literature by examining these issues within the Jordanian financial sector, with particular attention to audit efficiency and institutional readiness.

3. Objectives of the Study

The principal objective of this research is to assess the impact of FinTech on digital audit processes in Jordanian financial institutions. More specifically, the study seeks to:

1. evaluate the readiness of financial institutions and auditors in Jordan to adopt FinTech solutions; and

2. identify the barriers and challenges associated with implementing FinTech in auditing processes.

4. Research Hypotheses

The study tests the following hypotheses:

H1: The integration of innovative FinTech solutions into auditing processes increases audit efficiency in Jordanian financial institutions.

H2: Financial institutions in Jordan exhibit a high level of readiness to adopt FinTech solutions and to address the challenges associated with their implementation in digital audits.

5. Research Methodology

This study adopts a descriptive and analytical research design based on primary data. A structured questionnaire was developed on the basis of the reviewed literature and organized using a five-point Likert scale ranging from strong disagreement to strong agreement. The instrument was distributed to finance managers and executives working in FinTech companies operating in Jordan.

A total of 140 questionnaires were distributed, of which 125 were retained for final analysis after incomplete responses were excluded. The resulting valid sample formed the empirical basis of the study. Data were analyzed using SPSS. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were used to examine perceptions regarding audit efficiency and institutional readiness. Inferential statistics, specifically one-way ANOVA, were then used to test the study hypotheses.

6. Analysis and Results

6.1 FinTech Solutions and Audit Efficiency

The descriptive results indicate that respondents generally perceived FinTech solutions as beneficial to audit efficiency. Stronger agreement was observed for statements related to productivity gains, time reduction, transparency, and the ability to audit more areas using the same resources. The most highly rated item concerned the improvement of auditors' productivity through automation of routine tasks.

Audit efficiency indicator	**Mean**	**SD**	**Interpretation**
FinTech reduces the time required to complete an audit	3.56	1.15	Positive perception
FinTech improves the accuracy of financial	3.40	1.24	Moderately positive perception

reports through automated analysis and verification			
FinTech decreases auditing costs	3.26	1.33	Moderate perception
FinTech enhances fraud detection and prevention	3.34	1.30	Moderately positive perception
FinTech enables real-time auditing and improves overall efficiency	3.51	1.29	Positive perception
FinTech improves auditors' productivity by automating routine tasks	3.66	1.20	Strongest positive perception
FinTech allows more audit coverage with the same resources	3.61	1.24	Positive perception
Blockchain increases the transparency and integrity of financial transactions	3.62	1.24	Positive perception
FinTech support for risk management through advanced analytics and predictive modeling	3.20	Not clearly reported in source text	Comparatively weaker perception
FinTech adoption improves stakeholder confidence in financial reports	Moderate positive perception	Not clearly reported in source text	Mixed perception

Overall, the results suggest that respondents recognize the practical benefits of FinTech in audit environments. The strongest perceived advantages are associated with automation, efficiency, and transparency. At the same time, perceptions of cost reduction, risk management, and stakeholder confidence are more cautious, indicating that the impact of FinTech may vary depending on implementation quality and institutional capacity.

6.2 Readiness to Adopt FinTech Solutions and Address Challenges

The findings also reveal a generally favorable view of institutional readiness. Respondents reported positive perceptions regarding infrastructure, staff training, organizational culture, and

collaboration between IT and auditing departments. However, lower ratings were recorded for regulatory compliance confidence, cybersecurity preparedness, and external collaboration with FinTech firms.

Readiness indicator	Mean	SD	Interpretation
Availability of technological infrastructure for FinTech integration	3.57	1.15	Positive readiness
Adequate training for auditors and financial staff	3.61	1.22	Positive readiness
Organizational culture supports innovation and new technologies	3.58	1.15	Positive readiness
Confidence in complying with regulatory requirements	3.22	1.32	Moderate readiness
Belief that FinTech will improve audit efficiency	3.36	1.24	Moderately positive readiness
Willingness to invest in new FinTech tools and technologies	3.46	1.30	Positive readiness
Preparedness to manage cybersecurity risks	3.26	1.29	Moderate readiness
Effective collaboration between IT and auditing departments	3.62	1.19	Strong positive readiness
Active pursuit of partnerships with FinTech firms	3.26	1.43	Moderate readiness
Additional partnership-related item reported in source text	3.12	1.35	Moderate to weak readiness

Taken together, these findings indicate that Jordanian institutions possess a reasonably strong foundation for FinTech adoption. Nevertheless, implementation remains uneven in certain areas, particularly with respect to cybersecurity preparedness, regulatory confidence, and strategic external collaboration.

6.3 Hypothesis Testing: FinTech and Audit Efficiency

One-way ANOVA was used to test whether the integration of FinTech solutions is associated with improvements in audit efficiency. All reported significance values were below 0.05, indicating statistically significant differences across the evaluated dimensions.

Audit efficiency dimension	**F-value**	**Sig.**
Reduced audit completion time	3.106	0.000
Improved accuracy of financial reports	2.497	0.007
Reduced auditing costs	3.703	0.015
Enhanced fraud detection and prevention	4.392	0.002
Improved efficiency through real-time auditing	2.231	0.001
Higher auditor productivity through automation	3.183	0.004
Greater audit coverage with the same resources	2.582	0.000
Increased transparency and integrity through blockchain	3.035	0.032
Better risk management through analytics and predictive modeling	3.372	0.001
Improved stakeholder confidence in financial reports	4.560	0.000

Because all significance values are below the 0.05 threshold, the null hypothesis is rejected. The findings support H1, indicating that the integration of innovative FinTech solutions into auditing processes significantly increases audit efficiency in Jordanian financial institutions.

6.4 Hypothesis Testing: Institutional Readiness for FinTech Adoption

ANOVA was also used to test whether financial institutions in Jordan exhibit readiness to adopt FinTech and to confront implementation-related challenges. Again, all reported significance values were below 0.05.

Readiness dimension	F-value	Sig.
Technological infrastructure	3.135	0.000
Staff training	2.460	0.002
Organizational culture for innovation	3.116	0.005
Regulatory compliance confidence	2.574	0.002
Perceived efficiency gains from adoption	3.633	0.000
Willingness to invest in FinTech tools	3.631	0.001
Cybersecurity preparedness	3.485	0.015
Collaboration between IT and auditing departments	3.313	0.000
Partnerships with FinTech firms	2.227	0.006
Additional partnership-related item	2.298	0.003

The statistical evidence supports H2, confirming that financial institutions in Jordan exhibit a relatively high level of readiness to adopt FinTech solutions and address the challenges associated with digital auditing.

7. Discussion

The results of this study demonstrate that FinTech has become an important catalyst for improving audit performance in Jordanian financial institutions. The positive evaluations of automation, accuracy, productivity, transparency, and real-time auditing suggest that respondents perceive FinTech not merely as a technological addition but as a strategic enabler of audit transformation. These findings are broadly consistent with earlier studies that emphasize the role of AI, blockchain, and analytics in improving audit quality, reducing manual effort, and strengthening the credibility of financial reporting (Han et al. 2023; Zhang et al. 2020; Ebirim et al. 2024).

The findings also indicate that institutional readiness is already present to a meaningful extent. The participating organizations appear to have invested in technological infrastructure and workforce development, while also cultivating internal support for innovation. Such conditions are

essential for successful digital transformation because technology alone cannot improve audit quality without corresponding human and organizational capabilities.

At the same time, the study highlights several implementation challenges. Confidence is comparatively weaker in relation to cybersecurity risk management and compliance with regulatory requirements. These concerns are unsurprising, given that emerging technologies frequently introduce new governance and control demands. In addition, the moderate evaluations of partnerships with FinTech firms suggest that institutional collaboration with external innovation ecosystems is still developing.

From a broader perspective, the study implies that Jordanian financial institutions are progressing toward a more data-driven and technology-enabled audit environment. By embedding AI, analytics, and blockchain more effectively into assurance processes, institutions can reduce operational inefficiencies while strengthening the reliability and credibility of financial reporting.

8. Conclusion

- FinTech contributes significantly to the modernization of auditing by improving efficiency, transparency, analytical accuracy, and fraud detection capabilities in Jordanian financial institutions.
- Jordanian financial institutions demonstrate a relatively high degree of readiness to adopt FinTech solutions, particularly in relation to infrastructure, staff training, and organizational support for innovation.
- The main challenges affecting sustainable implementation are cybersecurity preparedness, regulatory compliance, and the limited depth of collaboration with external FinTech providers.
- FinTech adoption should be treated as a strategic institutional transformation rather than a purely technical adjustment, requiring supportive governance structures, professional development, and regulatory clarity.

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References

Al-Htaybat, Khaldoon, and Londina von Alberti-Alhtaybat. 2017. "Big Data and Corporate Reporting: Impacts and Paradoxes." *Accounting, Auditing & Accountability Journal*.

Alkan, B. Ş. 2021. "Real-time Blockchain Accounting System as a New Paradigm." *Muhasebe ve Finansman Dergisi* 89: 41–58.

Antipova, Tatiana. 2023. "Auditing for Financial Reporting." In *Global Encyclopedia of Public Administration, Public Policy, and Governance*, 656–664. Cham: Springer International Publishing.

Balicka, H. 2023. "Digital Technologies in the Accounting Information System Supporting Decision-Making Processes." *Scientific Papers of Silesian University of Technology. Organization & Management* 169.

Bonsón, Enrique, and Michaela Bednárová. 2019. "Blockchain and its Implications for Accounting and Auditing." *Meditari Accountancy Research* 27 (5): 725–740.

Central Bank of Jordan. 2024. "Central Bank of Jordan Leads Financial Technology Innovation." *MENAFN*, February 26.

Cetinoglu, T. 2021. "Reflections of Developments in Information Technologies to Internal Audit: Blockchain Technology and Continuous Auditing." In *Auditing Ecosystem and Strategic Accounting in the Digital Era: Global Approaches and New Opportunities*, 339–359. Cham: Springer International Publishing.

Ebirim, Glory, Ifeyinwa Unigwe, Ese Oshioste, Ndubuisi Ndubuisi, Beryl Odonkor, and Onyeka Franca Asuzu. 2024. "Innovations in Accounting and Auditing: A Comprehensive Review of Current Trends and Their Impact on U.S. Businesses." *International Journal of Science and Research Archive* 11: 965–974.

Han, Hong, Raj Kumar Shiwakoti, Robin Jarvis, C. Mordi, and David Botchie. 2023. "Accounting and Auditing with Blockchain Technology and Artificial Intelligence: A Literature Review." *International Journal of Accounting Information Systems* 48: 100598.

Joshi, P. 2023. "Role of Financial Reporting Standards in Enhancing Transparency and Accountability: An Empirical Study."

Monteiro, Eric, Panos Constantinides, Susan Scott, Maha Shaikh, and Alistair Burton-Jones. 2022. "Qualitative Research Methods in Information Systems: A Call for Phenomen-Focused Problematization."

Qasim, A., and F. F. Kharbat. 2020. "Blockchain Technology, Business Data Analytics, and Artificial Intelligence: Use in the Accounting Profession and Ideas for Inclusion into the Accounting Curriculum." *Journal of Emerging Technologies in Accounting* 17 (1): 107–117.

Settembre-Blundo, Davide, Ricardo González-Sánchez, Susana Medina-Salgado, and Fernando E. García-Muiña. 2021. "Flexibility and Resilience in Corporate Decision Making: A New Sustainability-Based Risk Management System in Uncertain Times." *Global Journal of Flexible Systems Management* 22: 107–132.

Singh, M. 2023. *Is Blockchain a Paradigmatic Shift in Accounting Technology?* Doctoral dissertation, RMIT University.

Suherlan, M. O. O. 2023. "Technological Innovation in Marketing and its Effect on Consumer Behaviour."

Susskind, Richard, and Daniel Susskind. 2015. *The Future of the Professions: How Technology Will Transform the Work of Human Experts.* Oxford: Oxford Academic.

Sutton, R. T., D. Pincock, D. C. Baumgart, D. C. Sadowski, R. N. Fedorak, and K. I. Kroeker. 2020. "An Overview of Clinical Decision Support Systems: Benefits, Risks, and Strategies for Success." *NPJ Digital Medicine* 3 (1): 17.

Tschakert, Norbert, Julia Kokina, Stephen Kozlowski, and Miklos A. Vasarhelyi. 2016. "The Next Frontier in Data Analytics." *Journal of Accountancy*.

Turker, I., and A. A. Bicer. 2020. "How to Use Blockchain Effectively in Auditing and Assurance Services." In *Digital Business Strategies in Blockchain Ecosystems: Transformational Design and Future of Global Business*, 457–471.

Zhang, Yan, Fei Xiong, Yijun Xie, Xiaofei Fan, and Hong Gu. 2020. "The Impact of Artificial Intelligence and Blockchain on the Accounting Profession." *IEEE Access* 8: 110461–110477.

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