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Artificial Intelligence and Digital Assets in Financial Reporting: Implications for Transparency, Accuracy, Auditability, and Reporting Quality

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Abstract- ***The field of accounting and financial reporting is rapidly transforming with the advent of Artificial Intelligence (AI) and digital assets, which have brought automated processing, intelligent analytics, blockchain transaction records and a novel means of financial value. However, they also bring challenges through integration with regards to asset classification, valuation, disclosure, data quality, cyber security, compliance and professional oversight. This research explores how AI and digital assets impact financial reporting quality, focusing on aspects such as accuracy, transparency, timeliness, and auditability. The study is based on the Technology–Organization–Environment framework, Technology Acceptance Model, Agency Theory, and Institutional Theory to build an integrated conceptual framework between the adoption of AI and the digital-asset accounting capability and financial reporting outcomes. The key technological elements are automation, predictive analytics, identification of anomalies, integration with blockchain, measurement of digital assets and disclosure capabilities, and the regulatory compliance and cybersecurity are the important governance conditions. The study suggests that the successful application of AI and digital-asset technologies can help to bolster reporting accuracy, improve transaction traceability, improve transparency, speed reporting times, and enable continuous auditing. Meanwhile, the technology benefits are contingent on having proper controls, human supervision, accurate data and regulations. The study offers a holistic view of the evolving dynamics between the intelligent accounting systems and the digital-asset reporting process, and offers real world implications for accountants, auditors, financial institutions, regulators, and policymakers to create credible, transparent, and technology-driven financial reporting in digital finance.***

Keywords: Artificial intelligence; digital assets; financial reporting; blockchain; accounting information systems; reporting quality; transparency; auditability; regulatory compliance.

I. INTRODUCTION

1.1 Background of the Study

Technological evolution is currently taking place in the accounting and financial reporting environment through the use of artificial intelligence (AI), machine learning, big data analysis, automation, and blockchain technology. These technologies have revolutionized the handling of financial information through automated transaction recording, prediction, anomaly detection, reconciliation, and decision-making support (Sarker, 2022; Johri, 2025). There is evidence that AI can improve the quality of financial reporting through better accuracy, efficiency, transparency, and analytics (Alhazmi et al., 2025; Bin-Nashwan et al., 2025). Digital transformation has gone beyond traditional accounting information systems to distributed ledger technologies and digital assets (Rabbani, 2024; Shengelia et al., 2022).

Introduction of cryptocurrency, virtual assets, and tokenized assets has posed new problems of reporting concerning issues of classification, valuation, measurement, disclosure, and assurance. Given their decentralized nature, technicality, and volatility, there is need for accountants to have more knowledge on digital assets (Jena, 2026). The combination of AI and blockchain could solve some of these issues. Artificial intelligence technology can be used to analyze data from both financial statements and blockchains, detect frauds and irregularities, provide valuation, reconciliation, and enable reporting (Rerung et al., 2024). Blockchain can assist with improved transaction traceability and accountability. Real-time reporting through AI would also help in improving reporting efficiencies.

1.2 Problem Statement

Despite the potential benefits of these technologies, their adoption introduces significant reporting and governance challenges. Digital-asset transactions may be difficult to classify and measure consistently, particularly where asset characteristics do not correspond neatly with traditional accounting categories. Valuation may also be complicated by market volatility, limited standardization, and differences in the nature of digital instruments. At the same time, AI-based reporting systems can create risks associated with data quality, model opacity, cybersecurity, inappropriate automation, and inadequate human oversight (Abbas et al., 2026; Neiroukh & Çağlar, 2025). Research on AI adoption further indicates that the relationship between technological implementation and reporting outcomes depends on factors such as governance, organizational capabilities, and information-system quality (Bin-Nashwan et al., 2025; Alassuli et al., 2025).

These challenges demonstrate that technological adoption alone does not necessarily produce higher-quality financial reporting. Effective outcomes depend on the quality of underlying data, the reliability of accounting processes, appropriate internal controls, regulatory compliance, and the competence of professionals responsible for reviewing and interpreting technology-generated information. In addition, increasing automation may require stronger audit and assurance mechanisms to ensure that financial information remains accurate, transparent, explainable, and traceable (Sawaya et al., 2026).

1.3 Research Gap

Existing literature provides valuable but relatively distinct perspectives on AI, digital transformation, blockchain, and financial reporting. Studies have examined AI adoption and financial reporting quality (Alhazmi et al., 2025), AI and auditing efficiency (Bin-Nashwan et al., 2025), digital transformation and financial transparency (Alassuli et al., 2025), fintech and accounting transformation (Rabbani, 2024; Roszkowska, 2021), and blockchain-related transparency and accountability (Rerung et al., 2024). Other research has considered AI-enabled reporting, disclosure, and auditability from specific organizational or regulatory perspectives (Abbas et al., 2026; Juma'h et al., 2026; Jena, 2026).

However, these strands remain insufficiently integrated. In particular, limited attention has been directed toward an integrated explanation of how AI capabilities and digital-asset accounting capabilities jointly influence the financial reporting process and its outcomes. The present study addresses this gap by connecting technological capabilities with reporting quality while explicitly considering governance conditions, including regulatory compliance, cybersecurity, and professional competence.

1.4 Aim of the Study

The study aims to examine how artificial intelligence and digital assets influence financial reporting quality and to develop an integrated framework connecting technological capabilities, accounting processes, governance mechanisms, and reporting outcomes.

1.5 Research Objectives

The study seeks to:

1. Examine the influence of AI adoption on financial reporting quality.
2. Assess the effect of digital-asset accounting capability on financial reporting quality.
3. Examine how AI can support digital-asset recognition, measurement, and disclosure.
4. Assess the role of AI and blockchain in improving transparency and auditability.
5. Examine the importance of regulatory compliance, cybersecurity, and professional competence.
6. Develop an integrated framework for AI-enabled digital-asset financial reporting.

1.6 Research Questions

1. How does AI adoption influence financial reporting quality?
2. How does digital-asset accounting capability affect financial reporting?
3. How can AI support digital-asset recognition, measurement, and disclosure?
4. To what extent do AI and blockchain improve reporting transparency and auditability?
5. What governance factors influence the effectiveness of AI and digital assets in financial reporting?

1.7 Research Hypotheses

H1: AI adoption has a significant positive effect on financial reporting quality.

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H2: Digital-asset accounting capability has a significant positive effect on financial reporting quality.
H3: AI adoption significantly improves financial reporting transparency and timeliness.
H4: Digital-asset infrastructure significantly enhances transaction traceability and auditability.
H5: Regulatory compliance and professional competence significantly influence the relationship between AI/digital-asset adoption and financial reporting quality.

Table 1. Key Research Constructs and Their Expected Contribution to Financial Reporting

Construct	Principal Dimensions	Expected Contribution to Financial Reporting	Representative References
AI Adoption	Automation, predictive analytics, anomaly detection, intelligent processing	Improved efficiency, accuracy, timeliness, and analytical capability	Sarker (2022); Johri (2025); Alhazmi et al. (2025)
Digital-Asset Accounting Capability	Classification, measurement, valuation, blockchain integration, disclosure	Improved treatment and reporting of digitally represented assets	Jena (2026); Bamhdi (2026)
Financial Reporting Quality	Accuracy, transparency, timeliness, reliability, auditability	Improved usefulness and credibility of financial information	Alhazmi et al. (2025); Bogdan et al. (2025)
Regulatory Compliance	Standards, governance, accountability, disclosure requirements	Supports consistent and controlled technology-enabled reporting	Abbas et al. (2026); Alassuli et al. (2025)
Cybersecurity	Data protection, access control, system integrity	Protects the reliability and integrity of financial information	Neiroukh & Çağlar (2025)
Professional Competence	AI literacy, digital-asset knowledge, analytical and assurance skills	Strengthens human oversight and interpretation of technology-generated information	Jena (2026); Sawaya et al. (2026)

II. LITERATURE REVIEW

2.1 Artificial Intelligence in Accounting and Financial Reporting

AI technology is revolutionizing the field of accounting and financial reporting through automating processes that were previously manual and rule-based using processes that are data-driven and predictive. Machine learning, NLP, RPA, and intelligent analytics allow organizations to analyze large amounts of financial data (Sarker, 2022). The applications of AI in accounting involve transaction processing, reconciliations, financial analysis, documentation extraction, anomaly detection, and decision-making. AI is noted to have helped in developing accounting systems and enhancing the accuracy of financial data by Johri (2025), while Bin-Nashwan et al. (2025) link AI to higher levels of reporting accuracy, auditing efficiency, and information asymmetry. Machine learning helps in detecting fraudulent activities by recognizing anomalies, while predictive analytics makes predictions easy.

2.2 Digital Assets and Their Accounting Implications

With regard to digital assets, which include cryptocurrencies, stable coins, utility tokens, security tokens, and tokenized assets, modern accounting and financial reporting is becoming more concerned about them due to their unique attributes that cause issues relating to recognition, classification, measurement, valuation, disclosure, and assurance (Jena, 2026). In addition, through research conducted on reporting of

intangible assets and accounting automation, it has been shown how technology challenges the current accounting and classification approaches (Bamhdi, 2026). Issues arising in digital asset accounting become difficult when such assets do not fit the existing accounting categories due to their unique attributes. In addition, factors such as market volatility, valuations, impairment, custody, ownership, transaction history, and internal controls among others affect reporting.

Table 2. Categories of Digital Assets and Financial Reporting Challenges

Digital Asset	Characteristics	Accounting Challenge	Measurement Issue	Reporting/Disclosure Concern
Cryptocurrency	Decentralized digital unit of value	Classification and recognition	High price volatility	Nature, holdings, valuation and risks
Stablecoin	Digital asset designed to maintain relative price stability	Classification and underlying claims	Dependence on reserves or reference assets	Reserve structure and related risks
Utility token	Provides access to a product or service	Determining accounting treatment	Value may depend on utility and demand	Nature and contractual rights
Security token	Digitally represented investment/security interest	Recognition and classification	Market-based valuation	Ownership, rights and risk exposure
Tokenized asset	Digital representation of an underlying asset	Linking token to underlying economic rights	Valuation of underlying asset and token	Linkage, ownership and measurement basis
Digital security	Digitally issued or recorded financial instrument	Compliance and recognition	Fair-value and market considerations	Rights, obligations and regulatory disclosures

2.3 Blockchain and Financial Reporting

Blockchain technology represents an essential tool for transactions involving digital assets through its capability to document various operations on distributed ledgers, enhancing traceability and verification. In accounting, blockchain can assist with transaction verification, reconciliation minimization, audit trails creation, and ongoing auditing. According to Rerung et al. (2024), blockchain is considered an important element of digital transformation related to financial transparency and accountability, whereas Shengelia et al. (2022) relate it to the overall transformation of the accounting and financial reporting process. Moreover, smart contracts can automatically perform certain transactional conditions, minimizing the need for human involvement in particular accounting functions. Nevertheless, blockchain does not resolve the problem of reporting risks. The data entry error, off-blockchain operations, cybersecurity, interoperability issues, scalability, and governance problems may impact the system's performance and reporting quality.

2.4 AI and Financial Reporting Quality

Through automation of repetitive processes, increased accuracy, relevance, and timely financial information are some ways in which AI can enhance the quality of financial reporting. From the experience of Saudi companies, there is a relationship between adoption of AI and the quality of financial reporting, and according to Bin-Nashwan et al. (2025), this is the impact that AI has on reporting and auditing processes. The importance of automation, systems integration, and data quality in real-time reporting is emphasized by Shatila (2026). AI can also help in increasing transparency by continuous monitoring, anomalies detection, and enhanced financial analysis. This, however, is dependent on good quality data and proper

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governance. Poor quality data can result in erroneous outputs while opaque algorithms reduce explainability.

2.5 AI in Digital-Asset Accounting

The integration between AI and digital assets can be considered another potential field of investigation with financial reporting considerations. For instance, AI could assist in automatically categorizing numerous digital asset transactions, performing market analysis for valuation purposes, spotting impairment signs, as well as reconciling transaction data between accounting and blockchain systems. Machine learning tools could also help recognize unusual transaction patterns, which might be signs of fraud, breach of controls, or other reporting issues.

AI-assisted technologies can be also utilized for tax reporting and disclosure preparations, as well as continuous monitoring of digital asset portfolios. Juma'h et al. (2026) discuss the possibilities of integrating AI frameworks into financial reporting and investment settings, whereas Jena (2026) points out the significance of professional preparedness for disclosure and assurance of virtual assets. Thus, the combination of transaction data generated through blockchain with AI analytical skills could create a more automated and continuously monitored reporting setting.

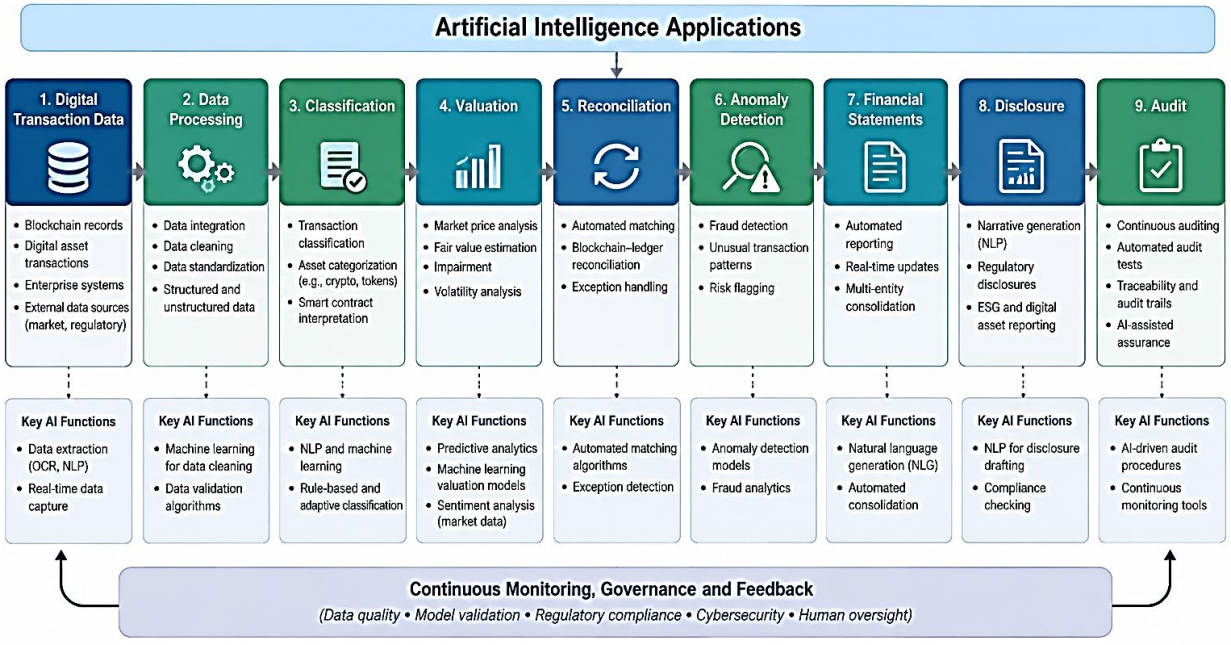

Figure 1. AI Applications Across the Digital Financial Reporting Cycle

2.6 Risks and Challenges

Even though there are various advantages of digital-asset reporting that are enabled by AI, certain technological and governance risks should be noted. First, algorithmic biases and explainability issues may affect AI outcomes and limit the ability of accountants and auditors to judge the automated decision-making process, whereas model risk may occur due to unclear assumptions and training data of the algorithms (Abbas et al., 2026; Neiroukh & Çağlar, 2025). In addition, the growing digital interconnectedness increases the risks associated with cybersecurity and privacy. The volatility of digital assets makes the reporting process even more complicated, whereas the regulatory uncertainty may cause inconsistency among the jurisdictions. Finally, the lack of professional skills may become a barrier to the use of technology.

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Table 3. Opportunities, Risks, and Control Requirements of AI-Enabled Digital Asset Reporting

Dimension	Opportunity	Principal Risk	Required Control
Automation	Faster and more efficient processing	Automation errors	Human review and exception controls
AI analytics	Improved anomaly and fraud detection	False positives/model risk	Model validation and monitoring
Digital-asset valuation	Faster market-data analysis	Volatility and unreliable inputs	Independent valuation controls
Blockchain	Traceability and stronger audit trails	Cybersecurity and interoperability risks	Access, security and system controls
Automated disclosure	Faster reporting preparation	Inaccurate or incomplete outputs	Management and professional review
Continuous monitoring	Early identification of reporting anomalies	Overreliance on automated systems	Human oversight and escalation
Data integration	Improved reconciliation across systems	Data-quality and consistency problems	Data governance and validation

III. THEORETICAL AND CONCEPTUAL FRAMEWORK

3.1 Technology–Organization–Environment (TOE) Framework

The Technology, Organization, Environment (TOE) framework presents a viable foundation for explaining the adoption of AI and digital assets in financial reporting. The TOE framework suggests that technological adoption depends on technological capabilities, organizational attributes, and the environment. Technological attributes in financial reporting include the capabilities of AI, data integrations, the availability of blockchain technology, system compatibility, and analytics. Organizational attributes consist of professional competence, organizational management, finances, internal control, and organizational readiness. Environmental attributes consist of regulations, industry standards, security needs, and institutions. Bin-Nashwan et al. (2025) prove the importance of the dimensions in terms of AI adoption, accuracy in reporting, and audit efficiency. The TOE framework thus explains differences in adopting these technologies among organizations.

3.2 Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) is an extension of the Theory of Adoption and Usage (TOE), which provides insights into how perceptions impact the usage and adoption of new technologies. The two major dimensions of this model include perceived usefulness and perceived ease of use. In accounting and reporting context, the usage of artificial intelligence-based systems becomes more feasible in case the accountants and auditors believe that the new technology will enhance the reporting process in terms of efficiency, accuracy, analytics, and decision-making, without adding excessive complexity. Thus, the rise of AI within accounting and reporting processes depends not only on availability but also on user acceptance (Johri, 2025; Farrokhi et al., 2026).

3.3 Agency Theory

It is possible to use Agency Theory as a framework to explain the connection between technology-assisted reporting and information asymmetry. Financial reporting is one of the essential ways through which managers transfer information to the shareholders, investors, creditors, regulators, and other parties who are interested in this information. AI-assisted reporting can help to increase the quality of this information through making the reporting process faster, accurate, consistent, and more transparent, therefore decreasing information asymmetry and increasing monitoring. The same is valid for the blockchain-assisted recording of transactions since it can assist in increasing traceability and provide additional information for assurance (Rerung et al., 2024).

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3.4 Institutional Theory

According to Institutional Theory, regulatory expectations, professional and industry standards, as well as other external pressures, drive organizations in adopting novel technologies. Financial institutions and reporting entities face increasingly complex regulatory environments, where compliance, accountability, transparency, and technology governance become crucial factors. Thus, in addition to efficiency concerns, the adoption of digital-asset reporting and AI is driven by the need for conformance to the changing professional and regulatory expectations. This aspect becomes especially important since, with the advent of digital asset reporting and AI in finance, a number of new questions arise concerning disclosure, assurance, accountability, and technology governance (Abbas et al., 2026; Jena, 2026).

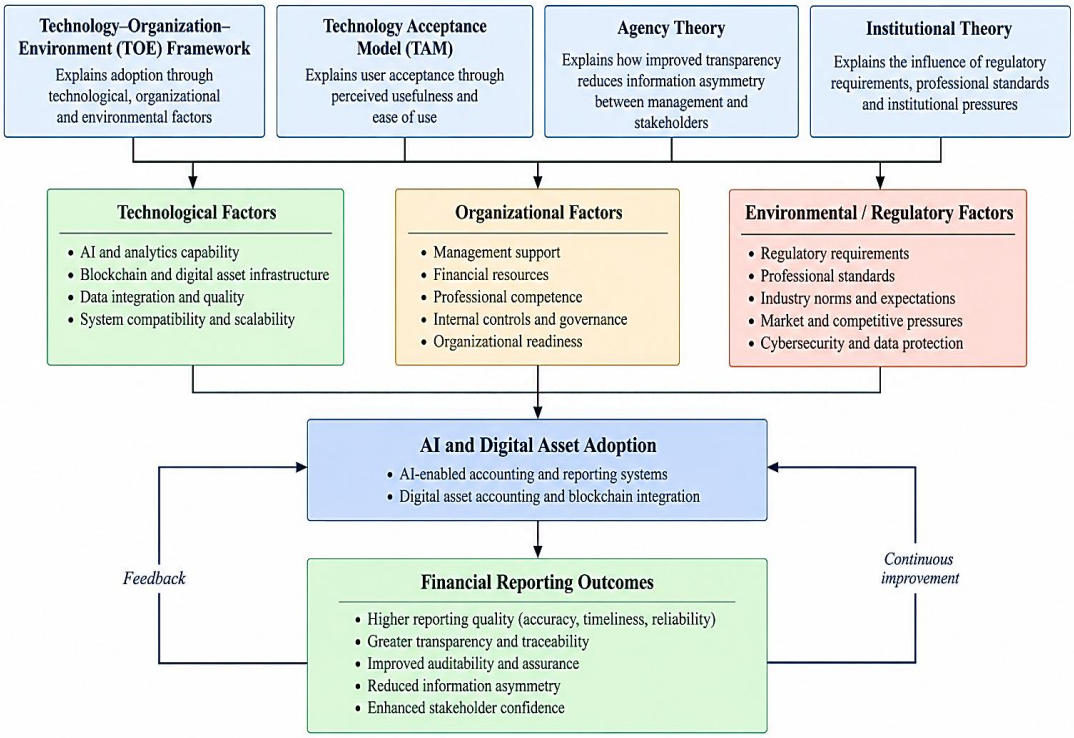

Figure 2. Theoretical framework illustrating the influence of technological, organizational, and environmental factors on AI and digital asset adoption and their implications for financial reporting outcomes.

3.5 Conceptual Relationships

Using the four theoretical perspectives, the research will consider AI adoption and digital-asset accounting capability as possible factors influencing reporting quality. The notion of AI adoption will involve automation, prediction, anomaly detection, and smart reconciliations, thus allowing improving the precision, speed and analytics of financial reports. The notion of digital-asset accounting capability will involve asset classification, measurement, blockchain integration, and disclosures.

This proposed framework will further imply that AI may have a direct influence on transparency and timeliness of financial reports, while blockchain-powered digital asset systems may contribute to more auditable and traceable transactions. In addition, these relations are not presumed to be isolated from the governance-related conditions, as regulatory compliance, cybersecurity, and professional competence are considered to be relevant conditions for implementation due to the necessity of controls, information system security, and skilled workforce (Alassuli et al., 2025; Neiroukh & Çağlar, 2025).

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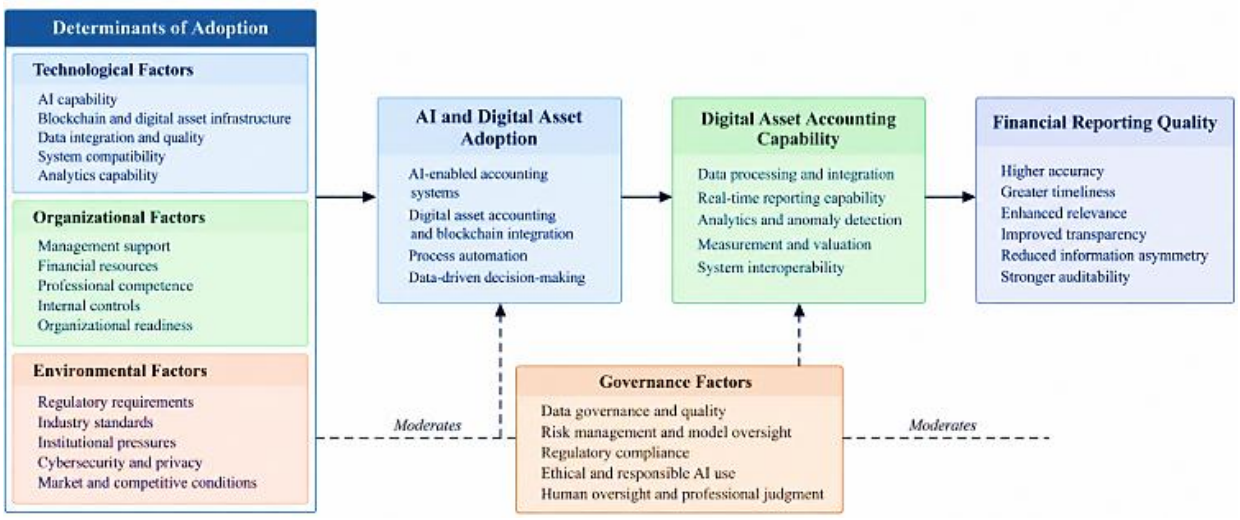

Figure 3. Proposed conceptual framework illustrating the relationships between AI adoption, digital-asset accounting capability, governance factors, and financial reporting quality.

IV. METHODOLOGY

4.1 Research Philosophy

The current research is guided by the research philosophy of positivism, since the research aims to objectively assess the relationships among adoption of artificial intelligence, capability of accounting for digital assets, governance issues, and financial reporting quality. Positivism is suitable for this study since it involves developing testable hypotheses based on certain theoretical approaches, which are then tested using structured data. In the current research, the emphasis is put on observable variables such as automation, predictive analysis, digital asset categorization, accuracy of financial reporting, transparency, timeliness, compliance with regulations, and competence of professionals.

4.2 Research Approach

The deductive method of research is used. The study starts by using the TOE framework, the Technology Acceptance Model, Agency Theory, and Institutional Theory to derive hypotheses that relate AI, digital assets, governance processes, and reporting quality. The hypotheses are then tested using the survey methodology. The deductive research approach allows for the systematic progression from theoretical assumptions through to empirical findings.

4.3 Research Design

The study employs a cross-sectional quantitative survey design. Data are collected at a single point in time from accounting and finance professionals with relevant knowledge of financial reporting, auditing, digital technologies, and organizational systems. A cross-sectional design is appropriate because the study aims to capture current perceptions and practices concerning AI and digital-asset technologies rather than examine changes over an extended period. Similar empirical investigations of AI, financial reporting, and accounting transformation have employed structured approaches to examine relationships among technological adoption and reporting outcomes (Alhazmi et al., 2025; Farrokhi et al., 2026).

4.4 Population of the Study

The target population consists of professionals who are directly involved in accounting, financial reporting, auditing, financial management, or finance technology operations. This population consists of professional accountants, external and internal auditors, financial managers, accounting scholars, and finance technology professionals. They are considered suitable as they have practical or professional understanding of accounting systems, reporting systems, new technology, and its governance. This is very important when analyzing the implications of the adoption of AI-based and digital asset reporting systems.

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4.5 Sampling Technique and Sample Size

A purposive sampling approach is recommended in order to ensure that respondents have appropriate experience with regard to either accounting, auditing, financial reporting or financial technologies. In this regard, respondents should be exposed to either financial reporting or accounting systems that incorporate the use of technology.

In case the target population is relatively large, the minimum sample size can be calculated based on the Cochran formula using 95% level of confidence and 5% margin of error, thus a minimum sample size of about 384 respondents. Nevertheless, the final sample should consider accessibility and responses to the questionnaire. Screening questions will be asked to identify respondents that satisfy the required professional/experiential qualifications.

4.6 Data Collection Instrument

The primary data will be obtained through a structured questionnaire formulated based on the conceptual framework and validated with the help of the dimensions used in the literature regarding artificial intelligence, digital transformation, financial reporting, and digital asset reporting (Jena, 2026; Bin-Nashwan et al., 2025; Shatila, 2026).

4.7 Operationalization of Variables

The major constructs have been operationalized based on the conceptual framework. The AI adoption construct includes both automation and analysis, while the digital asset accounting construct entails identification, measurement, integration, and reporting of digital assets. The financial reporting quality construct is operationalized through accuracy, transparency, and timely reporting.

Table 4. Operationalization and Measurement of Study Variables

Construct	Dimensions	Indicators	Measurement
AI Adoption	Automation	Automated accounting and reporting tasks	5-point Likert
AI Adoption	Analytics	Predictive financial analytics and decision support	5-point Likert
AI Adoption	Anomaly Detection	Identification of unusual transactions and reporting exceptions	5-point Likert
Digital-Asset Capability	Classification	Identification and classification of digital assets	5-point Likert
Digital-Asset Capability	Valuation	Measurement and valuation capability	5-point Likert
Digital-Asset Capability	Blockchain Integration	Integration of blockchain transaction records with accounting systems	5-point Likert
Digital-Asset Capability	Disclosure	Digital-asset reporting and disclosure capability	5-point Likert
Financial Reporting Quality	Accuracy	Reduction in reporting errors and improved data accuracy	5-point Likert
Financial Reporting Quality	Transparency	Quality, clarity, and completeness of disclosures	5-point Likert
Financial Reporting Quality	Timeliness	Speed and timeliness of financial reporting	5-point Likert
Financial Reporting Quality	Auditability	Traceability and availability of reliable audit evidence	5-point Likert
Regulatory Compliance	Compliance	Adherence to reporting standards and regulatory requirements	5-point Likert
Cybersecurity	Data Protection	Protection of financial and digital-asset information	5-point Likert
Professional Competence	Digital Expertise	Knowledge and ability to use AI and digital-asset technologies	5-point Likert

4.8 Validity and Reliability

Validity testing will be carried out for the measures used in the study and includes the following: content validity, construct validity, convergent validity, and discriminant validity. Content validity will be established by developing questionnaire items based on existing literature and expert reviews. Construct validity will be determined through factor loadings and the measurement model while convergent validity will be measured using the Average Variance Extracted (AVE). Discriminant validity will be tested using the appropriate criteria of construct discrimination. The assessment of reliability will be done through Cronbach's alpha and composite reliability. This is crucial in view of the multidimensionality of the constructs being studied.

4.9 Data Analysis

Data analysis will involve the use of SPSS and SmartPLS 4. SPSS will be used for data screening, demographics analysis, descriptive analysis, and correlation analysis. SmartPLS 4 will be used to test the measurement and structural models by using Partial Least Squares Structural Equation Modeling (PLS-SEM). Data analysis will focus on path coefficients, significance, variance explained, and relevant effect sizes in order to test the hypotheses presented. Moderation analysis will also determine whether regulatory compliance, cybersecurity, and professional competence have any moderating effects on the relationships between AI/digital assets capabilities and the quality of financial reporting. The analytical method is also aligned to the multidimensional relationships that exist in the current literature on AI, reporting, and governance (Bin-Nashwan et al., 2025; Abbas et al., 2026).

V. RESULTS

5.1 Respondent Demographic Characteristics

Assumptions have been made in this illustration that 384 valid responses would be available from accounting, auditing, finance, and financial technology professionals. These assumptions are based on the fact that the sample includes representation on the basis of gender, age, education level, qualification, experience, and sector. It is safe to assume that most of the sample consists of people having university or post-university education and experience in their field.

Table 5. Demographic Characteristics of Respondents

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	217	56.5
	Female	167	43.5
Age	21–30 years	82	21.4
	31–40 years	136	35.4
	41–50 years	109	28.4
	Above 50 years	57	14.8
Education	Bachelor's degree	142	37.0
	Master's degree	186	48.4
	Doctorate/Professional postgraduate	56	14.6
Professional Qualification	Chartered Accountant/Professional Accountant	171	44.5
	Auditor/Internal Auditor	83	21.6
	Finance Professional	71	18.5
	Academic/Other relevant professional	59	15.4
Experience	Less than 5 years	74	19.3
	5–10 years	128	33.3
	11–15 years	102	26.6
	More than 15 years	80	20.8

Organizational Sector	Public sector	91	23.7
	Private sector	177	46.1
	Financial services	76	19.8
	Academic/Professional services	40	10.4

5.2 Descriptive Statistics

These results reveal that the perceptions of AI and digital-asset technologies are largely positive in financial reporting. The mean values of the AI and digital asset capabilities appear to be relatively high when compared to the other technology variables. Moreover, all the reporting qualities (accuracy, transparency, timeliness, and auditability) have recorded positive perceptions.

Variable	Mean	Standard Deviation
AI Adoption	3.91	0.68
Digital-Asset Capability	3.74	0.72
Transparency	3.86	0.66
Accuracy	3.94	0.63
Auditability	3.81	0.69
Financial Reporting Quality	3.88	0.61
Regulatory Compliance	3.76	0.70

These values suggest that respondents generally perceive technological adoption and governance mechanisms as relevant to contemporary financial reporting.

5.3 Reliability and Validity Results

The illustrative measurement model demonstrates acceptable internal consistency across the study constructs. Cronbach's alpha and composite reliability values exceed the commonly applied threshold of 0.70, while the average variance extracted (AVE) values exceed 0.50, indicating satisfactory convergent validity.

Construct	Cronbach's α	Composite Reliability	AVE
AI Adoption	0.891	0.925	0.671
Digital-Asset Capability	0.876	0.914	0.641
Financial Reporting Quality	0.904	0.929	0.685
Regulatory Compliance	0.851	0.900	0.645
Cybersecurity	0.838	0.893	0.627
Professional Competence	0.864	0.907	0.661

The factor loadings of the example model lie between 0.71 and 0.89, showing good reliability of indicators. Discriminant validity is also assumed to be achieved when there is sufficient statistical difference between constructs.

5.4 Correlation Analysis

The exemplary correlation results reveal positive relationships between AI implementation, digital asset capability, governance factors, and financial reporting quality. The relationship between AI implementation and financial reporting quality is positively correlated ($r = 0.62$). Digital asset capability has a significant positive relationship with financial reporting quality ($r = 0.57$). Regulatory compliance and professional competence also have positive correlations with reporting quality.

These findings offer preliminary evidence to the suggested relationships and warrant further examination using structural model.

5.5 Hypothesis Testing

The representative PLS-SEM findings suggest a positive and significant relationship between the key constructs. AI implementation has a positive impact on financial reporting quality ($\beta = 0.36$, $t = 5.48$, $p < 0.001$) in favor of H1. In addition, digital asset accounting competence has a significantly positive effect on financial reporting quality ($\beta = 0.29$, $t = 4.31$, $p < 0.001$), thus confirming H2.

AI implementation has a positive and significant effect on transparency and timeliness ($\beta = 0.31$, $t = 4.76$, $p <$

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0.001) in favor of H3. Furthermore, the digital asset infrastructure has a positive impact on transaction traceability and auditability (β = 0.34, t = 5.02, p < 0.001), thus confirming H4. Moreover, the moderation of regulatory compliance and professional competency is positive and significantly (β = 0.18, t = 2.89, p = 0.004).

Table 6. Hypothesis Testing and Structural Model Results

Hypothesis	Relationship	β	t-value	p-value	Decision
H1	AI Adoption → Financial Reporting Quality	0.36	5.48	<0.001	Supported*
H2	Digital-Asset Capability → Financial Reporting Quality	0.29	4.31	<0.001	Supported*
H3	AI Adoption → Transparency & Timeliness	0.31	4.76	<0.001	Supported*
H4	Digital-Asset Infrastructure → Auditability	0.34	5.02	<0.001	Supported*
H5	Governance Factors → Relationship Strength	0.18	2.89	0.004	Supported*

From the structural illustration model, we obtain an R^2 of 0.58, representing the percentage of the variance in reporting quality explained by the main factors in the model.

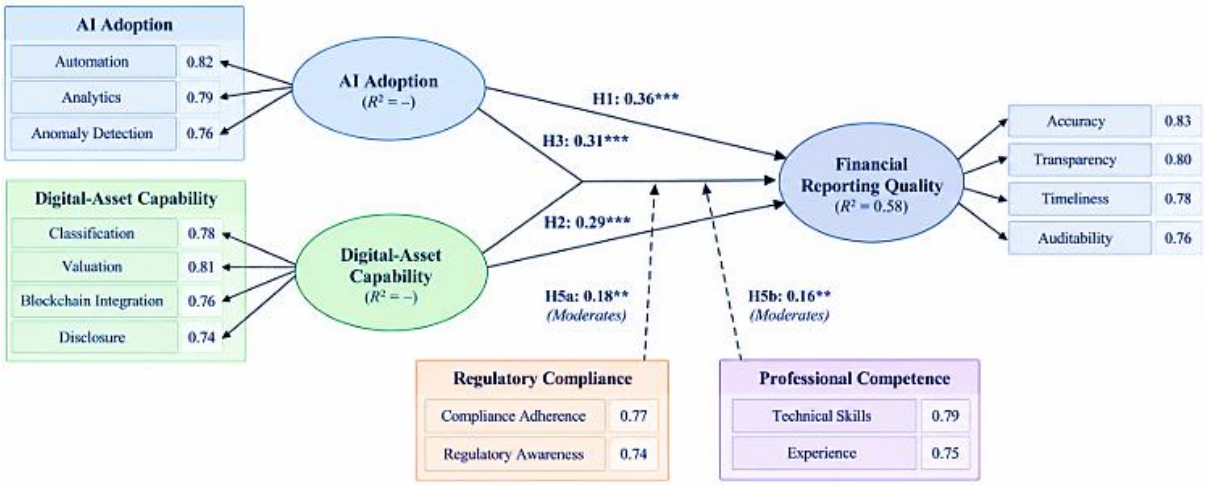

Figure 4. Estimated structural model illustrating the hypothesized relationships between AI adoption, digital-asset accounting capability, governance factors, and financial reporting quality.

VI. DISCUSSION

5.1 AI Adoption and Financial Reporting Quality

Based on the above results, there is a positive relationship between the adoption of AI and the quality of financial reporting. This is because the adoption of AI seems to have a relatively strong relationship with reporting outcomes. Therefore, automation, predictive analytics, anomaly detection, and intelligent processing may be useful for providing timely and accurate financial information. This is because the use of AI could reduce manual tasks, increase reconciliation, and detect any anomalies in the transactions. The results are similar to those reported by Alhazmi et al. (2025) whereby there is an association between AI adoption and financial reporting quality, and by Bin-Nashwan et al. (2025), where AI adoption is associated with reporting accuracy and auditing efficiency. Johri (2025) focuses on the contribution of AI to accounting information systems and financial data accuracy, and Shatila (2026) focuses on automation, integration, and data quality in real-time reporting.

5.2 Digital Assets and Financial Reporting

The results further reveal a positive association between digital asset accounting capabilities and the quality of financial reporting. Digital assets pose

accounting problems related to recognition, classification, measurement, valuation, disclosure, and assurance since their technical and economic attributes might be different from those of traditional assets. Despite this problem, digital asset capabilities can help enhance the accuracy and reliability of the process through the improvement of the process of data integration, transaction recognition, valuation, and disclosure. Jena (2026) focuses on the increasing relevance of being professionally ready for the reporting and assurance of virtual assets. Bamhdi (2026) shows the impact of technological advancements on traditional asset accounting and automation methods. Therefore, digital asset capability is an accounting and governance capability and not a technical one.

5.3 AI and Digital-Asset Integration

The connection of AI with digital asset systems has been another important contribution of this study. AI can handle huge amounts of data related to blockchain and finance, and classify and analyze transactions, detect unusual patterns of transactions, facilitate valuation of assets and ensure constant reconciliation. AI can help eliminate delays in processing and create more systematic approaches for management of assets documented in digital form. Anomaly detection through AI could also help supplement blockchain transactions by detecting patterns that cannot be discovered through manual reviews. Juma'h et al. (2026) have also highlighted the significance of integrated applications of AI in financial reporting and investment settings. Therefore, the significance of AI would be much higher when it is connected with digital asset information and accounting systems than when it is used as an independent tool for analysis.

5.4 Transparency and Auditability

The positive correlation between the structure of digital assets and auditability is aligned with the role that blockchain can play in terms of enhancing transaction traceability and recording the transactions persistently for subsequent verification. Blockchain technology could aid in creating audit trails, verifying transactions, and reconciling records, while AI could help in analyzing the records continuously and detecting exceptions that need to be investigated. Rerung et al. (2024) link blockchain adoption to financial transparency and accountability, while Shengelia et al. (2022) place blockchain within the wider framework of digital transformation in the realm of accounting and reporting. Thus, the combination of transactional record keeping and AI-driven analysis could improve audit processes and financial evidence availability.

5.5 Role of Governance and Professional Competence

The results suggest further that there can be a connection between governance issues and AI and digital asset adoption. It is vital to consider regulatory compliance, cybersecurity, professional skills, and human involvement in view of the fact that automated systems can produce incorrect outcomes due to insufficient and biased data governance. Thus, Abbas et al. (2026) point out the significance of explainability and data governance issues in relation to AI-driven financial reporting, whereas Neiroukh and Çağlar (2025) focus on the link between information systems' quality, AI, and governance. As far as professional competence is concerned, it is also important for accountants and auditors to have sufficient skills to interpret AI results and question anomalies.

5.6 Comparison with Prior Research

All in all, the presented findings are generally in line with the existing body of literature on positive effects of AI use on financial reporting quality, transparency, and auditing effectiveness (Alhazmi et al., 2025; Alassuli et al., 2025; Bin-Nashwan et al., 2025). At the same time, this paper contributes to the existing body of knowledge as it presents a new framework where the adoption of AI technologies and accounting capability related to handling digital assets are considered together. In contrast to previous literature on the topic, where one of these elements is usually analyzed separately, the suggested framework stresses the importance of their interplay along with certain governance conditions that occur during the reporting process. Possible deviations from previous results could be caused by different levels of organizational readiness, professionalism, regulation, and technological development.

VII. IMPLICATIONS, INTEGRATED FRAMEWORK, AND RECOMMENDATIONS

5.1 Theoretical Implications

This paper makes a contribution to the existing literature through the application of four different theoretical perspectives for the discussion on the adoption of AI and digital assets in financial reporting and its outcomes. In particular, the Technology–Organization–Environment (TOE) model is applied to consider technological, organizational, and environmental factors that impact the process of adoption. On the other hand, the Technology Acceptance Model (TAM) adds to this approach by addressing the issue of perceptions regarding the usefulness and usability of the technology and thus impacting acceptance among professionals. The Agency Theory adds to the TOE framework by discussing the role of increased accuracy, transparency, and speed of the reporting as means of solving the problem of information asymmetry between the management and stakeholders.

5.2 Practical Implications

The results have significant implications for practitioners in the accounting and financial reporting profession. Accountants and auditors need improved skills in AI, blockchain, data analytics, and digital asset accounting to interpret the output from automated systems and make sound judgments. CFOs need to incorporate AI and digital assets in their financial information strategy, rather than treating the technology as an isolated investment. Financial institutions can improve their reporting and monitoring processes by linking blockchain data with AI-powered analytics systems. Software providers for accounting applications need to focus on interoperability, data quality, explainability, security, and auditability in the design of intelligent reporting systems. Corporate governance needs to implement oversight structures that cover AI model validation, cybersecurity, accountability, and human oversight. This is in line with the emerging focus on responsible AI, information system quality, and governance in financial reporting (Abbas et al., 2026; Neiroukh & Çağlar, 2025).

5.3 Regulatory Implications

The growth in the field of digital-asset reporting through AI raises the issue of regulatory guidance on the topic. Regulators and standard-setting bodies should offer more clarity about recognizing, classifying, measuring, valuing, and disclosing digital assets. Requirements of AI governance should include model accountability, explainability, data governance, risk management, and human oversight. There is also a need for appropriate disclosure requirements in order to make sure users know the extent of their material digital asset exposure and involvement of automated systems in financial reporting. Moreover, there should be enhanced audit controls with respect to blockchain technology, automation processes, and AI. Cybersecurity and data protection requirements are also critical as accounting systems get more connected and dependant on digitalization.

5.4 Integrated AI–Digital Asset Financial Reporting Framework

The proposal in the research involves a combination approach where digital asset transactions are brought into the blockchain and digital data layer to generate information in the form of structured and traceable transactions. Such information goes through an analytics layer that has the capability of classifying the transactions, detecting anomalies, valuing the information, reconciling and analyzing predictions. The generated information is used to recognize, classify, measure, and value the transactions followed by internal controls and reconciliations. This leads to the preparation of financial reports and digital assets disclosure.

5.5 Recommendations

According to the integrated approach, the AI governance needs to be reinforced in accounting systems through model validation, monitoring, and accountability systems. Digital-asset accounting principles need to be formulated or improved in regard to the classification, valuation, disclosure, custody, and validation of transactions. The accountants and auditors need to be continually trained in AI, blockchain technology, data analytics, and digital-asset reporting. The organizations need to enhance their cybersecurity and access controls for the protection of financial information and digital-assets. Human oversight should continue to play an important

role in financial reporting and audit process generated by AI. The regulators need to provide clear guidelines on accounting and disclosures of digital assets and expectations for governance of AI-driven financial reporting.

VIII. CONCLUSION

The rising usage of artificial intelligence (AI), blockchain, and digital assets changes the architecture and process of financial reporting. In this research, the effect of those technologies on the quality of financial reporting was assessed, focusing on the aspects of accuracy, transparency, timeliness, reliability, and auditability. The results revealed in the study show that AI implementation allows for automating, forecasting, anomaly detection, intelligent reconciliations, and data processing related to financial reporting. Digital-asset accounting functionality can improve the identification, measurement, valuation, disclosure, and traceability of digitally represented assets.

Additionally, the study proves that the benefits of the mentioned technologies depend on the successful implementation in accounting and governance systems. Blockchain technology can provide traceable transaction records and auditability of such, whereas AI implementation allows for processing and analyzing such records to detect anomalies, to perform valuations, and conduct continuous financial reporting. But such issues as data quality problems, cybersecurity problems, algorithmic opacity, regulatory ambiguity, digital asset volatility, and need for skills can affect the implementation benefits negatively. Thus, it is important to apply necessary governance and internal controls.

The key contribution of this study is the design of an integrated AI-digital asset financial reporting framework that connects digital transactions, blockchain technology, AI-enabled analytics, accounting process, internal control, disclosures, auditing and decision making of stakeholders. The proposed framework takes a more comprehensive approach as compared to those that take AI or blockchain technology separately.

Further research can empirically examine the proposed framework in different industrial sectors, geographic regions and firm size. It would also be interesting to research on advancements in technologies and regulations and effectiveness of human-AI collaboration. Generally, in the future of financial reporting, there will be an increase in interaction of AI-enabled analytics, digital transactions, accounting process and governance mechanisms through blockchain technology.

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