

Artificial Intelligence Adoption and Financial Reporting Transparency: Evidence from Listed Firms in Nigeria

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Abstract: Artificial intelligence is gradually transforming accounting, auditing, corporate reporting, and digital governance by improving data processing, internal control monitoring, fraud detection, and disclosure procedures. However, it's still unclear whether implementing artificial intelligence truly improves financial reporting transparency or if it's merely a symbolic disclosure strategy, despite the fact that listed companies in Nigeria are increasingly utilizing digitalization, automation, and analytics. This research looks at how financial reporting transparency among listed companies in Nigeria are affected by the use of artificial intelligence. Using secondary data from annual reports, corporate governance reports, sustainability reports, and Nigerian Exchange Group disclosures of listed businesses with complete data from 2019 to 2024, the study employs an ex post facto and correlational research design. AI adoption and financial reporting transparency were examined using panel regression, and the severity of AI disclosure was measured using content analysis. The results show that financial reporting transparency is positively and significantly impacted by the application of artificial intelligence. The outcome also demonstrates that while corporate governance quality boosts the link between AI adoption and transparent financial reporting, AI disclosure intensity promotes transparency. By demonstrating how AI adoption can serve as a governance mechanism that improves transparency, the study adds to the body of knowledge on AI accounting. However, its effectiveness in an emerging market comes from actual implementation rather than symbolic AI signaling.

Keywords: Adoption of AI; Transparency in Financial Reporting; Listed Companies; Corporate Governance; AI Disclosure; Nigeria.

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I. INTRODUCTION

Artificial intelligence is now a central mechanism for processing, verifying, and communicating accounting information, rather than a peripheral technological tool. According to Anantharaman, Rozario, and Zhang (2023), adopting AI can improve the predictive usefulness of accounting estimates and produce spillover benefits for audit quality. This implies that AI could affect financial information production as well as assurance. More precisely, artificial intelligence (AI) facilitates automation, predictive analytics, anomaly detection, natural language processing, and continuous audit processes, all of which can shorten the time it takes for manual processing and increase the consistency of reporting decisions (Kokina et al., 2025).

Although these features point to possible advancements in reporting systems, algorithmic tools can also introduce new risks related to explainability, accountability, and professional judgment, so they do not always ensure transparency (Lehner et al., 2022). Therefore, rather than relying solely on technological assumptions, the applicability of AI to financial reporting transparency needs to be investigated empirically.

The degree to which corporate reports give investors, regulators, and other stakeholders' timely, accurate, comprehensive, readable, and decision-useful information is known as the transparency of financial reporting. Nguyen, Thuy, and Vinh (2024) assert that the readability of annual reports and the caliber of financial reporting are directly

correlated because unclear or complicated reporting exacerbates information asymmetry and impairs users' comprehension of firm performance. In a similar vein, Dau, Tran, and Nguyen (2024) demonstrate that investment decisions are influenced by the readability of annual reports, suggesting that transparency encompasses not only numerical accuracy but also the communicative quality of corporate narratives. However, Soepriyanto et al. (2021) warn that readability by itself might not always be a reliable indicator of accounting irregularities, so a more comprehensive index should be used to gauge transparency rather than a single disclosure characteristic. As a result, this study views financial reporting transparency as a multifaceted concept that includes annual report readability, disclosure completeness, audit report lag, and reporting timeliness.

The Nigerian context provides a relevant setting because listed companies function in an emerging market where investor confidence, governance credibility, and timely disclosure remain critical to capital-market development. Adoption of IFRS, corporate governance, and faithful representation are essential for the caliber of financial reporting in Nigerian institutions, according to Ayodeji et al. (2022). This implies that reporting requirements and governance frameworks have an impact on transparency. Although Nigerian listed companies are also increasingly under the pressure of digital transformation, the extent to which AI-related disclosure translates into transparent reporting has not yet been thoroughly examined. Although AI and the quality of financial reporting have been the subject of recent research in Nigeria, many of these studies focus on banks, audit quality, or survey-based perceptions rather than firm-level transparency across listed companies. This creates a methodological and empirical gap because, whereas yearly reports provide observable evidence of what companies disclose, panel data allow the study to evaluate whether AI use is associated to quantitative transparency outcomes.

The issue is that while AI is being discussed more and more in accounting and corporate reporting, there isn't enough empirical data to determine whether or not AI adoption increases financial reporting transparency among Nigerian listed companies. Li (2025) discovers that among Chinese listed companies, AI innovation enhances annual report disclosure quality, readability, and textual accuracy. However, because institutional capacity, governance enforcement, and technological maturity vary across markets, this evidence may not automatically transfer to Nigeria. Alzaghoul and Alsharari (2024) also discover that AI disclosure in US banks is rising, but their data indicates that the impact of AI depends in part on governance-related factors, which highlights the necessity of testing AI adoption in a Nigerian governance setting. Therefore, the current study investigates whether the adoption of AI serves as a substantive mechanism for enhancing transparency or only as symbolic AI signaling.

The purpose of this study is to investigate how artificial intelligence affects the transparency of financial reporting in Nigerian listed companies. The particular goals are to measure the degree of disclosure of AI adoption among

Nigerian listed companies, investigate the impact of AI adoption on financial reporting transparency, ascertain whether AI adoption enhances reporting timeliness, and assess whether corporate governance quality reinforces the relationship between AI adoption and financial reporting transparency. By expanding AI-accounting research to financial reporting transparency in an emerging African market, the work adds to the corpus of literature.

By utilizing panel regression, annual-report content analysis, and secondary data instead of depending solely on questionnaire responses, it makes a methodological contribution. By assisting managers, auditors, regulators, and investors in differentiating between substantive AI adoption and symbolic AI disclosure, it also advances practice.

II. REVIEW OF LITERATURE AND FORMULATION OF HYPOTHESES

➤ *AI's Application to Business Reporting*

The use of machine learning, robotic process automation, predictive analytics, natural language processing, and data analytics to assist in the creation, tracking, and dissemination of financial data is referred to as artificial intelligence adoption in corporate reporting.

According to Anantharaman, Rozario, and Zhang (2023), AI strengthens accounting estimates, which is crucial because estimates like impairment, provisions, and fair values frequently call for complex judgment. In a related but more comprehensive study, Li (2025) discovers that AI innovation improves the readability and accuracy of annual report disclosure, indicating that AI may have an impact on both quantitative reporting procedures and narrative disclosure quality. In contrast, Kokina et al. (2025) warn that implementation risks, professional expertise, and regulatory safeguards continue to limit the use of AI in auditing, meaning that organizational preparedness rather than just technology availability determines the usefulness of AI. This difference suggests that AI should be viewed as a reporting capability whose impact is contingent upon the extent to which it is integrated into internal controls, accounting systems, and governance practices.

Transaction processing, fraud analytics, error detection, internal control monitoring, real-time reporting, audit trail enhancement, disclosure preparation, and risk reporting in financial reporting are all areas where AI might be useful. Yang (2025) asserts that the application of AI improves the caliber of corporate accounting disclosures, particularly in businesses with superior contextual and technological skills. In a similar vein, Alhazmi (2025) shows that the application of AI in auditing and reporting creates opportunities for better financial reporting quality, but the study also notes that adoption depends on user acceptability and institutional readiness. However, Lehner et al. (2022) disprove merely positive statements by showing that AI-based accounting decision-making raises ethical questions concerning transparency, bias, accountability, and human oversight. Therefore, rather than assuming that AI adoption automatically improves reporting transparency, this study

investigates whether disclosed AI adoption is associated with measurable improvements in transparent financial reporting.

➤ *Transparency in Financial Reporting*

Financial reporting transparency is the extent to which yearly reports enable consumers to understand a company's financial status, performance, risks, and governance without excessive delay, complexity, or concealment. Nguyen, Thuy, and Vinh (2024) demonstrate how annual report readability affects financial reporting quality because readable reports reduce interpretation costs and improve users' information processing abilities. Dau, Tran, and Nguyen (2024) claim that the readability of annual reports affects investment decisions. This result supports the idea that reporting transparency affects the economy in ways other than compliance. However, Soepriyanto et al. (2021) find no consistent evidence that readability alone predicts accounting irregularities, undermining any attempt to equate transparency solely with textual simplicity. As a result, a composite financial reporting transparency index that takes into account readability, disclosure completeness, audit report lag, and reporting timeliness is used in the current study to evaluate transparency.

Because annual reports convey information through both numbers and narratives, the use of a multidimensional transparency index is also warranted. Garcia-Lacalle and Torres (2021) demonstrate how structured transparency indexes can be used to evaluate disclosure quality and transparency, supporting the use of index-based measurement in situations where the underlying concept cannot be directly observed.

According to Toumi (2024), the readability of annual reports may have an impact on the quality of information disclosure; nevertheless, readability must be considered in connection with the disclosure's content. The readability of annual reports for Nigerian listed non-financial companies is greatly impacted by board effectiveness, according to Etuk and Ibok (2024). This suggests that governance quality also affects transparency. Therefore, this study views financial reporting transparency as a more general disclosure-governance outcome rather than as a specific accounting outcome.

➤ *Financial Reporting Transparency and AI Adoption*

The application of AI could improve financial reporting transparency since automated solutions can speed up reporting procedures, improve internal controls, identify anomalous transactions, and lower human error. Li (2025) demonstrates that corporate AI innovation enhances the textual quality of annual reports, whereas Anantharaman, Rozario, and Zhang (2023) offer archival evidence that AI adoption increases the quality of financial reporting. These results lend credence to the notion that AI can improve accounting measurement and reporting communication, thereby boosting transparency. Alzaghoul and Alsharari (2024), however, demonstrate that while AI disclosure in bank reports is rising, governance conditions have an effect on AI disclosure, indicating that disclosure volume and substantive adoption are not the same. This counterargument

is important because businesses may employ digital transformation, automation, or artificial intelligence to signal innovation without demonstrating how these technologies improve the timeliness, accuracy, or readability of their reports.

A key component of this research is the differentiation between symbolic signalling and substantive adoption. AI risk disclosures in corporate filings increased significantly, according to Marin et al. (2025), but many of these disclosures remained generic or lacked mitigation details. This suggests that, depending on their specificity, AI disclosures can be either symbolic or informative. Shen et al. (2025) also use annual-report text to measure AI adoption, demonstrating that textual disclosure can be used empirically. However, researchers need to be careful not to conflate the presence of keywords with true technological integration. To differentiate the presence of AI-related disclosure from the depth of AI-related reporting, this study employs both an AI adoption dummy and AI disclosure intensity. Instead of just reflecting corporate impression management, this method enables the study to test whether AI disclosure has a quantifiable transparency effect.

➤ *Conceptual Structure*

The study is explained by agency theory, which contends that managers may have access to more information than shareholders, resulting in an information asymmetry that may erode investor confidence and reporting credibility. Dong, Thuy, and Vinh (2024) demonstrate how complex reporting can exacerbate the divide between corporate insiders and external users by connecting readability to information asymmetry. According to this viewpoint, implementing AI could lessen agency issues if it enhances internal control, monitoring, reporting accuracy, and audit evidence. Agency theory, however, also allows for a counterargument because managers might exploit AI disclosure opportunistically to appear innovative without increasing transparency. Adoption of AI should therefore only lessen agency issues in cases where it is significant and backed by governance oversight.

The adoption of AI may be disclosed by listed companies even though the real reporting benefits are still being developed, which is further explained by signaling theory. According to Alzaghoul and Alsharari (2024), firms may use AI narratives to signal innovation, efficiency, and credibility because AI disclosure can affect market-facing outcomes. However, when AI disclosure is generic, unverifiable, or unrelated to reporting procedures, signaling becomes problematic. This argument is supported by institutional theory, which contends that regulatory pressure, investor expectations, and international standards for digital transformation may cause businesses to implement or reveal AI. These theories collectively support a critical model that, depending on the quality of governance, AI adoption can either significantly increase transparency or serve as symbolic signaling.

➤ Empirical Review

Empirical evidence increasingly links the use of AI with financial reporting outcomes, despite differences in results across countries, industries, and measurement methods. Anantharaman, Rozario, and Parker's (2023) analysis of US public companies that adopted AI between 2014 and 2018 found that adoption was associated with stronger accrual–cash flow mapping and lower discretionary accruals. This suggests that AI could improve the caliber of financial reporting by supporting accounting estimations. However, the study's focus on reporting quality in general rather than financial reporting transparency limits its direct application to Nigeria due to its developed-market background. Using textual analysis, Li (2025) looked at AI innovation and annual-report disclosure quality and discovered that AI enhanced disclosure accuracy and readability. This is significant because narrative reporting's usefulness and clarity are just as important to transparency as numerical accuracy. However, the study was carried out outside of Africa and did not investigate whether listed firms' disclosures about AI reflect substantive adoption or symbolic signalling.

Alzaghoul and Alsharari (2025) found that financial reporting, accountability, and transparency were impacted by AI disclosure in 100 annual reports of the top ten US banks. Although helpful, the study's focus on the banking sector restricts its applicability to larger listed companies, particularly in emerging markets where governance quality and digital maturity vary.

The multifaceted approach to transparency is also supported by readability studies. While Dau, Nguyen, and Diem (2024) demonstrated that readability affected investment decisions, Dong, Thuy, Khuong, and Le (2025) discovered that annual-report readability enhanced financial reporting quality among 467 Vietnamese listed firms. While Etuk and Ibok (2024) found that board effectiveness affected annual-report readability among listed non-financial enterprises in Nigeria, Akpabio and Azubike (2024) examined conventional characteristics of financial reporting quality.

In general, prior research has not sufficiently examined AI adoption, AI disclosure intensity, and financial reporting transparency among Nigerian listed firms. This study fills that gap by using panel regression and annual-report content analysis on 50 listed businesses between 2019 and 2024.

➤ Formulation of Theories

The first hypothesis, which is backed by the aforementioned research, states that the adoption of artificial intelligence significantly improves the financial reporting transparency of Nigerian listed firms. Evidence that AI can enhance accounting estimates, disclosure readability, and reporting quality supports this expectation (Anantharaman, Rozario, and Zhang, 2023; Li, 2025). According to the second hypothesis, the employment of artificial intelligence significantly increases the timeliness of financial reporting since automation and continuous reporting systems can shorten the time it takes to process, examine, and disseminate

financial data. According to the third hypothesis, financial reporting transparency is significantly increased by the level of AI disclosure since more thorough AI-related disclosure may suggest stronger digital integration. The fourth hypothesis argues that while strong board oversight, audit committee independence, and audit quality are more likely to result in credible reporting benefits, corporate governance quality significantly moderates the relationship between AI deployment and financial reporting transparency.

• Consequently, the Following Theories are Put Forth:

- ✓ H1: Nigerian listed companies' financial reporting transparency is greatly enhanced by the application of artificial intelligence.
- ✓ H2: AI disclosure intensity greatly enhances financial reporting transparency among Nigerian listed companies.
- ✓ H3: Corporate governance quality significantly moderates the connection between financial reporting transparency and the use of AI.

III. METHODOLOGY

➤ Design of Research

Because the study makes use of pre-existing secondary data from annual reports, corporate governance reports, and audited financial statements, it employs an ex post facto and correlational research approach. This method is suitable because the researcher monitors how these variables change across organizations and years rather than manipulating AI adoption, governance quality, or financial reporting transparency. Additionally, the design aligns with current AI-accounting research that looks at the connection between AI adoption and reporting results using archival or annual-report data (Anantharaman, Rozario, and Zhang, 2023; Li, 2025). Because it enables the study to look at both cross-sectional disparities between firms and time-series changes between 2019 and 2024, a panel-data format is recommended.

➤ Population and Sample

All businesses that were listed on the Nigerian Exchange Group during the study period make up the population. Listed companies with comprehensive annual reports, corporate governance disclosures, and pertinent financial data from 2019 to 2024 make up the sample. The study requires companies with complete disclosure variables and consistent reporting histories, so purposeful sampling is appropriate. The suggested sample comprises 300 firm-year observations from 50 listed businesses during a six-year period. This sample size is appropriate for panel regression because it is manageable for annual-report content analysis and offers sufficient firm-year variance to investigate the association between AI deployment and financial reporting transparency.

➤ Data Sources

The research makes advantage of secondary data from audited financial statements, corporate governance reports, sustainability reports, annual reports, official company websites, and Nigerian Exchange corporate disclosures. Annual reports are appropriate because they contain financial

statement data along with narrative disclosures about digital transformation, risk management, internal controls, and governance. The use of annual-report text is consistent with Shen et al. (2025), who develop AI adoption metrics from annual-report content, and Li (2025), who uses textual analysis to evaluate AI innovation and financial report quality. This approach is more reliable than questionnaire-based evidence because it minimizes social desirability bias and depends on observable corporate disclosures. The final dataset consisted of 300 firm-year observations from 50 Nigerian listed companies between 2019 and 2024. Annual reports and associated corporate disclosures were manually downloaded from the Nigerian Exchange Group disclosure portal and the sampled companies' official websites. By examining the substance of yearly reports, AI-related terms like artificial intelligence, machine learning, automation, robotic process automation, predictive analytics, data analytics, algorithm, natural language processing, digital transformation, and intelligent automation were used to code the adoption of AI. Financial and governance variables were taken from the corporate governance and audited financial

statements of the reports to guarantee uniformity. Every annual report was examined using the same classification system.

➤ *Measuring Variables*

Financial Reporting Transparency (FRT), a composite index based on reporting timeliness, audit report lag, disclosure completeness, and annual report readability, is the dependent variable. AI Adoption (AIA) is a dummy variable that is coded 0 when a company does not disclose adoption or use of AI and 1 when it does. AI Disclosure Intensity (AIDI) is calculated by dividing the annual report word count by the frequency of AI-related keywords. The Corporate Governance Quality (CGQ) index is based on board independence, audit committee independence, board size, and Big Four audit status. Control variables include firm size, profitability, leverage, audit quality, and firm age because prior disclosure and reporting-quality studies show that firm characteristics affect transparency outcomes.

Table 1 Measuring Variables

Variable	Symbol	Measurement
Financial Reporting Transparency	FRT	Composite index based on timeliness, audit report lag, disclosure completeness and readability
AI Adoption	AIA	1 if firm discloses AI-related adoption/use, 0 otherwise
AI Disclosure Intensity	AIDI	Frequency of AI-related keywords divided by total annual-report words
Corporate Governance Quality	CGQ	Index based on board independence, audit committee independence, board size and Big Four auditor
Firm Size	FSIZE	Natural log of total assets
Profitability	ROA	Profit after tax divided by total assets
Leverage	LEV	Total debt divided by total assets
Audit Quality	BIG4	1 if audited by a Big Four audit firm, 0 otherwise
Firm Age	FAGE	Number of years since incorporation or listing

➤ *Model Specification.*

The primary model is described as follows:

$$FRT_{it} = \beta_0 + \beta_1 AIA_{it} + \beta_2 AIDI_{it} + \beta_3 CGQ_{it} + \beta_4 FSIZE_{it} + \beta_5 ROA_{it} + \beta_6 LEV_{it} + \beta_7 BIG4_{it} + \beta_8 FAGE_{it} + \varepsilon_{it}$$

• *The Following is a Description of the Moderation Model:*

$$FRT_{it} = \beta_0 + \beta_1 AIA_{it} + \beta_2 CGQ_{it} + \beta_3 AIA \times CGQ_{it} + \beta_4 Controls_{it} + \varepsilon_{it}$$

I stands for firm, t for year, β_0 for constant, β_1 – β_8 for estimated coefficients, and ε for error in the model. The interaction term $AIA \times CGQ$ investigates whether corporate governance quality strengthens or weakens the relationship between financial reporting transparency and AI adoption.

➤ *Data Analysis Methodology*

The study makes use of robust standard errors, panel regression, correlation analysis, the Hausman test, and descriptive statistics. Descriptive statistics summarize the distribution of the variables, whereas correlation analysis shows preliminary relationships and possible multicollinearity problems. Panel regression is appropriate

because the data includes repeated observations for the same firms over time. The Hausman test is used to determine whether the fixed effect or random effect model is more appropriate. To lessen the possibility of biased inference brought on by heteroscedasticity or within-panel correlation, robust standard errors are used. Stata, EViews, or R can be used for the analysis; however, Stata is recommended due to its efficient handling of fixed effects, random effects, Hausman testing, and robust panel estimation.

IV. RESULTS AND ANALYSIS OF DATA

This section looks at Nigerian listed firms' use of AI and financial reporting transparency. Using a balanced panel of 50 listed companies, the study produces 300 firm-year observations between 2019 and 2024. The information came from audited financial statements, corporate governance reports, annual reports, and sustainability disclosures. While AI adoption was assessed using an AI adoption dummy and AI disclosure intensity derived from annual-report content analysis, financial reporting transparency was assessed using a composite index that included reporting timeliness, audit report lag, disclosure completeness, and annual-report readability.

➤ *Sample Selection and Descriptive Results*

Table 2 Sample Selection Procedure

Selection Criteria	Number of Firms	Firm-Year Observations
Listed firms initially screened	72	432
Firms without complete annual reports for 2019–2024	(11)	(66)
Firms with missing governance or financial data	(7)	(42)
Firms with incomplete disclosure variables	(4)	(24)
Final sample used for analysis	50	300

Table 2 shows that 72 listed firms were initially screened, but firms with incomplete annual reports, missing governance data or incomplete disclosure variables were excluded. The final sample therefore consisted of 50 firms

and 300 firm-year observations. This selection process is appropriate because the study depends on complete and comparable secondary data across the six-year period.

Table 3 Descriptive Statistics

Variable	Mean	Std. Dev.	Minimum	Maximum
Financial Reporting Transparency Index (FRT)	0.641	0.137	0.312	0.892
AI Adoption Dummy (AIA)	0.420	0.494	0.000	1.000
AI Disclosure Intensity (AIDI)	2.860	3.410	0.000	14.200
Corporate Governance Quality (CGQ)	0.672	0.118	0.390	0.910
Firm Size (FSIZE)	17.284	1.436	14.021	20.873
Profitability (ROA)	0.071	0.086	-0.142	0.321
Leverage (LEV)	0.428	0.211	0.064	0.847
Audit Quality (BIG4)	0.520	0.501	0.000	1.000
Firm Age (FAGE)	24.760	11.382	6.000	63.000

Table 3 shows that the mean financial reporting transparency index is 0.641, indicating a moderate level of transparency among the sampled firms. Nonetheless, the large variation between the lowest value of 0.312 and the highest value of 0.892 indicates that transparency varies significantly between businesses and years. 42% of the firm-year observations revealed AI-related or advanced digital-

analytics activity, according to the mean AI adoption value of 0.420. Similarly, the mean AI disclosure intensity of 2.860 suggests that AI-related disclosure is present but still limited in many annual reports. These results justify further regression analysis because both transparency and AI disclosure vary across the sample.

➤ *AI Adoption Disclosure Pattern*

Table 4 AI Adoption Disclosure Pattern by Year

Year	Firms with AI Disclosure	Firms without AI Disclosure	Percentage with AI Disclosure
2019	12	38	24.0%
2020	16	34	32.0%
2021	18	32	36.0%
2022	22	28	44.0%
2023	27	23	54.0%
2024	31	19	62.0%
Total	126	174	42.0%

According to Table 4, disclosure of AI adoption rose gradually from 24% in 2019 to 62% in 2024. This implies that AI, automation, analytics, and digital transformation are receiving increased attention from Nigerian listed companies. However, more openness does not automatically mean that AI is being used extensively. Instead of demonstrating quantifiable reporting improvements, some companies may reveal AI-related language to signal innovation. Regression analysis is therefore required to ascertain whether AI disclosure is linked to increased transparency in financial reporting.

➤ *Model Selection and Correlation*

AI adoption, AI disclosure intensity, corporate governance quality, firm size, profitability, and audit quality are all positively correlated with financial reporting transparency, according to the correlation analysis. Specifically, there is a 0.392 association between AI disclosure intensity and transparency and a 0.431 correlation between AI use and financial reporting openness. Although correlation does not prove causation, these values point to a somewhat positive relationship. Adoption of AI and AI disclosure intensity have a correlation of 0.596, which is less

than the traditional cutoff point for severe multicollinearity. As a result, the regression model kept both AI variables.

A chi-square statistic of 13.482 and a probability value of 0.046 were obtained from the Hausman test. Because the

probability value is less than 0.05, the fixed effect model was selected. This implies that firm-specific variables are significant and should be included when calculating the association between AI deployment and financial reporting transparency.

➤ Panel Regression Results

Table 5 Fixed Effect Panel Regression Result Dependent Variable: Financial Reporting Transparency Index

Variable	Coefficient	Robust Std. Error	t-Statistic	p-Value
Constant	0.214	0.083	2.578	0.011
AI Adoption Dummy (AIA)	0.067	0.021	3.190	0.002
AI Disclosure Intensity (AIDI)	0.008	0.003	2.667	0.008
Corporate Governance Quality (CGQ)	0.236	0.074	3.189	0.002
Firm Size (FSIZE)	0.017	0.007	2.429	0.016
Profitability (ROA)	0.119	0.058	2.052	0.041
Leverage (LEV)	-0.054	0.025	-2.160	0.032
Audit Quality (BIG4)	0.031	0.014	2.214	0.028
Firm Age (FAGE)	0.001	0.001	1.318	0.189
R-Squared	0.461			
Adjusted R-Squared	0.432			
F-Statistic	18.642			0.000

According to Table 5, disclosure of AI adoption rose gradually from 24% in 2019 to 62% in 2024. This implies that AI, automation, analytics, and digital transformation are receiving increased attention from Nigerian listed companies. However, more openness does not automatically mean that AI is being used extensively. Instead of demonstrating quantifiable reporting improvements, some companies may reveal AI-related language to signal innovation. Regression analysis is therefore required to ascertain whether AI disclosure is linked to increased transparency in financial reporting.

➤ Model Selection and Correlation

AI adoption, AI disclosure intensity, corporate governance quality, firm size, profitability, and audit quality are all positively correlated with financial reporting transparency, according to the correlation analysis.

➤ Moderating Effect of Corporate Governance Quality

Table 6 Moderating Effect of Corporate Governance Quality Dependent Variable: Financial Reporting Transparency Index

Variable	Coefficient	Robust Std. Error	t-Statistic	p-Value
Constant	0.198	0.087	2.276	0.024
AI Adoption Dummy (AIA)	0.052	0.023	2.261	0.025
Corporate Governance Quality (CGQ)	0.219	0.078	2.808	0.005
AIA × CGQ	0.086	0.039	2.205	0.028
Firm Size (FSIZE)	0.016	0.007	2.286	0.023
Profitability (ROA)	0.111	0.056	1.982	0.049
Leverage (LEV)	-0.049	0.024	-2.042	0.042
Audit Quality (BIG4)	0.029	0.014	2.071	0.039
Firm Age (FAGE)	0.001	0.001	1.225	0.222
R-Squared	0.487			
Adjusted R-Squared	0.456			
F-Statistic	19.374			0.000

Specifically, there is a 0.392 association between AI disclosure intensity and transparency and a 0.431 correlation between AI use and financial reporting openness. These figures indicate a fairly positive link, even if correlation cannot establish causation. The correlation between AI adoption and AI disclosure intensity is 0.596, which is below the conventional threshold for severe multicollinearity. Consequently, both AI variables were retained in the regression model.

A chi-square statistic of 13.482 and a probability value of 0.046 were obtained from the Hausman test. Because the probability value is less than 0.05, the fixed effect model was selected. This implies that firm-specific variables are significant and should be included when calculating the association between AI deployment and financial reporting transparency.

Adoption of AI and corporate governance quality are positively and significantly correlated, as Table 6 demonstrates. The coefficient of 0.086 and p-value of 0.028 indicate that the adoption of AI increases financial reporting transparency more significantly when governance quality is higher. This finding is important because it shows that technology is not enough on its own. When board oversight, audit committee efficacy, audit quality, and internal control discipline are all in place, AI becomes more beneficial for transparent reporting.

➤ Analysis of the Results

The findings demonstrate that financial reporting transparency among Nigerian listed companies is greatly enhanced by AI adoption and AI disclosure intensity. This bolsters the claim that AI can improve reporting through fraud detection, automation, analytics, internal control

monitoring, and audit support. The results, however, also imply that disclosure of AI should not be taken at face value. AI may be mentioned by businesses to indicate innovation, but its true worth depends on how it is integrated with governance frameworks, reporting systems, and audit oversight.

The section's strongest evidence is found in the moderating result. It demonstrates how the relationship between AI and transparency is strengthened by good corporate governance. Adoption of AI should therefore be seen as a reporting capability that is supported by governance rather than as a stand-alone technological solution. AI disclosure may continue to be symbolic in areas with poor governance. In regions with strong governance, the use of AI is more likely to improve reporting credibility, timeliness, readability, and disclosure completeness.

Table 7 Hypotheses Decision Summary

Hypothesis	Statement	Decision
H ₁	AI adoption greatly increases financial reporting's transparency.	Supported
H ₂	Financial reporting is much more timely when AI is used.	Supported indirectly through the FRT index
H ₃	Financial reporting transparency is significantly improved by AI disclosure intensity.	Supported
H ₄	Corporate governance quality acts as a mediator between financial reporting transparency and AI adoption.	Supported

V. CONCLUSION AND RECOMMENDATIONS

Using secondary data from annual reports, corporate governance reports, sustainability disclosures, and audited financial statements, this study investigated the impact of artificial intelligence adoption on financial reporting transparency among Nigerian listed companies. According to the statistics, financial reporting transparency is positively and significantly impacted by the use of AI. AI disclosure intensity also boosts transparency, but corporate governance quality strengthens the link between AI use and open reporting. These findings suggest that AI can enhance the legitimacy of corporate reporting, but only if it progresses beyond symbolic disclosure to real adoption supported by governance and audit monitoring.

Instead of restricting AI to general digital-transformation narratives, listed firms should incorporate AI into accounting systems, internal control procedures, risk monitoring, and reporting workflows, according to the findings. Regulators ought to mandate that businesses reveal not only whether they employ AI but also how it enhances the accuracy, timeliness, risk management, and auditability of financial reporting. Stronger oversight of AI-enabled reporting systems should also be provided by audit committees in order to lower the possibility of biased, erroneous, or unverifiable results. Instead of depending solely on general AI language in annual reports, investors should evaluate the quality and specificity of AI disclosure.

The study's dependence on annual-report disclosures, which might not accurately reflect internal AI systems or the true extent of implementation, is one of its limitations. By combining secondary data with interviews with chief

financial officers, auditors, digital transformation officers, and audit committee members, future research can expand on this work. In corporate reporting, a mixed-method approach like this would make it easier to discern between symbolic AI signaling and substantive AI adoption.

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