IAC INTERNATIONAL JOURNAL OF MULTIDISCIPLINARY AND INTERDISCIPLINARY RESEARCH (IIJMIR)
Volume 1, No.1, 106–131, 2026
ISSN (Online): 2994-8812
https://doi.org/10.69480/IIJMIR.1.1.2026.05

ARTICLE HISTORY
Received: 02 February, 2026
Reviewed: 18 February, 2026
Accepted: 26 February, 2026
Published: 05 March, 2026

DIGITAL FINANCIAL REPORTING QUALITY AND INVESTOR DECISION-MAKING IN EMERGING CAPITAL MARKETS

Evidence from Online Disclosure Platforms, Artificial Intelligence Integration, and Market Reactions

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ABSTRACT

Background: The digitalisation of financial reporting has transformed the speed, accessibility, and volume of information available to investors in emerging capital markets. Online disclosure portals, XBRL tagging, and artificial intelligence tools for earnings analysis have collectively reshaped how investors process corporate financial information, raising questions about whether digital quality improvements reduce information asymmetry or introduce new governance risks.

Aim: This study examined how digital financial reporting quality influences investor decision-making in emerging capital markets, and whether AI-assisted disclosure analysis moderates the quality-decision relationship.

Methodology: Panel data from 96 listed firms across the NGX, NSE, and JSE for 2016 to 2024 were analysed using fixed effects regression, vector autoregression, and robust estimation. Digital reporting quality was measured through a composite index incorporating disclosure completeness, XBRL adoption, timeliness, and readability scores.

Findings: Digital reporting quality significantly reduces bid-ask spreads and improves analyst forecast accuracy. AI-assisted analysis positively moderates these effects in high analyst coverage environments. Timeliness emerged as the strongest quality dimension.

Contributions: The study disaggregates digital quality dimensions and documents their differential investor effects while introducing AI-assisted analysis as a novel moderating mechanism in emerging market contexts.

Keywords: Digital financial reporting, Investor decision-making, XBRL, Artificial intelligence, Capital markets, Emerging economies.

Cite as: Adeleke, T. B., Njoroge, F. M., & Mokoena, B. (2026). Digital financial reporting quality and investor decision-making in emerging capital markets: Evidence from online disclosure platforms, artificial intelligence integration, and market reactions. *IAC International Journal of Multidisciplinary and Interdisciplinary Research, 1*(1), 106–131. https://doi.org/10.69480/IIJMIR.1.1.2026.05

1.0 INTRODUCTION

The digitalisation of corporate financial reporting has fundamentally altered the information environment within which investors make decisions. The adoption of XBRL tagging, online investor relations portals, and increasingly, artificial intelligence tools for earnings analysis and disclosure parsing, has created a high-velocity information ecosystem that challenges traditional models of financial statement analysis (Cao et al., 2023). In emerging capital markets, where information asymmetry between insiders and external investors has historically been more pronounced, the quality of digital disclosures takes on strategic importance for market development and investor protection (Liao et al., 2022).

The Nigerian Exchange Group, Nairobi Securities Exchange, and Johannesburg Stock Exchange represent a heterogeneous set of African emerging markets with divergent digital disclosure infrastructure. JSE-listed firms, subject to integrated reporting requirements under King IV, have adopted more sophisticated digital disclosure practices. NGX and NSE-listed firms are at earlier stages of digital reporting maturity, creating a comparative context for examining how quality differentials translate into investor outcome differences (Owusu-Ansah & Ganguli, 2023).

2.0 LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Conceptual Review

Digital financial reporting quality encompasses the accuracy, completeness, timeliness, machine-readability, and navigability of disclosures accessed through digital platforms. Investor decision-making reflects trading behaviour, analyst forecast accuracy, and portfolio reallocation responses to new information. AI-assisted analysis refers to algorithmic and natural language processing tools used to parse, classify, and interpret financial disclosures at scale (Cao et al., 2023).

Theoretical Review

Efficient market hypothesis provides the baseline expectation that high-quality disclosures accelerate price discovery. Information asymmetry theory predicts that digital quality improvements reduce adverse selection between informed and uninformed investors, tightening bid-ask spreads and improving liquidity. Bounded rationality theory cautions that investor response depends on cognitive processing capacity, which AI tools can supplement, amplifying quality effects in analyst-covered segments (Liao et al., 2022).

Empirical Review and Hypotheses

Cao et al. (2023) found that AI-driven earnings analysis tools significantly improved forecast accuracy in S&P 500 firms, with emerging market applicability confirmed by Kim et al. (2024) across Asian exchanges. Liao et al. (2022) documented that XBRL adoption reduced bid-ask spreads by an average of 12 percent across a sample of Asian emerging markets. Owusu-Ansah and Ganguli (2023) found that online disclosure completeness significantly predicted trading volume reactions among JSE-listed firms. Kusi et al. (2025) recently confirmed that digital reporting timeliness reduces information asymmetry in African capital markets.

H1: Digital financial reporting quality significantly influences investor decision-making in emerging capital markets.
H2: AI-assisted disclosure analysis significantly moderates the quality-decision relationship.

3.0 METHODOLOGY

Panel data from 96 listed firms (NGX: 32, NSE: 32, JSE: 32) for 2016 to 2024 yielded 864 firm-year observations. Digital reporting quality was scored using a structured index assessing website disclosure completeness, XBRL adoption status, timeliness of quarterly disclosures, and readability scores derived from automated Flesch-Kincaid analysis. Investor decision-making was proxied through trading volume abnormal returns, bid-ask spread movements, and analyst forecast accuracy metrics sourced from exchange databases and Bloomberg terminals.

The model is: $IDEC\_it = \beta 0 + \beta 1DFRQ\_it + \beta 2AI\_it + \beta 3(DFRQ \times AI)\_it + \beta 4FSIZ\_it + \beta 5LEV\_it + \beta 6MTB\_it + \varepsilon\_it$. Fixed effects regression was the primary estimator. Vector autoregression captured dynamic effects. Robust regression was applied for sensitivity analysis.

4.0 DATA ANALYSIS AND DISCUSSION OF FINDINGS

Descriptive results confirm JSE-listed firms exhibit significantly higher digital reporting quality (mean index = 0.78) compared to NSE firms (0.59) and NGX firms (0.51). Fixed effects regression confirms H1: digital reporting quality significantly reduces bid-ask spreads ($\beta = -0.217$, $p < 0.01$) and improves forecast accuracy ($\beta = 0.283$, $p < 0.01$), consistent with Liao et al. (2022) and Owusu-Ansah and Ganguli (2023). The interaction term (DFRQ x AI) is positive and significant ($\beta = 0.171$, $p < 0.05$), supporting H2 and extending Cao et al. (2023) to African markets. Timeliness sub-index shows the strongest standalone effect ($\beta = 0.311$, $p < 0.01$), consistent with Kusi et al. (2025). XBRL adoption showed weaker standalone effects, reflecting the nascent stage of machine-readable reporting infrastructure across NGX and NSE.

Vector autoregression results confirm that digital quality shocks to disclosure completeness persist in influencing trading volume for three to four periods, indicating lasting rather than transitory investor responses. Robust regression estimates are consistent with fixed effects results, confirming stability across estimation methods.

5.0 CONCLUSION AND RECOMMENDATIONS

Digital financial reporting quality significantly improves investor decision-making quality and market efficiency in emerging capital markets. AI-assisted analysis amplifies these benefits in high analyst coverage environments. Regulators should accelerate mandatory XBRL adoption and establish minimum digital disclosure quality benchmarks. Stock exchanges should invest in AI-powered disclosure search and comparison tools accessible to retail investors. Researchers should extend the framework to fixed income markets and examine AI tool adoption heterogeneity across investor types.

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