

IMPACT OF INFORMATION QUALITY AND MARKET EFFICIENCY ON CORPORATE VALUE CREATION: A RASCH MODEL AND PLS-SEM ANALYSIS

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ABSTRACT

This study examines the relationships among information quality (IQ), perceived market informational efficiency (PMIE), and perceived corporate value creation capability (PCVC) among publicly listed corporations on the Nigerian Exchange Group (NGX). Drawing on a sample of 100 NGX-listed firms across six industrial sectors, this study employs a cross-sectional quantitative survey design. All three constructs are operationalised as perceptual latent variables measured through validated multi-item reflective scales. Hypotheses are tested using the Rating Scale Model (RSM) variant of the Rasch model (Andrich, 1978) for measurement validation, followed by Partial Least Squares Structural Equation Modelling (PLS-SEM) for structural analysis. The Rasch analysis confirms adequate psychometric properties, with item infit and outfit MNSQ values between 0.86 and 1.15 and person separation reliability ranging from 0.82 to 0.87. PLS-SEM results indicate that information quality is positively associated with perceived market informational efficiency ($\beta = 0.716, p < 0.001$) and perceived corporate value creation ($\beta = 0.345, p < 0.001$), while perceived market informational efficiency also positively predicts corporate value creation ($\beta = 0.423, p < 0.001$), supporting the hypothesised relationships. The structural model explains 51.2% and 64.7% of variance in market efficiency and corporate value creation respectively (SRMR = 0.061). Complementary mediation is confirmed, with market efficiency transmitting 46.8% of the total information quality–value creation effect (IE = 0.303; TE = 0.648). Robustness checks incorporating firm-level controls (size, age, leverage, profitability, sector) confirm the stability of these findings. The study contributes the first integrated Rasch–PLS-SEM test of this framework in the Nigerian capital market and offers specific implications for corporate governance, financial reporting regulation, and investment decision-making.

Keywords: Information quality, Market efficiency, Corporate value creation, Rasch model, PLS-SEM, Nigerian Exchange Group, Emerging markets

1. INTRODUCTION

The interplay among information quality, market efficiency, and corporate value creation has become increasingly central to scholarship in accounting, finance, and corporate governance. Financial markets, according to the Efficient Market Hypothesis (EMH), incorporate all available information into security prices (Fama, 1970; Dinga et al., 2022), yet empirical evidence consistently shows that the quality and accessibility of disclosed information moderate this relationship substantially (Lawal et al., 2025; Vasileiou, 2022). As corporations face mounting regulatory requirements and stakeholder demands for transparency, the question of how information quality shapes market perceptions and, through them, corporate valuation has moved to the forefront of academic and practitioner interest. Information quality encompasses accuracy, completeness, timeliness, consistency, and relevance of corporate disclosures and financial reports (Bond & Fox, 2013).

High-quality information reduces information asymmetry between corporate insiders and external market participants, facilitates more efficient capital allocation, and lowers the cost of capital (Adeyemi & Yahaya, 2024; Kang et al., 2022). Market efficiency, conceptualised as informational efficiency, reflects the speed and precision with which markets incorporate new information into security prices (Vasileiou, 2022). Corporate value creation, the study's dependent construct, represents the capacity of firms to generate sustainable competitive advantage and deliver superior returns to stakeholders (Oyewobi, 2024). Despite considerable theoretical and empirical development, significant gaps remain: most prior research has examined bivariate associations in isolation, neglecting the mediating role of market efficiency; methodological limitations including classical test theory assumptions have inflated measurement error; and the psychometric properties of measurement instruments have received insufficient attention (Hair Jr et al., 2017; Odunayo et al., 2023).

This study addresses these gaps through an integrated analytical strategy combining Rasch model measurement validation with PLS-SEM structural analysis, applied to a sample of 100 NGX-listed firms in Nigeria. The study pursues three

objectives: (1) to evaluate the psychometric properties of scales measuring information quality, perceived market informational efficiency, and perceived corporate value creation capability using the Rasch RSM; (2) to test the direct and indirect relationships among these constructs via PLS-SEM path analysis; and (3) to generate empirical evidence informing theory and practice in corporate governance, financial reporting, and investment management in the Nigerian emerging market context.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Theoretical Framework

The theoretical framework of this study integrates four complementary bodies of theory: Agency Theory, Signalling Theory, Information Asymmetry Theory, and the Efficient Market Hypothesis (EMH). Under Agency Theory (Jensen & Meckling, 1976), information quality reduces agency costs by mitigating informational gaps between principals (shareholders) and agents (managers), thereby lowering the cost of capital and enhancing value creation. Signalling Theory (Spence, 1973) posits that high-quality voluntary and mandatory disclosures function as credible signals of managerial competence and firm quality, reducing investor uncertainty and improving market pricing accuracy. Information Asymmetry Theory (Akerlof, 1970) explains that superior disclosure quality narrows the information gap between insiders and external participants, improving price discovery and market efficiency. The EMH (Fama, 1970) provides the market-level mechanism: in informationally efficient markets, security prices rapidly reflect all available information, directing capital to value-maximising uses and disciplining managerial behaviour through the market for corporate control.

These four theories generate two coherent causal chains. The first is a market-level channel: IQ → reduced information asymmetry → improved market informational efficiency → enhanced corporate value creation, with market efficiency serving as a partial mediator. The second is a firm-level channel: IQ → lower cost of

capital / better governance / improved internal decisions → corporate value creation. The Resource-Based View (Barney, 1991) further suggests that sustained value creation requires firm-specific capabilities that extend beyond information transparency, explaining why the direct IQ→CVC effect is expected to be smaller than the total effect. Together these theories predict that both paths operate simultaneously and that market efficiency will exhibit complementary mediation between information quality and corporate value creation.

2.2 Information Quality and Market Efficiency

The relationship between information quality and market efficiency has attracted substantial scholarly attention across accounting and finance disciplines. The foundational proposition of the EMH — that asset prices rapidly incorporate all available information (Fama, 1970) — implies that the quality and accessibility of disclosed information are critical determinants of pricing efficiency (Li & Yu, 2023). Empirical evidence consistently supports this view: higher-quality financial reporting reduces information asymmetry, facilitating more accurate price discovery and enhancing market liquidity (Ehiedu & Obi, 2022; Igbekoyi et al., 2023). Ehiedu and Obi (2022) specifically document that accounting quality improvements are associated with tighter bid-ask spreads and greater price informativeness on the Nigerian Stock Exchange, providing contextually relevant evidence that disclosure quality effects are empirically detectable even in emerging markets characterised by structural trading frictions. Nwosu et al. (2024) provide complementary evidence that enhanced disclosure requirements and audit quality are associated with accelerated price discovery. Management forecasts and voluntary disclosures further sharpen market valuations by conveying incremental information beyond mandatory financial statements (Owonifari et al., 2023; Benjamin, 2024). On this basis:

H1: Information quality has a significant positive effect on market efficiency.

2.3 Information Quality and Corporate Value Creation

The direct relationship between information quality and corporate value creation operationalised in this study as Perceived Corporate Value Creation Capability (PCVC) operates through multiple channels grounded in Agency Theory and Signaling Theory. First, high-quality financial reporting mitigates agency problems and information risk, reducing the cost of capital and enabling firms to pursue positive-NPV projects that would otherwise be abandoned (Carvalho & Alves, 2023; Tapaninaho & Heikkinen, 2022). Second, access to timely and accurate information enables managers to identify operational inefficiencies, optimise capital budgeting, and respond effectively to market conditions (Amin et al., 2023; Yin & Zhao, 2024). Third, credible disclosure practices improve stakeholder trust, building intangible reputational capital that sustains competitive advantage over time (Lawal et al., 2024a; Oladapo et al., 2025). Empirically, Lawal et al. (2024a) find that earnings quality metrics are positively correlated with Tobin's Q and market-to-book ratios among Nigerian listed firms. Although contingent effects have been noted the value relevance of disclosure quality is moderated by industry, institutional context, and firm-specific factors with the weight of evidence that supports a positive direct relationship:

H2: Information quality has a significant positive effect on corporate value creation.

2.4 Market Efficiency and Corporate Value Creation

Market efficiency — operationalised in this study as Perceived Market Informational Efficiency (PMIE), reflecting executive perceptions of pricing responsiveness rather than objective market microstructure — influences corporate value creation through both direct and indirect channels. In efficiently priced markets, security prices accurately reflect fundamental values, enabling optimal capital allocation across firms and industries (Ramos, 2024; Sofiyan, 2024). When prices credibly signal investment

quality, managers receive informative feedback for strategic decisions, and investors can distinguish value-creating from value-destroying activities (Olohunlana et al., 2023). Efficient markets also discipline managers through the market for corporate control, reducing managerial opportunism and aligning incentives with shareholder wealth maximisation (Jensen, 1986; Kaczmarek, 2024; Okoye et al., 2024). While evidence from developed markets consistently finds a positive efficiency–value relationship (Walker et al., 2023), emerging market studies are more heterogeneous: institutional inefficiencies and information frictions can attenuate the beneficial effect of market efficiency on firm value (Ramos, 2024; Taiwo et al., 2022). These considerations motivate:

H3: Market efficiency has a significant positive effect on corporate value creation.

3. METHODOLOGY

3.1 Research Design, Sample, and Nigerian Context

This study adopts a cross-sectional quantitative survey design. Primary data were collected through structured questionnaires administered to senior executives and financial managers of publicly listed corporations in Nigeria. The unit of analysis is the firm, with one key informant the most senior executive with direct responsibility for financial reporting and investor relations representing each firm. This single-informant design is standard in executive survey research (Podsakoff et al., 2021) and avoids the need for within-group aggregation procedures.

The empirical context is exclusively the Nigerian capital market. The Nigerian Exchange Group (NGX), formerly the Nigerian Stock Exchange (NSE), is the largest and most active stock exchange in West Africa. The NGX operates under oversight of the Securities and Exchange Commission (SEC) Nigeria. Mandatory disclosure standards are governed by the Financial Reporting Council (FRC) of Nigeria and the

Companies and Allied Matters Act (CAMA) 2020. Nigeria adopted IFRS in 2012 and compliance levels have improved progressively, though enforcement remains uneven across sectors. Despite these frameworks, the NGX is characterised by moderate market depth, limited analyst coverage outside the banking and consumer goods sectors, and investor sophistication concentrated among institutional participants. These structural characteristics — high information asymmetry, variable enforcement of disclosure obligations, and liquidity that varies markedly across sectors — make Nigeria an especially appropriate context for testing information quality effects on market efficiency and corporate valuation.

A G*Power (v3.1) power analysis was conducted to verify sample size adequacy. For the most complex regression equation (CVC predicted by IQ and ME), at $\alpha = 0.05$, power $1 - \beta = 0.80$, and minimum expected $f^2 = 0.15$ (medium effect), the minimum required sample is $N = 55$. Under a conservative expectation of $f^2 = 0.10$, $N = 89$. The observed sample $N = 100$ comfortably exceeds both thresholds. Stratified random sampling was employed to ensure adequate industry representation. The sample frame comprised 450 eligible corporations satisfying: (1) minimum five consecutive years of NGX listing; (2) availability of complete financial data and annual reports; (3) market capitalisation exceeding ₦50 billion; and (4) willingness to participate. Six NGX sectors were represented: (1) Financial Services, (2) Consumer Goods, (3) Oil and Gas, (4) Industrial Goods, (5) ICT, and (6) Conglomerates. From 150 randomly selected firms, 112 responses were received; after screening for incomplete data, inconsistent responses, and statistical outliers (Mahalanobis distance), the final sample comprised 100 usable observations (response rate = 66.7%). Data were collected between January and April 2025 via online survey tools, direct email, and face-to-face interviews in Lagos, Abuja, and Port Harcourt. Procedural remedies to reduce common method bias included strong confidentiality guarantees, psychological separation of predictor and criterion variables, and reverse-coded attention-check items.

3.2 Control Variables

To mitigate omitted-variable bias, five firm-level control variables were included in robustness analyses: firm size (natural logarithm of total assets), firm age (years since NGX listing), financial leverage (debt-to-equity ratio), profitability (return on assets), and industry sector (six NGX sector dummy variables). These were extracted from audited annual reports and NGX filings. The extended structural specification for robustness checks follows: $CVC_i = \alpha + \beta_1 IQ_i + \beta_2 ME_i + \beta_3 SIZE_i + \beta_4 LEV_i + \beta_5 AGE_i + \sum \beta_k INDUSTRY_{ik} + \epsilon_i$. Robustness analyses using OLS regression with heteroscedasticity-robust standard errors on PLS composite scores confirmed that main findings remained substantively unchanged: $IQ \rightarrow ME \beta = 0.698, p < 0.001$; $IQ \rightarrow CVC \beta = 0.329, p < 0.001$; $ME \rightarrow CVC \beta = 0.411, p < 0.001$. Ownership structure and board governance quality data were unavailable for all firms due to confidentiality constraints; this is acknowledged as a limitation in Section 5.

3.3 Measurement Instruments

All constructs were operationalised using multi-item reflective scales adapted from validated prior measures, adjusted for the Nigerian corporate context. A 7-point Likert format (1 = Strongly Disagree; 7 = Strongly Agree) was used throughout. The reflective measurement model is specified as: $IQ_j = \lambda_j IQ + \epsilon_j$ ($j = 1, \dots, 5$); $ME_j = \lambda_j ME + \epsilon_j$ ($j = 1, \dots, 4$); $CVC_j = \lambda_j CVC + \epsilon_j$ ($j = 1, \dots, 5$); where λ_j are factor loadings and ϵ_j are measurement errors. This reflective specification is appropriate because indicators covary as manifestations of the same underlying latent variable (Hair et al., 2019).

Information Quality (IQ) was measured with five items (Tapaninaho & Heikkinen, 2022) capturing accuracy, completeness, timeliness, consistency, and relevance. Sample items: “Our organisation provides accurate financial information to all stakeholders”; “Our financial reports are issued in a timely manner.” Perceived Market Informational Efficiency (PMIE) was operationalised using four items adapted from Taiwo et al. (2022) and Okoye et al. (2024), capturing managerial perceptions of

the speed and accuracy with which stock prices incorporate new information. Sample items: “Stock prices of our company quickly reflect new information released to the market”; “The market fairly values our company’s securities relative to fundamentals.” This construct is explicitly labelled as perceived informational efficiency rather than objective market efficiency, because measurement reflects executive perceptions of pricing responsiveness rather than direct market microstructure data such as bid-ask spreads or price delay statistics. This perceptual approach is pragmatically necessary given that objective high-frequency data are sparse for many NGX-listed firms; future research should supplement with objective proxies. Perceived Corporate Value Creation Capability (PCVC) was measured with five items capturing managerial assessments of the firm’s capacity to generate sustained shareholder value and maintain competitive advantage. Sample items: “Our company consistently creates superior value for shareholders”; “We maintain strong and durable competitive advantages in our markets.”

3.4 Analytical Procedures – Phase 1: Rasch Model Analysis

Phase 1 applied the Rating Scale Model (RSM) variant of the Rasch model (Andrich, 1978) using Winsteps software (version 5.4.0) to evaluate the psychometric quality of all scales prior to structural analysis. The RSM was selected because all items share the same ordered response categories (7-point Likert), making it more parsimonious than the Partial Credit Model. The RSM generalises the dichotomous Rasch probability formula $P(X_{ni}=1|\theta_n, \beta_i) = \frac{\exp(\theta_n - \beta_i)}{1 + \exp(\theta_n - \beta_i)}$ to polytomous items, modelling the probability of endorsing category k for person n on item i as a function of person ability θ_n , item difficulty δ_i , and category threshold τ_k (Andrich, 1978; von Davier, 2016). This pre-validation step is analytically justified on three grounds: (1) it provides sample-independent evidence of measurement quality before structural estimation; (2) it identifies and removes misfit items before they can bias structural parameter

estimates; and (3) it supplies unidimensionality confirmation and DIF evidence that conventional reliability statistics (α , CR) cannot provide (Bond & Fox, 2013).

The following diagnostics were examined: (1) item fit (infit and outfit MNSQ, acceptable range 0.6–1.4; Linacre, 2023); (2) unidimensionality via PCA of Rasch residuals, requiring first-contrast eigenvalue < 2.0 ; (3) item threshold ordering, confirming monotonically ordered response category thresholds; (4) category functioning, confirming all seven response options were appropriately used; (5) person and item separation reliability; and (6) Differential Item Functioning (DIF) across industry sector and firm-size subgroups using Mantel-Haenszel statistics, with $|\text{DIF contrast}| < 0.50$ logits indicating negligible DIF. Local independence was confirmed: after extracting the primary dimension, no residual correlations exceeded $|0.30|$. All constructs satisfied all criteria.

3.5 Analytical Procedures – Phase 2: PLS-SEM

Phase 2 applied PLS-SEM using SmartPLS 4.0 with 5,000-resample bootstrapping for significance testing. PLS-SEM was selected over CB-SEM because: (1) the study is prediction-oriented rather than purely theory-confirmatory; (2) it is robust to non-normality; (3) it handles complex models with small-to-medium samples efficiently; and (4) the focus on explaining endogenous construct variance aligns with PLS-SEM's variance-based optimisation (Hair Jr et al., 2017). The structural model is formally specified as: $\text{ME} = \gamma_1\text{IQ} + \zeta_1$; $\text{CVC} = \gamma_2\text{IQ} + \beta_1\text{ME} + \zeta_2$; where γ_1 and γ_2 are exogenous-to-endogenous path coefficients, β_1 is the endogenous-to-endogenous path coefficient, and ζ_1 , ζ_2 are disturbance terms.

Measurement model quality was assessed via composite reliability ($\text{CR} \geq 0.70$), average variance extracted ($\text{AVE} \geq 0.50$), and HTMT ratio (< 0.85) for discriminant validity (Roemer et al., 2021). Bootstrapped 95% confidence intervals for HTMT ratios are reported alongside point estimates. Outer VIF values were computed for all indicators (all < 3.3 , confirming absence of indicator multicollinearity). Structural

model multicollinearity was examined via inner VIF values (all < 3.3). Common method bias was evaluated through three complementary approaches: (1) Harman's single-factor test; (2) full collinearity VIF for all construct scores (Kock, 2015), with VIF < 3.3 indicating no critical lateral collinearity; and (3) a common latent factor (CLF) strategy in SmartPLS. Predictive relevance was assessed using Q² (blindfolding) and PLSpredict, with model RMSE and MAE compared to a naïve LM benchmark (Hair Jr, 2021). Model fit was assessed via SRMR (acceptable threshold < 0.08). Mediation was tested using bias-corrected bootstrap CIs following Hair et al. (2019). Because all data are cross-sectional and self-reported, potential endogeneity from reverse causality is explicitly acknowledged: firms with higher perceived value creation may invest more in information systems, and firms with better market pricing may have stronger disclosure incentives. Instrumental variable approaches or longitudinal panel data designs are required to establish causal directionality.

4. RESULTS

4.1 Descriptive Statistics and Preliminary Analysis

Table 1 presents descriptive statistics and Pearson correlations. Information Quality recorded the highest mean (M = 5.42, SD = 0.87), followed by Corporate Value Creation (M = 5.28, SD = 0.93) and Market Efficiency (M = 4.86, SD = 1.04). All inter-construct correlations were positive and significant ($r = 0.673\text{--}0.721$, $p < 0.001$), providing preliminary support for the hypothesised relationships.

Table 1: Descriptive Statistics and Correlation Matrix (n = 100)

Variable	Mean	SD	IQ	ME	CV
Information Quality (IQ)	5.42	0.87	1		
Market Efficiency (ME)	4.86	1.04	0.673***	1	
Corporate Value Creation (CV)	5.28	0.93	0.721***	0.685***	1

Source: Authors' Computation (2026). Note. *** $p < 0.001$. SD = Standard Deviation. Pearson product-moment correlations.

Common method bias was assessed through three complementary approaches. First, Harman's single-factor test indicated that the first unrotated factor accounted for 38.4% of total variance, below the 50% threshold. Second, full collinearity VIF values were computed for all construct scores: IQ (VIF = 1.94), ME (VIF = 2.18), and CVC (VIF = 2.07), all well below the critical threshold of 3.3 (Kock, 2015), confirming absence of lateral collinearity. Third, a common latent factor (CLF) strategy was applied in SmartPLS; substantive path coefficients did not change meaningfully after partial out of CLF variance (maximum change = 0.04). Structural model VIF values were: IQ→ME = 1.00; IQ→CVC = 1.95; ME→CVC = 1.95, all below 3.3, confirming absence of multicollinearity in structural paths.

4.2 Rasch Model Analysis Results

The Rasch RSM analysis confirmed adequate psychometric properties for all scales. All 14 items demonstrated acceptable fit: infit and outfit MNSQ values ranged between 0.86 and 1.15, within the 0.6–1.4 benchmark (Linacre, 2023). Point-measure correlations ranged from 0.66 to 0.75, confirming positive item-construct alignment. Item difficulty parameters spanned –1.76 to 2.47 logits, indicating broad coverage of the ability continuum. Unidimensionality was confirmed for all three constructs: PCA of Rasch residuals yielded first-contrast eigenvalues of 1.62 (IQ), 1.51 (ME), and 1.71 (CVC), all below the 2.0 threshold. Item threshold ordering was monotonically ordered for all items, confirming that response categories function as intended. DIF analyses

revealed no substantial DIF ($|\text{DIF contrast}| < 0.50$ logits) across industry sector or firm-size subgroups for any item. Person-item maps indicated adequate coverage of the ability continuum, with mild ceiling effects (12% of respondents rated above the most challenging items).

Table 2: Rasch Model Item Statistics

Item	Measure (logits)	SE	Infit MNSQ	Outfit MNSQ	Point-Meas. Corr.
IQ1	-1.34	0.18	0.98	0.95	0.67
IQ2	-0.28	0.16	1.05	1.08	0.71
IQ3	0.52	0.15	0.89	0.87	0.74
IQ4	1.18	0.16	1.12	1.15	0.69
IQ5	2.47	0.19	0.95	0.92	0.68
ME1	-0.83	0.17	1.02	1.04	0.72
ME2	0.16	0.15	0.91	0.89	0.75
ME3	1.21	0.16	1.08	1.11	0.70
ME4	1.95	0.18	0.97	0.94	0.69
CV1	-1.76	0.19	1.04	1.06	0.66
CV2	-0.74	0.17	0.88	0.86	0.73
CV3	0.21	0.15	0.94	0.92	0.74
CV4	0.89	0.16	1.11	1.13	0.68
CV5	1.43	0.17	0.95	0.93	0.70

Source: Authors' Computation (2026). Acceptable infit/outfit MNSQ range: 0.6–1.4 (Linacre, 2023).

Table 3: Rasch Model Summary Statistics

Construct	Person Reliability	Item Reliability	Person Separation	Item Separation
Information Quality	0.85	0.97	2.34	5.52
Market Efficiency	0.82	0.96	2.13	4.89
Corporate Value Creation	0.87	0.98	2.56	6.24

Source: Authors' Computation (2026). Person reliability ≥ 0.80 = high measurement quality. Separation > 2.0 = well-differentiated measurement.

4.3 Measurement Model Assessment

Table 4 presents measurement model results. All three constructs achieved Cronbach's α between 0.842 and 0.891, rho_A between 0.849 and 0.897, and composite reliability (CR) between 0.893 and 0.920, all exceeding the 0.70 threshold. Average Variance Extracted (AVE) values ranged from 0.673 to 0.698, surpassing the 0.50 benchmark and confirming convergent validity. All indicator loadings exceeded 0.70 (range: 0.781–0.867), with all t-values significant at $p < 0.001$, satisfying the formal convergent validity condition $CR = (\sum \lambda_i)^2 / [(\sum \lambda_i)^2 + \sum \text{Var}(\epsilon_i)] \geq 0.70$.

Table 4: Measurement Model Assessment Results

Construct	Cronbach's α	rho_A	CR	AVE
Information Quality	0.876	0.883	0.911	0.673
Market Efficiency	0.842	0.849	0.893	0.676
Corporate Value Creation	0.891	0.897	0.920	0.698

Source: Authors' Computation (2026). Thresholds: α , rho_A, CR ≥ 0.70 ; AVE ≥ 0.50 .

Discriminant validity was assessed using the HTMT ratio (Roemer et al., 2021). All HTMT values fell below the conservative threshold of 0.85, with bootstrapped 95%

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confidence intervals confirming statistical separation across all construct pairs (Table 5).

Table 5: HTMT Ratios and Bootstrapped 95% Confidence Intervals

Construct Pair	HTMT	95% CI Lower	95% CI Upper	Verdict
IQ – ME	0.789	0.698	0.861	Adequate
IQ – CVC	0.822	0.741	0.891	Adequate
ME – CVC	0.796	0.712	0.869	Adequate

Source: Authors' Computation (2026). *HTMT < 0.85 confirms discriminant validity (Roemer et al., 2021). CI = bias-corrected bootstrap confidence interval, 5,000 resamples.*

4.4 Structural Model and Hypothesis Testing

The structural model is specified as: $ME = \gamma_1IQ + \zeta_1$ and $CVC = \gamma_2IQ + \beta_1ME + \zeta_2$. Structural path VIF values confirmed absence of multicollinearity (IQ→ME VIF = 1.00; IQ→CVC VIF = 1.95; ME→CVC VIF = 1.95, all < 3.3). SRMR = 0.061, below the 0.08 threshold, indicating acceptable model fit. PLS predict analysis confirmed out-of-sample predictive relevance: model RMSE and MAE were lower than the naïve LM benchmark for all endogenous indicators, confirming genuine predictive power beyond explanatory fit (Hair Jr, 2021). Table 6 presents standardized path coefficients, standard errors, t-values, and hypothesis decisions.

Table 6: Structural Model Path Coefficients and Hypothesis Testing Results

Hypothesis	Path	β	SE	t-value	p-value	Decision
H1	IQ → ME	0.716	0.058	12.345	< 0.001	Supported
H2	IQ → CVC	0.345	0.074	4.662	< 0.001	Supported
H3	ME → CVC	0.423	0.069	6.130	< 0.001	Supported

Source: Authors' Computation (2026). *β = standardized path coefficient; bootstrapping 5,000 resamples, two-tailed test.*

All three hypotheses were supported. Information quality exerts a strong positive direct effect on perceived market informational efficiency ($\beta = 0.716$, $t = 12.345$, $p < 0.001$; $f^2 = 1.049$), a moderate positive direct effect on perceived corporate value creation ($\beta = 0.345$, $t = 4.662$, $p < 0.001$; $f^2 = 0.187$), and market efficiency exerts a medium positive

direct effect on corporate value creation ($\beta = 0.423$, $t = 6.130$, $p < 0.001$; $f^2 = 0.278$).

Table 7 presents explanatory and predictive power statistics.

Table 7: Explanatory and Predictive Power

Endogenous Construct	R ²	R ² Adj.	Q ²	f ² (IQ)	f ² (ME)	SRMR
Market Efficiency	0.512	0.507	0.338	1.049	—	0.061
Corporate Value Creation	0.647	0.640	0.441	0.187	0.278	0.061

Source: Authors' Computation (2026). R^2 : 0.25 = weak, 0.50 = moderate, 0.75 = substantial. $Q^2 > 0$ = predictive relevance. f^2 : 0.02 = small, 0.15 = medium, 0.35 = large. $SRMR < 0.08$ = acceptable fit.

The structural model explains 51.2% of variance in perceived market efficiency and 64.7% in perceived corporate value creation — moderate and substantial explanatory power respectively (Hair Jr et al., 2017). These R^2 values must be evaluated alongside predictive Q^2 (0.338 and 0.441, both > 0) and PLSpredict results, which together confirm that the model retains genuine out-of-sample predictive relevance. Effect size $f^2 = 1.049$ for $IQ \rightarrow ME$ confirms a very large structural effect; $f^2 = 0.187$ for $IQ \rightarrow CVC$ and $f^2 = 0.278$ for $ME \rightarrow CVC$ indicate medium effects.

4.5 Mediation Analysis

The indirect effect of information quality on corporate value creation through perceived market informational efficiency is calculated as: $IE = \gamma_1 \times \beta_1 = 0.716 \times 0.423 = 0.303$. The total effect is: $TE = DE + IE = 0.345 + 0.303 = 0.648$. The proportion of the total effect mediated through market efficiency is: $PM = IE/TE = 0.303/0.648 \approx 0.468$ (46.8%). The significant indirect effect (95% CI [0.203, 0.412], $p < 0.001$) alongside the significant direct effect ($\beta = 0.345$, $p < 0.001$) confirms complementary mediation (Table 8), whereby market efficiency amplifies and partially transmits the effect of information quality on corporate value creation.

Table 8: Mediation Analysis – Indirect Effects of IQ on CVC

Effect Type	Path	β	SE	95% CI Lower	95% CI Upper	p- value
Direct (DE)	IQ \rightarrow CVC	0.345	0.074	0.201	0.489	< 0.001
Indirect (IE= $\gamma_1 \times \beta_1$)	IQ \rightarrow ME \rightarrow CVC	0.303	0.053	0.203	0.412	< 0.001
Total (TE=DE+IE)	IQ \rightarrow CVC	0.648	0.062	0.528	0.768	< 0.001

Source: Authors' Computation (2026). Bias-corrected bootstrap CI, 5,000 resamples. Mediation type: Complementary. Proportion mediated $PM = IE/TE = 0.303/0.648 = 46.8\%$.

5. DISCUSSION

This study provides empirical evidence of the associations among information quality, perceived market informational efficiency, and perceived corporate value creation among NGX-listed firms in Nigeria. The strong positive association between information quality and perceived market efficiency ($\beta = 0.716$, $F^2 = 1.049$) is the largest structural path in the model and is particularly meaningful in the Nigerian institutional context. The NGX is characterised by variable enforcement of disclosure obligations by SEC Nigeria, limited analyst coverage outside the banking and consumer goods sectors, and investor sophistication concentrated among institutional participants. In this environment of elevated information asymmetry, incremental improvements in disclosure quality produce larger efficiency gains than in more mature markets, explaining the exceptionally large effect size. This finding is consistent with Signalling Theory (Spence, 1973): in markets where credible information is scarce, high-quality disclosures carry stronger signalling value and produce more pronounced reductions in pricing uncertainty (Ehiedu & Obi, 2022; Benjamin, 2024). It also reflects the structural reality that NGX corporate disclosures remain a primary pricing input due to limited alternative information channels.

The direct positive association between information quality and perceived corporate value creation ($\beta = 0.345$, $f^2 = 0.187$) reflects the firm-level channel through which transparency generates value, consistent with Agency Theory (Jensen & Meckling, 1976). The smaller effect size relative to the IQ→ME path suggests that internal value creation is constrained by factors orthogonal to disclosure quality including strategic capabilities, operational competence, and macroeconomic conditions especially salient in Nigeria (energy costs, infrastructure gaps, regulatory compliance burdens under CAMA 2020). The direct effect ($\beta = 0.345$) is substantially smaller than the total effect ($\beta = 0.648$), implying that market-level amplification via improved pricing efficiency materially enhances the ultimate valuation impact of disclosure improvements. The indirect effect (IE = 0.303, 46.8% of TE) reveals a dual-pathway architecture: information quality simultaneously reduces agency costs at the firm level and improves price discovery at the market level, explaining why transparency investments yield returns beyond the immediate cost-of-capital reduction.

The significant association between market efficiency and corporate value creation ($\beta = 0.423$, $f^2 = 0.278$) confirms the disciplinary and allocative roles of market pricing efficiency. In more efficiently priced segments of the NGX particularly large-capitalisation banking and consumer goods firms with stronger institutional investor participation managers face stronger incentives to pursue value-maximising strategies through the corporate control market (Jensen, 1986). The medium effect size is consistent with the RBV (Barney, 1991): market efficiency is a significant but not sufficient condition for value creation, with firm-specific internal capabilities operating as a complementary force. The dual-pathway finding also resolves apparent tensions in the literature between firm-level disclosure studies and market microstructure studies by demonstrating that both mechanisms are operative and mutually reinforcing.

The Rasch RSM pre-validation added substantive value to the findings by confirming interval-level measurement properties, unidimensionality (first-contrast eigenvalues all < 2.0), absence of DIF across sectors, and monotonic threshold ordering.

These diagnostics provide assurance that the structural estimates are not inflated by measurement artefacts inherent in raw ordinal Likert data. Robustness checks incorporating firm size, age, leverage, profitability, and sector controls confirmed the stability of structural estimates, providing confidence that observed effects are not artefacts of firm heterogeneity.

This study has several limitations that should be addressed in future research. First, the cross-sectional design precludes causal inference; reverse causality is plausible firms with higher perceived value creation may invest more in disclosure systems and longitudinal or instrumental variable designs are needed to establish causal directionality. Second, the perceptual measurement of PMIE and PCVC, while theoretically defensible and pragmatically necessary given NGX data constraints, should be complemented by objective proxies in future research: Tobin's Q, Economic Value Added (EVA), Return on Invested Capital (ROIC), bid-ask spreads, return synchronicity, and analyst forecast accuracy. Third, the sample is restricted to large-capitalisation NGX firms; generalisability to smaller or privately-owned enterprises requires separate investigation. Fourth, ownership concentration and board governance quality data were unavailable and should be incorporated as additional controls. Fifth, formal plagiarism screening via Turnitin or iThenticate should be conducted before final submission to verify text originality.

6. CONCLUSION

This study examined the associations among information quality, perceived market informational efficiency, and perceived corporate value creation among 100 NGX-listed firms in Nigeria, using an integrated Rasch RSM and PLS-SEM analytical framework. All three hypotheses were supported: information quality is positively associated with both perceived market efficiency and perceived corporate value creation, and market efficiency positively predicts corporate value creation. Complementary mediation was confirmed: market efficiency transmits 46.8% of the

total information quality effect on corporate value creation ($IE = \gamma_1 \times \beta_1 = 0.303$; $PM = 46.8\%$), with a significant direct effect also retained.

The study makes four distinct contributions. Methodologically, the integration of Rasch RSM pre-validation with PLS-SEM structural analysis overcomes the ordinal measurement limitations of raw Likert data and provides unidimensionality and DIF evidence unavailable from conventional reliability statistics. Theoretically, the dual-pathway mediation architecture extends Agency Theory by demonstrating that the cost-of-capital reduction channel operates alongside a market-level amplification mechanism in an emerging market context. Contextually, this is the first empirical test of this integrated framework in the Nigerian capital market, demonstrating that disclosure quality effects are both large and practically significant in a market characterised by structural information asymmetries. Practically, the findings generate the following specific recommendations: (1) For boards and management: invest in integrated reporting quality and disclosure architecture as a strategic value-creation tool — the dual-pathway mechanism means returns accrue through both direct agency cost reduction and market-level amplification of valuations, not merely through compliance. (2) For regulators (SEC Nigeria, FRC of Nigeria): strengthen enforcement of IFRS compliance, reporting timeliness, and disclosure accuracy standards under CAMA 2020; the large $IQ \rightarrow ME$ effect size demonstrates that regulatory improvements in disclosure quality translate into substantial market efficiency gains in the NGX context. (3) For investors: incorporate disclosure quality scores into investment screening criteria and adjust valuation multiples downward for firms with poor informational transparency; the evidence confirms that disclosure quality is a material pricing factor on the NGX. (4) For listed firms: treat information quality investment as a strategic priority rather than merely a compliance obligation — returns materialise through both internal capability development and market recognition channels.

Future research should employ longitudinal designs, objective market microstructure measures, broader samples including smaller NGX-listed and privately-

owned firms, and additional governance controls (ownership concentration, board independence) to extend and validate these findings across emerging markets.

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