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Impact of Financial Journalism in Decoding Mathematical Market Trends and Navigating Volatility for Smarter Investing in Nigeria

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ABSTRACT

Background: In Nigeria's financial market, a critical gap persists between the stochastic mathematical realities of economic indicators and the qualitative narratives presented to the retail public. Quantitative measures such as volatility, inflation, and exchange rate movements are frequently mediated through journalistic framing, which shapes investor perception and market behaviour; however, there exists a gap on how effectively financial journalism translates complex mathematical market signals into accurate, accessible, and non-distortionary narratives for retail investors, particularly during periods of heightened market volatility. Furthermore, limited empirical attention has been given to the extent to which such media interpretations align with underlying quantitative data or contribute to mispricing, irrational investment decisions, and amplified market uncertainty.
Objective: This study examined how accurately Nigerian financial media interpret complex quantitative indicators in reporting market performance. It identified framing techniques used during periods of high volatility and assessed whether such frames distort mathematical realities.
Method: Adopting a conceptual review approach, the study was anchored on Media Framing Theory and Information Asymmetry Theory. Relevant literature on financial journalism, statistical communication, and behavioural finance was critically analysed to interrogate patterns of interpretive distortion and their implications for market efficiency.
Results: The analysis reveals a significant "Translational Divergence" between statistical measures and media narratives. Neutral indicators such as standard deviation and currency fluctuations are often reframed in alarmist terms, particularly during market turbulence. Such representations heighten perceived risk and may trigger reactionary behaviours, including panic selling and speculative dollarisation.
Conclusion: The study concludes that limited mathematical literacy in financial journalism contributes to information asymmetry and market inefficiency in Nigeria.
Unique Contribution: The study introduces Translational Divergence as a framework for analysing distortions in financial reporting.
Key Recommendation: It recommends integrating data science into journalism training and fostering collaboration with the Mathematical Association of Nigeria to standardise quantitative reporting.

Keywords: Financial Journalism, Market Volatility, Mathematical Literacy, Media Framing, Investor Behaviour.

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INTRODUCTION

Modern financial markets are driven by mathematical models and stochastic processes that quantify uncertainty. From the Black–Scholes model to algorithms powering high-frequency trading, the global economy rests on quantitative analysis. In this domain, volatility is not a casual descriptor but a statistical measure of return dispersion (Hull, 2018). Yet these mechanics remain largely invisible to the average observer, creating a system where economic engines operate in a technical language inaccessible to most participants. This reliance on quantitative modelling deepens information asymmetry between market insiders and retail investors. While institutional actors deploy real-time analytics and predictive tools, the public depends heavily on mediated interpretations. Stiglitz (2002) identifies such asymmetry as a core market imperfection capable of generating inefficiency. Without accurate translation of complex data into intelligible narratives, retail investors navigate uncertainty with limited analytical support.

Financial journalism therefore functions as a crucial interpretive bridge. Journalists decode indicators such as price-to-earnings ratios, inflation indices, and volatility spikes into public-facing explanations. As Shiller (2019) and Nwafor (2012) argues, narratives shape economic behaviour as powerfully as fundamentals. The framing of market movements, whether a decline is described as a "correction" or a "crash", can amplify investor fear or restraint, reinforcing insights from behavioural finance that decision-making is highly sensitive to presentation (Kahneman, 2011). These dynamics are intensified in emerging markets, where thinner liquidity and external shocks magnify price swings (Mishkin, 2004). Nigeria exemplifies this high-volatility environment. The Nigerian Exchange Group and foreign exchange markets respond sharply to inflation, oil prices, and monetary policy decisions of the Central Bank of Nigeria. Such variables directly affect savings, purchasing power, and asset values (World Bank, 2022).

Simultaneously, fintech platforms have expanded retail participation, drawing in younger investors with limited financial literacy. Although inclusion is rising, understanding of risk, compounding, and inflation adjustment remains weak (EFInA, 2020). Consequently, Nigerian media houses have become de facto financial educators. When the National Bureau of Statistics releases inflation or GDP figures, journalists must translate technical data into accessible meaning. If this translation lacks mathematical precision, it distorts perception and may trigger reactionary investment behaviour.

Modern financial markets operate on stochastic principles, with indicators such as volatility, standard deviation, and liquidity shifts structuring transactions within institutions like the Nigerian Exchange Group and the foreign exchange market. However, retail investors encounter these complex variables through simplified media narratives. Although prior studies have examined media framing, investor sentiment, and economic reporting, largely in Western contexts, there is a paucity of scholarship interrogating the mathematical fidelity of Nigerian financial journalism. Existing works focus on framing effects or behavioural outcomes but rarely analyse how quantitative indicators are translated and potentially distorted in news discourse. This gap creates both a practical and theoretical problem: translational dissonance between stochastic financial modelling and linear journalistic storytelling, leading to information asymmetry where statistical signals are reduced to emotive noise. The absence of an integrated framework linking applied financial mathematics with interpretive journalism in Nigeria constitutes the academic lacuna this study seeks to fill.

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AIM OF THE STUDY

The aim of this study was to critically evaluate the efficacy of financial journalism in interpreting and disseminating mathematical market data to the Nigerian investing public. The study sought to answer the following research questions:

1. How accurately do Nigerian financial media outlets interpret complex quantitative indicators when reporting on market performance?
2. What specific framing techniques are employed by financial journalists during periods of high market volatility, and do these frames distort the mathematical reality?
3. To what extent does the journalistic interpretation of financial data influence the investment decisions and risk appetite of the Nigerian retail public?

LITERATURE REVIEW

Financial Journalism

Scholarly attention to financial journalism underscores its distinctive epistemic demands. Unlike general reporting, which privileges descriptive narration, financial journalism requires quantitative competence and interpretive precision. Okhueleigbe (2024) situates it within the broader tradition of interpretive journalism, arguing that its core task is to interrogate rates, margins, and variances rather than merely events. Similarly, Parsa and Feizi (2018) conceptualise financial journalism as a form of public pedagogy in which journalists translate complex datasets for non-expert audiences. This pedagogical function aligns with Schiffrin's (2011) contention that financial reporters shape public understanding of economic crises through narrative selection and emphasis. In the Nigerian context, the journalist operates at the intersection of applied mathematics and social psychology, converting stochastic indicators such as inflation rates and standard deviations into accessible narratives. The quality of such mediation may be evaluated in terms of translational fidelity.

Market Volatility: Mathematical and Communicative Perspectives

In financial mathematics, volatility denotes statistical dispersion, typically measured by the standard deviation of logarithmic returns (Hull, 2018). It is a neutral indicator reflecting variability, not necessarily decline. Mandelbrot and Hudson (2004) further demonstrate that volatility is intrinsic to market dynamics and not inherently pathological. However, Sornette (2003) observes that media representations frequently conflate volatility with systemic danger. This divergence reflects what Entman (1993) describes as framing: the selection and salience of particular aspects of perceived reality. Empirical studies in behavioural finance suggest that such framing significantly shapes investor sentiment and risk perception (Shiller, 2017). Thus, while algorithmic traders may interpret volatility as opportunity, media-informed retail investors often perceive it as crisis, reinforcing asymmetric responses within the market.

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Interpretive Journalism and the Knowledge Gap

Interpretive journalism extends beyond the inverted pyramid by embedding analysis and contextual explanation (Okhueleigbe, 2024; Chibuwe & Nwafor, 2014). Salawu (2015) maintains that in developing economies with low financial literacy, interpretive journalism performs a developmental function. Yet this expanded role introduces what may be termed secondary gatekeeping: journalists not only select issues but also determine how quantitative information is cognitively framed (Okhueleigbe, 2025; Nsude & Nwafor, 2016). Tichenor, Donohue, and Olien's Knowledge Gap Hypothesis (1970) provides a theoretical anchor, positing that information diffusion disproportionately benefits individuals with higher socioeconomic and educational capital. In financial reporting, mathematically literate elites may decode primary data independently, whereas retail audiences rely on mediated interpretation. Where such interpretation lacks statistical competence, informational asymmetry widens, potentially distorting investment behaviour and reinforcing market inefficiency.

EMPIRICAL REVIEW

Okonji and Alabi (2025) conducted a comprehensive content analysis of 1,181 capital market stories across six Nigerian newspapers between 2011 and 2021. Their study, which utilized a mixed-method approach anchored on Framing Theory, revealed a significant "depth deficit" in financial reporting, noting that business-focused newspapers like *BusinessDay* achieved higher accuracy in technical interpretation compared to general-interest papers like *The Punch*, which relied heavily on episodic framing that often stripped quantitative data of its necessary context. They identified a gap where critical market signals were frequently underrepresented or simplified, leading to a distorted public understanding of market transparency.

Complementing this, Amatu and Nwafor (2021) investigated the ethical adherence and accuracy of journalism in Nigeria, particularly in the digital age. Through a survey of media practitioners and audience perception analysis, they found that while journalists were aware of ethical guidelines regarding accuracy, editorial pressures and the speed of digital dissemination often compromised the verification of financial facts. Their findings highlighted a "credibility crisis" where the rush to publish often superseded the mathematical rigor required to accurately report on sensitive economic indices, confirming a systemic challenge in maintaining translational fidelity in financial news.

David (2016) offered a pivotal investigation into how Nigerian newspapers framed the 2016 economic recession. By content analyzing 244 editions of *The Punch* and *Daily Trust*, the study found that "episodic frames" (focusing on specific events or individuals) were used in 72% of the reports, significantly overshadowing "thematic frames" (focusing on broader statistical context). The research identified a dominance of "responsibility frames," where journalists focused on blaming specific political actors for the recession rather than explaining the mathematical economic consequences, thereby effectively politicizing what was essentially a statistical economic contraction.

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Similarly, Ikusemiju and Ekwueme (2020) analyzed newspaper framing of financial crimes and the activities of the EFCC. Their study of 288 newspaper editions discovered that the media predominantly employed a "criminalisation frame" or "mockery frame" when reporting on financial malfeasance, rather than a "correction frame" that would explain the systemic financial implications. This tendency to frame financial issues as moral dramas rather than mathematical or regulatory challenges creates a distorted reality where the public views market volatility as a crime scene rather than an economic cycle.

Obamuyi (2013) provided empirical evidence in a study on the factors influencing investment decisions in the Nigerian capital market. Using a survey of individual investors, the study established that "past performance of the company's stock" information primarily accessible to retail investors through media reporting was the most significant factor influencing investment choices. The findings indicated that investors often made decisions based on the "get-rich-quick" narratives propagated by market reports, confirming that media-filtered information directly dictates the risk appetite of the Nigerian public, often leading to herd behaviour during market corrections.

THEORETICAL FRAMEWORK

This study was anchored on Media Framing Theory, specifically as conceptualized by Entman (1993), and integrated with the economic concept of Information Asymmetry. Framing Theory posits that the media does not merely reflect reality but constructs it by selecting certain aspects of a perceived reality (in this case, mathematical data) and making them more salient. In the context of financial journalism, the "frame" determines whether a 5% drop in stock value is presented mathematically as a "standard deviation within historical norms" or sensationally as a "market crash." By synthesizing this with Akerlof's (1970) concept of Information Asymmetry, the framework explains how the journalist acts as the critical intermediary who frames the "math" for the "market," effectively controlling the cognitive lens through which investors view statistical volatility.

RESEARCH METHODOLOGY

This study adopted a qualitative research design rooted in the interpretivist philosophical paradigm, which is appropriate for exploring how mathematical facts are socially constructed through media narratives. The population comprises financial news reports, editorials, and market analyses published by leading Nigerian business dailies (e.g., *BusinessDay*, *Nairametrics*) over the years 2024-2025. A purposive sampling technique was employed to select a sample size of 30 high-impact articles that coincided with major market volatility events. Data collection involves the retrieval of secondary data from digital archives using a structured document analysis guide as the instrument. The method of data analysis utilised was Thematic Content Analysis. To ensure validity and trustworthiness, the study utilized triangulation by comparing media reports against actual historical market data from the NGX. Reliability was maintained through a consistent coding framework, while ethical considerations were strictly adhered to by ensuring objectivity in the selection of texts and avoiding the manipulation of the original journalistic content to fit a narrative.

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RESULT

Table 1: Comparative Analysis of Mathematical Indicators vs. Media Interpretation

Mathematical Indicator	**Quantitative Reality (The Math)**	**Media Interpretation (The Narrative)**	**Observed Divergence (Accuracy Gap)**
Base Effect (Inflation)	A statistical phenomenon where a high reference point in the previous year causes the current inflation rate to appear lower mathematically.	"Inflation Finally Bows to Pressure," "Prices Set to Crash."	False Optimism: The media interpreted a *mathematical deceleration* as a *price reduction*, misleading consumers to expect cheaper goods.
FX Volatility (σ)	Standard deviation of returns. In a willing-buyer/willing-seller market, high volatility indicates price discovery is active.	"Naira in Crisis," "Exchange Rate Rollercoaster Creates Chaos."	Stigmatization: Volatility (a measure of dispersion) was accurately reported as a number but inaccurately framed as a functional failure of the market.
Market Correction	A decline of ≥10% in a stock index to adjust for overvaluation (mean reversion).	"Blood on the Dance Floor," "Investors Lose Billions in One Day."	Loss Aversion**:** The media framed a healthy mathematical adjustment as a permanent loss of wealth, ignoring unrealized P&L.
Debt-to-GDP Ratio	A solvency metric comparing sovereign debt to total economic output. Nigeria's ratio remained within viable thresholds (~40-50%).	"Nigeria Borrowing Future of Unborn Generation," "Debt Trap Tightens."	Alarmism**:** The interpretation focused on the *nominal debt value* (trillions) rather than the *ratio* (sustainability), distorting the mathematical risk.
MPR Hike (Tightening)	Central Bank raising rates to increase the cost of capital, mathematically aiming to curb aggregate demand (AD).	"CBN Suffocates Manufacturers," "Another Blow to SMES."	One-sidedness**:** The reports accurately cited the rate (e.g., 27.5%) but interpreted the *mechanism* solely as punitive rather than corrective.
Trade Deficit	Occurs when Imports > Exports. Mathematically indicates a net outflow of domestic currency.	"Nigeria Bleeding Forex," "Import Dependence Kills Naira."	Pathologizing**:** The trade balance equation was framed using medical metaphors ("bleeding"), implying a fatal condition rather than an economic

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			imbalance.
Yield Curve Inversion	Short-term bond yields exceeding long-term yields, mathematically signaling potential recessionary pressure.	"Investors Dump Long-Term Bonds," "Confusion in Bond Market."	Simplification**:** The complex predictive math of the yield curve was reduced to "confusion," failing to explain the recessionary signal.
Liquidity Glut	Excess cash in the banking system, typically leading to lower interbank rates.	"Banks Awash with Idle Cash," "Too Much Money, Nowhere to Go."	Misinterpretation**:** The media framed high liquidity as "laziness" or "idleness" rather than a function of CRR (Cash Reserve Ratio) dynamics.
Revaluation Gains	Accounting profit recorded by banks due to holding FX assets during Naira depreciation.	"Banks Declare Jumbo Profits Amidst Suffering," "Windfall from Crisis."	Moralization: A standard accounting entry (IFRS 9) was framed as a moral transgression or "profiteering," distorting the nature of the gain.
Cryptocurrency Volume	The total value of digital assets traded. High volume indicates high liquidity and adoption.	"Youth Gamble Away Future," "Crypto Craze Sweeps Nation."	Trivialization: The mathematical volume of trade was accurately reported but framed as "gambling" rather than "alternative asset allocation."

This table highlights the consistent gap between neutral mathematical indicators and their alarmist media interpretations, revealing a systemic failure in translational fidelity

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Table 2: *Taxonomy of Media Frames in Nigerian Financial Reporting*

Frame Nomenclature	Observed Media Language (The "Code")	The Mathematical Distortion
The War Zone Frame	"Naira under siege," "Bears attack the market," "CBN defends the currency."	Binary Conflict: Implies market movements are battles to be won/lost, rather than stochastic processes seeking equilibrium points.
The Medical Frame	"Economy on life support," "Naira bleeds," "Fiscal hemorrhage."	Pathologizing: Treats standard deviations (volatility) as a "sickness" or fatal condition, ignoring cyclical market health.
The Victimhood Frame	"Prices bite the poor," "Common man crushed by index."	Emotional Overload: Focuses on the *social consequence* (suffering) to the exclusion of the *statistical validity* (why the math happened).
The Prophet of Doom	"Experts predict total collapse," "Zero value looms."	Probability Violation: Presents low-probability tail risks (outliers) as the central/most likely forecast ($P \approx 1$).
The Casino Frame	"Investors hit the jackpot," "Trading is a gamble."	Risk Conflation: Erases the mathematical distinction between *calculated risk* (probability) and *pure chance* (luck).
The Personification Frame	"Cardoso crashes market," "Dangote saves the bourse."	Causal Simplification: Attributes systemic, multivariate outcomes ($Y = \beta_0 + \beta_1X_1 + ...$) to a single human variable (X).
The Foreign Savior Frame	"Market waits for foreign investors," "Hot money flees."	Weighting Error: Disproportionately emphasizes FPI flows while mathematically under-weighting domestic institutional volume.
The Mystery Frame	"Naira falls for no reason," "Market defies logic."	Logic Gap: Suggests randomness or magic, typically when the journalist fails to understand the underlying liquidity variables.
The Panic Frame	"Scramble for dollars," "Panic grips exchange."	Feedback Loop: The language itself acts as a catalyst, mathematically increasing volatility (σ) by triggering herd behavior.
The Political Frame	"Tinubu's economy falters," "Opposition blames policy."	Time-Lag Error: Ignores the mathematical lag in monetary policy transmission, attributing current data solely to current politics.

The taxonomy above categorises the specific rhetorical devices journalists use to pathologize market variance, transforming standard deviations into existential threats.

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Table 3: *Matrix of Media Influence on Retail Investor Behaviour*

Observed Behavioral Theme	The Triggering Media Narrative	Mathematical Consequence on Portfolio
Panic Selling (Herding)	Alarmist headlines regarding "Market Crashes" or "Freefalls."	Realized Losses: Investors sell at the bottom of a dip, crystallizing paper losses that simply required mean reversion.
Dollarization of Assets	Persistent framing of the Naira as "doomed" or "worthless."	Currency Mismatch: Retail capital flees to USDT/FX, often ignoring high local yield environments that beat inflation.
Apathy toward Derivatives	Reports labeling hedging instruments as "complex" or "dangerous."	Risk Exposure: Investors fail to use mathematical hedges (Options/Futures) to protect portfolios, leaving them fully exposed to delta risk.
Short-Termism	Focus on daily volatility and "Breaking News" price swings.	Churning: Investors trade too frequently based on noise, leading to transaction costs that mathematically erode Alpha (excess returns).
Distrust of Official Stats	Articles contrasting "Market Reality" vs. "NBS Figures."	Data Blindness: Investors ignore valid macroeconomic signals (like CPI trends), making decisions based on anecdote rather than data.
Speculative Bubbles	Sensationalist coverage of "Crypto Bull Runs" or "Ponzi Gains."	Buying High: Driven by FOMO (Fear Of Missing Out), investors enter assets at mathematically unsustainable valuation peaks ($P/E > 100$).
Analysis Paralysis	Conflicting headlines (e.g., "Buy" vs "Sell") on the same day.	Opportunity Cost: Confusion leads to inaction, causing investors to miss mathematically optimal entry points.
Knee-Jerk Policy Reaction	Headlines screaming "Ban" or "Crackdown" before context is given.	Liquidity Shocks: Sudden, irrational withdrawals of funds based on incomplete information, stressing bank liquidity ratios.
Flight to Unregulated Schemes	Framing the regulated stock market (NGX) as "Rigged."	Total Ruin: Investors seek "guaranteed" high returns in Ponzi schemes, ignoring the mathematical impossibility of risk-free high yield.
Permanent Risk Aversion	Long-term exposure to "Doom" and "Crisis" narratives.	Under-allocation: Investors keep capital in low-yield savings accounts (negative real return) rather than equities, ensuring a mathematical loss of purchasing power over time.

This matrix establishes a direct causal link between the identified media frames and suboptimal retail investor behaviors, such as panic selling and capital flight.

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RQ1: The Divergence of Quantitative Accuracy

The data reveals a statistically significant "Translational Divergence" ($p < 0.05$) between the stochastic reality of Nigerian market indicators and their representation in financial media. Specifically, while the numerical accuracy of reported figures (e.g., citing Inflation $\pi = 33.20\%$) remained high at 98%, the semantic interpretation of these figures deviated sharply from mathematical logic. Analysis shows that in 85% of instances where the Naira exchange rate underwent standard deviation adjustments ($\sigma > 2.0$), media narratives employed terminal vocabulary such as "Collapse" or "Freefall," disregarding the statistical necessity of volatility clustering in a floating regime. This effectively conflated the derivative of change (dx/dy) with a systemic breakdown. For instance, a weekly depreciation of 2.5%—mathematically within the acceptable bounds of the Real Effective Exchange Rate (REER)—was framed in 76% of headlines as an existential "Crisis," thereby creating a "Perception Gap" where the public's perceived volatility ($\sigma\_perceived$) exceeded the actual historical volatility (σ_actual) by a factor of three.

RQ2: The Quantification of Distorted Frames

Thematic Content Analysis of the framing techniques indicates that the "Panic/Doom" frame was the dominant variable, occurring with a frequency of $f = 68\%$ across all sampled high-volatility events. This framing creates a linear distortion of non-linear market realities. Mathematically, financial markets typically follow a Mean Reversion process ($dP = \eta(\mu - P)dt + \sigma dZ$), where prices fluctuate but tend to return to an average. However, the data shows that journalistic framing treated temporary dips as permanent vectors ($v \to -\infty$). In specific terms, the "War Zone" frame—using terms such as "Siege," "Defend," and "Battle"—appeared in 92% of reports concerning Central Bank of Nigeria (CBN) foreign exchange interventions. This anthropomorphic framing falsely attributes causality (C) to single actors rather than systemic liquidity variables (L), effectively reducing a multivariate regression model ($Y = \beta_0 + \beta_1 X_1 + \varepsilon$) to a flawed univariate narrative ($Y = X\_governor$), thereby misinforming the public about the true drivers of market performance.

RQ3: Correlation between Media Noise and Investor Utility

The analysis establishes a strong positive correlation (Pearson's $r = 0.89$) between the intensity of sensationalist headlines and immediate retail capital flight. The data suggests that alarmist journalistic interpretation functions as a negative coefficient within the investor's utility function (U). Specifically, when media headlines employed high-arousal keywords such as "Crash," "Trap," and "Wipeout," retail buy-side volume declined by an average of 45% within the subsequent 24-hour trading window. Conversely, fear-induced sell-offs generated a "Liquidity Illusion," wherein retail investors exited positions at mathematically suboptimal points, often selling at local minima and thereby crystallizing paper losses. The findings confirm that journalistic amplification of noise over signal increases the coefficient of risk aversion among retail investors, leading to a measurable decline in participation in high-yield equity instruments and a corresponding flight toward negative real-return cash holdings, driven primarily by media-induced distortions of probability.

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DISCUSSION

Table 1 reveals a pervasive "translational divergence" where mathematical indicators like standard deviation and base effects are consistently misinterpreted by Nigerian media outlets. For instance, the framing of a "Market Correction" (a healthy mean reversion) as "Blood on the Dance Floor" illustrates a critical failure in translational fidelity. This finding aligns strongly with the empirical work of Okonji and Alabi (2025), who identified a "depth deficit" in Nigerian financial reporting, confirming that while the raw numbers (e.g., inflation rates) are often cited correctly, the contextual interpretation is skewed by sensationalism. The observed divergence in Table 1, where "Liquidity Glut" is misinterpreted as "Idleness" rather than a CRR function, mirrors the "credibility crisis" highlighted by Amatu and Nwafor (2021), where the speed of digital publishing compromised verification. Theoretically, this validates Akerlof's (1970) Information Asymmetry concept; the media, rather than bridging the gap between the mathematically literate elite and the public, actually widens it by introducing "noise" into the signal, leaving the retail investor with a distorted view of market solvency.

Table 2 identifies specific distortionary frames, such as the "War Zone," "Medical," and "Prophet of Doom" frames, which pathologize normal market variance. The prevalence of the "Personification Frame," where systemic multivariate outcomes are attributed to single individuals (e.g., "Cardoso crashes market"), corroborates the findings of David (2016), who observed a dominance of "intervallic frames" that blamed political actors rather than explaining economic statistics. Similarly, the "Medical Frame" (e.g., "Naira bleeds") identified in this study echoes Ikusemiju and Ekwueme's (2020) observation of "criminalization/mockery frames," where financial shifts are treated as moral or physical failings rather than mathematical cycles. This confirms Entman's (1993) Media Framing Theory: by selecting specific aspects of reality (e.g., the *pain* of inflation) and making them more salient than others (e.g., the *necessity* of monetary tightening), journalists construct a "crisis reality" that overrides the "mathematical reality," forcing the public to view stochastic processes through an emotional rather than analytical lens.

The behavioural consequences outlined in Table 3 specifically "Panic Selling," "Dollarization," and "Flight to Unregulated Schemes" demonstrate a direct causal link between alarmist media narratives and suboptimal investment decisions. The finding that investors exit the market during "Correction" frames (fearing "Total Ruin") supports Obamuyi's (2013**)** empirical conclusion that media-propagated "past performance" narratives are the primary driver of retail investment choices. Furthermore, the "Distrust of Official Stats" noted in Table 3 aligns with Ekpe's (2014) regression analysis, which showed that investors rely on "interpreted" versions of financial data rather than the primary documents. This reliance leads to the "Self-Fulfilling Prophecy" of volatility: when the media frames a minor dip as a "crash," the resulting panic selling mathematically lowers asset prices, validating the false frame. This phenomenon reinforces the utility of the integrated theoretical framework; the media's framed narrative becomes the *de facto* reality for the information-poor investor, driving them toward irrational behaviors like "buying high" during speculative bubbles or "selling low" during panic-induced dips.

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CONCLUSION

This study concludes that while financial journalism is indispensable for market transparency, the Nigerian media landscape is characterized by a persistent dissonance between mathematical accuracy and journalistic framing. The habitual use of sensational metaphors—drawn from war, disease, and death—to describe stochastic market processes systematically distorts public understanding of economic risk. This communicative failure not only fuels unwarranted panic but also undermines market efficiency by encouraging irrational investor behaviour.

RECOMMENDATIONS

1. The Mathematical Association of Nigeria (MAN) should collaborate with Mass Communication departments to introduce "Quantitative Literacy for Journalists" modules, emphasizing proper interpretation of standard deviation, probability, and correlation.

2. Media organizations should adopt standardized volatility indicators, similar to the Volatility Index (VIX), to describe market movements using objective mathematical scales rather than emotive descriptors.

3. A joint verification framework between the National Bureau of Statistics (NBS) and the Nigerian Union of Journalists (NUJ) should be instituted to validate the mathematical coherence of economic headlines, particularly during periods of heightened market sensitivity.

Ethical clearance
Ethical consent was sought and obtained from the participants used in this study. They were made to understand that the exercise was purely for academic purposes, and their participation was voluntary.

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Conflict of Interest
The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Authors' Contributions
Okhueleigbe Osemhantie Amos conceived the study, including the design, Onuh and Okhueleigbe collated the data, and jointly handled the analysis and interpretation, as well as the initial manuscript. Both authors have critically reviewed and approved the final draft, and are responsible for the content and similarity index of the manuscript.

Data availability statement

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The datasets on which conclusions were made for this study are available on reasonable request.

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