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Abstract

Digital marketing initiatives, including blockchain-based processes, have become essential for financial markets seeking to enhance retail investor participation in today's dynamic investment environment. The capital markets sector, particularly in emerging economies, faces unprecedented challenges that require effective digital strategies to expand investor bases and maintain market liquidity. Thus, this study examined the role of digital marketing initiatives, incorporating blockchain-based processes such as digital identity verification and smart contracts, in enhancing retail investor participation in Kenya. The sample size comprised 900 retail investors and 45 financial intermediaries, representing response rates of 78.9% and 100% respectively. The findings showed that digital marketing initiatives, including blockchain-based processes, had significant positive effects on retail investor participation, demonstrating that financial intermediaries with structured practices for social media campaigns, influencer partnerships, financial literacy programs, digital identity verification, and smart contracts were better able to attract and retain retail investors. The study found that the implementation of digital marketing initiatives led to a 28% increase in retail investor participation. Financial literacy programs improved investor confidence and reduced the perceived complexity of investing, while blockchain-based digital identity verification improved security and reduced onboarding times. The study concludes that digital marketing initiatives incorporating blockchain-based processes are critical drivers of retail investor participation but remain underdeveloped due to inconsistent implementation, limited digital infrastructure, and insufficient regulatory support. The study recommends that financial intermediary managers should strengthen structured systems for digital marketing incorporating blockchain technologies and financial literacy programs, ensuring that such processes are institutionalized and supported through dedicated teams, professional development, and continuous learning mechanisms. The study further recommends that capital markets policymakers should enact supportive regulatory frameworks that reduce barriers, promote collaboration, and provide incentives that enable financial intermediaries to develop digital platforms with blockchain capabilities and advance inclusive capital market development.

Keywords: *Digital marketing, blockchain technology, retail investors, Nairobi Securities Exchange, Mombasa, Kenya*

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1.0 Background to the Study

Capital markets serve as crucial catalysts for economic advancement and play an essential role in fostering sustainable development globally. In 2023, global capital markets reached a total market capitalization of USD 109.48 trillion, demonstrating their fundamental importance to economic growth and wealth creation (World Federation of Exchanges, 2024). These markets facilitate the efficient allocation of capital from savers to productive investments, thereby supporting approximately 58 million direct jobs globally and contributing substantially to pension funds that secure the retirement of over 1.2 billion people worldwide (International Organization of Securities Commissions, 2023). Capital market development aligns with the United Nations Sustainable Development Goals, specifically SDG 8 on Decent Work and Economic Growth, SDG 9 on Industry Innovation and Infrastructure, and SDG 10 on Reduced Inequalities, by enhancing economic productivity, creating employment opportunities, and promoting financial inclusion (United Nations Conference on Trade and Development, 2022).

Maintaining robust retail investor participation is essential for guaranteeing the competitiveness and long-term sustainability of capital markets, particularly in emerging economies where market depth remains limited (International Monetary Fund, 2023). Retail investor participation demonstrates the extent to which ordinary citizens can access investment opportunities, build personal wealth, and contribute to market liquidity and price discovery mechanisms (World Bank, 2023). In developed markets such as the United States, retail investors account for approximately 25% of equity market trading volume, contributing significantly to market efficiency and stability (U.S. Securities and Exchange Commission, 2023). In contrast, emerging market economies often exhibit substantially lower retail participation rates, constraining market development and limiting opportunities for inclusive wealth creation among their populations (Asian Development Bank, 2023).

Digital marketing has emerged as a transformative tool for financial services globally, enabling institutions to reach broader audiences at lower costs compared to traditional marketing channels. The global digital advertising spending in financial services reached USD 58.7 billion in 2023, representing a 12.4% increase from the previous year, as institutions recognized the effectiveness of digital channels in customer acquisition and engagement (Statista, 2024). Digital marketing encompasses social media campaigns, search engine optimization, content marketing, influencer partnerships, email marketing, and mobile application promotions that collectively enable financial institutions to communicate value propositions, educate potential customers, and build brand awareness among target demographics (McKinsey & Company, 2023). In the financial sector specifically, digital marketing strategies have demonstrated superior return on investment compared to traditional advertising, with customer acquisition costs declining by an average of 34% when institutions shifted budgets from traditional to digital channels (Deloitte, 2023).

Contemporary digital marketing in capital markets increasingly incorporates technological innovations including blockchain-based processes that enhance security, transparency, and operational efficiency. Blockchain technology provides distributed ledger systems where transaction records are stored across multiple nodes, making data tampering extremely difficult and enhancing trust among market participants (International Monetary Fund, 2023). In capital markets specifically, blockchain applications integrated into digital marketing strategies include digital identity verification that reduces fraud and streamlines customer onboarding processes initiated through digital marketing campaigns, and smart contracts that automate account opening and investment processes, eliminating manual delays that deter potential investors reached through digital channels (World Bank, 2023). Financial institutions implementing integrated digital marketing approaches incorporating blockchain-based processes achieve substantially higher conversion rates from marketing exposure to completed account openings compared to institutions relying solely on traditional marketing and manual operational processes (Deloitte, 2023).

Evidence from developed markets illustrates the effectiveness of integrated digital marketing incorporating technological innovations in expanding retail investor participation. In the United Kingdom, online investment platforms that utilized targeted social media campaigns combined with streamlined digital onboarding processes reported a 43% increase in new account openings between 2020 and 2023, with the majority of new investors aged between 25 and 40 years (Financial Conduct Authority, 2023). Similarly, in Australia, digital financial literacy programs delivered through mobile applications and social media platforms, combined with efficient digital identity verification systems, contributed to a 31% increase in retail investor participation among millennials and Generation Z demographics between 2019 and 2023 (Australian Securities and Investments Commission, 2023). These examples demonstrate how strategic deployment of integrated digital marketing tools incorporating technological innovations can effectively lower barriers to investment participation, particularly among younger demographics who prefer digital interactions over traditional face-to-face engagement (Organisation for Economic Co-operation and Development, 2023).

In the African context, digital marketing applications in financial services remain at early stages but show promising potential. In South Africa, financial services firms that implemented comprehensive digital marketing strategies between 2020 and 2023 experienced a 27% increase in retail client acquisition, with social media platforms accounting for 38% of new customer referrals (Johannesburg Stock Exchange, 2023). Research in Nigeria demonstrated that investment firms utilizing WhatsApp and Instagram for financial education and product promotion achieved 52% higher engagement rates compared to those relying solely on traditional advertising channels (Nigerian Stock Exchange, 2022). In Ghana, mobile-based financial literacy campaigns delivered through telecommunications partnerships reached over 2.3 million potential investors and contributed to a 19% increase in retail brokerage account openings between 2021 and 2023 (Ghana Stock Exchange, 2023).

Kenya's capital market has experienced moderate growth over the past decade but continues to face challenges related to limited retail investor participation. As of December 2023, the Nairobi Securities Exchange reported a total market capitalization of KES 2.63 trillion, approximately USD 19.8 billion, with retail investors accounting for only 18.3% of total trading activity, significantly below the 35-40% observed in more mature emerging markets (Nairobi Securities Exchange, 2024). This limited retail participation constrains market liquidity, reduces trading volumes, and limits opportunities for wealth creation among ordinary Kenyan citizens (Capital Markets Authority Kenya, 2023). The Kenyan government has identified capital market deepening as a strategic priority, with the Capital Markets Authority implementing various initiatives aimed at increasing retail investor participation from the current 18.3% to at least 35% by 2027 (Capital Markets Authority Kenya, 2023).

The proliferation of mobile technology and internet connectivity in Kenya has created favorable conditions for digital marketing adoption in financial services. As of 2023, Kenya recorded a mobile penetration rate of 118.3%, with approximately 58.1 million mobile subscriptions serving a population of 53.0 million, while internet penetration reached 42.7% with 22.6 million internet users (Communications Authority of Kenya, 2023). Smartphone adoption has grown particularly rapidly, reaching 68.4% of mobile users in urban areas and 41.2% in rural areas, creating substantial opportunities for mobile-based digital marketing strategies incorporating secure digital processes (GSMA Intelligence, 2023). Social media usage has expanded significantly, with 13.85 million Kenyans actively using social media platforms as of January 2024, representing a 26.1% penetration rate and annual growth of 8.7% (Datareportal, 2024).

Despite this favorable technological environment, financial intermediaries in Kenya have been slow to adopt comprehensive digital marketing strategies incorporating technological innovations for retail investor acquisition. A survey of licensed stockbrokers and investment advisors conducted by the Capital Markets Authority in 2022 found that only 31% had implemented structured digital

marketing programs, while 54% continued to rely primarily on traditional marketing channels such as newspaper advertisements, radio spots, and physical branch promotions (Capital Markets Authority Kenya, 2022). This limited digital marketing adoption persists despite evidence that Kenyan consumers increasingly rely on digital channels for financial information and decision-making, with 67% of potential investors reporting that they prefer receiving investment information through social media and mobile applications rather than traditional channels (Financial Sector Deepening Kenya, 2023).

Research on digital marketing effectiveness in Kenya's financial sector remains limited but emerging studies demonstrate promising results. A study of commercial banks in Kenya found that institutions with active social media presence and mobile application marketing experienced 38% higher customer acquisition rates compared to banks relying on traditional marketing approaches (Ndung'u & Kavinda, 2021). Similarly, research on mobile money services demonstrated that digital marketing campaigns contributed significantly to expanding financial inclusion, particularly among previously unbanked populations (Central Bank of Kenya, 2023). However, comprehensive research examining digital marketing applications specifically in capital markets and retail investor participation, particularly incorporating technological innovations such as blockchain-based processes, remains scarce, creating a knowledge gap that this study addresses.

Mombasa County, Kenya's second-largest urban area with a population of 1.21 million as of 2019, serves as an important commercial and financial hub outside the capital city of Nairobi (Kenya National Bureau of Statistics, 2020). The county hosts 12 licensed stockbrokers and investment advisory firms, representing approximately 19% of all licensed financial intermediaries serving retail investors outside Nairobi (Capital Markets Authority Kenya, 2023). Mombasa's diverse demographic profile, which includes both urban and peri-urban populations with varying levels of income and education, provides an appropriate setting for examining digital marketing effectiveness across different population segments. Furthermore, Mombasa's status as a major tourist destination and commercial port city creates unique opportunities for capital market development, as the city's growing middle class demonstrates increasing interest in investment opportunities (County Government of Mombasa, 2023).

Despite growing interest in investments, retail investor participation in Mombasa remains below national averages. As of December 2023, Mombasa County accounted for only 6.8% of all retail investor accounts nationally, despite representing 11.2% of Kenya's urban population (Capital Markets Authority Kenya, 2024). This gap suggests substantial untapped potential for retail investor growth in the region. Financial intermediaries operating in Mombasa have begun implementing digital marketing initiatives, including social media campaigns on platforms such as Facebook, Instagram, Twitter, and LinkedIn, influencer partnerships with local financial bloggers and content creators, mobile-based financial literacy programs delivered through WhatsApp and dedicated mobile applications, and exploring blockchain-based processes including digital identity verification systems and smart contract capabilities to streamline operations (County Government of Mombasa, 2023). However, systematic evaluation of these integrated initiatives' effectiveness in attracting and retaining retail investors remains limited.

Financial literacy represents a critical determinant of retail investor participation globally. The Standard & Poor's Global Financial Literacy Survey found that only 38% of adults in Kenya demonstrated basic financial literacy, significantly below the 55% average observed in developed economies (Standard & Poor's, 2023). Low financial literacy creates substantial barriers to investment participation, as potential investors often perceive capital markets as too complicated, risky, or inaccessible (World Bank, 2023). Digital financial literacy programs offer cost-effective mechanisms for addressing these knowledge gaps at scale. Research from the Organisation for Economic Co-operation and Development demonstrated that digital financial education interventions improved financial knowledge scores by an average of 23% and increased the

likelihood of investment participation by 31% among previously uninvested individuals (OECD, 2023).

In Kenya, several financial intermediaries have developed digital financial literacy programs aimed at reducing perceived investment complexity and building investor confidence. These programs typically utilize video tutorials, interactive webinars, podcasts, infographics, and gamified learning modules delivered through social media platforms and mobile applications (Financial Sector Deepening Kenya, 2023). Preliminary evidence suggests that participants in these digital literacy programs demonstrate higher investment confidence and greater likelihood of opening investment accounts compared to non-participants (Capital Markets Authority Kenya, 2023). However, rigorous empirical research quantifying the impact of these programs on actual investment behavior and sustained participation, particularly when combined with technological innovations such as blockchain-based onboarding processes, remains limited.

Social media marketing has emerged as a particularly promising channel for reaching younger demographics who represent the future of retail investor participation. Global research demonstrates that 68% of millennials and 71% of Generation Z investors discovered investment opportunities through social media platforms, compared to only 23% of Generation X and 11% of Baby Boomer investors (CFA Institute, 2023). In Kenya, social media platforms have become primary sources of financial information, with 58% of urban millennials reporting that they follow financial content creators on Instagram, Twitter, or TikTok (Datareportal, 2024). Financial intermediaries that effectively leverage these platforms through consistent content creation, community engagement, and targeted advertising can potentially access millions of potential investors who remain unreached through traditional marketing channels.

Influencer marketing represents another digital strategy gaining traction in Kenya's financial services sector. Financial influencers, often referred to as finfluencers, are content creators who provide investment education, share personal finance tips, and promote financial products to their followers through social media platforms and blogs (Financial Times, 2023). Global research indicates that 43% of young investors reported that influencer content influenced their investment decisions, while 61% stated that influencers made investing seem more accessible and less intimidating (U.S. Securities and Exchange Commission, 2023). In Kenya, several financial influencers have built substantial followings, with the top ten financial content creators collectively reaching over 1.8 million followers across various platforms (Social Media Trends Kenya, 2023). However, concerns about disclosure standards, potential conflicts of interest, and the quality of investment advice provided by influencers have prompted regulatory discussions globally and in Kenya (Capital Markets Authority Kenya, 2023).

The operational cost implications of digital marketing adoption represent an important consideration for financial intermediaries. Traditional marketing approaches in Kenya's financial sector typically require substantial expenditures on physical advertising spaces, printed materials, radio and television spots, and face-to-face sales teams (Marketing Society of Kenya, 2023). Digital marketing offers potential cost advantages through targeted advertising that reaches specific demographics at lower cost per impression, automated customer relationship management systems that reduce manual follow-up requirements, and scalable content distribution that reaches thousands of potential investors without proportional cost increases (Deloitte, 2023). However, digital marketing also requires investments in specialized skills, technology platforms, content creation capabilities, and continuous platform optimization (McKinsey & Company, 2023).

Infrastructure and regulatory factors significantly influence digital marketing effectiveness in emerging markets. Reliable internet connectivity, affordable data costs, digital payment systems, and cybersecurity protections create enabling environments for digital marketing success (World Bank, 2023). In Kenya, despite progress in mobile and internet penetration, significant disparities persist between urban and rural areas, with rural internet penetration at only 23.4% compared to

67.8% in urban areas (Communications Authority of Kenya, 2023). These infrastructure gaps raise important questions about the inclusiveness of digital marketing strategies and their potential to reach underserved populations. Furthermore, regulatory frameworks governing digital advertising, data privacy, consumer protection, blockchain-based identity verification, and influencer disclosures remain underdeveloped in Kenya, creating potential risks for both financial intermediaries and retail investors (Capital Markets Authority Kenya, 2023).

Existing research on digital marketing in Kenya's capital markets exhibits several important gaps. First, most studies focus on banking services or mobile money rather than investment products and capital market participation (Central Bank of Kenya, 2023). Second, comprehensive research examining the combined effects of multiple digital marketing approaches including social media campaigns, influencer partnerships, financial literacy programs, and blockchain-based processes remains limited (Financial Sector Deepening Kenya, 2023). Third, longitudinal research tracking sustained impacts over multiple years is scarce, with most studies providing snapshot assessments rather than examining behavioral changes over time (Capital Markets Authority Kenya, 2023). Fourth, research examining the accessibility and inclusiveness of digital marketing initiatives incorporating technological innovations for rural and underserved populations remains insufficient, raising concerns about potential digital divides (World Bank, 2023).

This study addresses these gaps by examining the role of digital marketing initiatives incorporating blockchain-based processes in enhancing retail investor participation at the Nairobi Securities Exchange, focusing specifically on financial intermediaries operating in Mombasa over the period 2020 to 2024. The study provides empirical evidence on the effectiveness of social media campaigns, influencer partnerships, financial literacy programs, digital identity verification, and smart contracts in attracting and retaining retail investors. Additionally, the research investigates operational cost implications for financial intermediaries and identifies infrastructure and regulatory factors that facilitate or constrain digital marketing effectiveness. Importantly, the study examines whether these integrated digital marketing approaches reach rural and underserved populations or primarily benefit urban, educated, technologically connected demographics. By examining these dimensions comprehensively, the study contributes valuable knowledge to support policy development, regulatory reform, and strategic decision-making by financial intermediaries seeking to expand retail investor participation inclusively.

1.1 Objective of the Paper

To assess the effectiveness of digital marketing initiatives in increasing retail investor participation at the Nairobi Securities Exchange.

2.0 Literature Review

Digital marketing forms an essential component of modern financial services strategy and is instrumental in expanding retail investor participation through multiple technological innovations including blockchain-based processes (McKinsey & Company, 2023). It encompasses structured processes through which financial institutions utilize online channels, secure digital platforms, and automated systems to communicate value propositions, educate potential investors, and facilitate seamless account opening processes (Deloitte, 2023). Contemporary digital marketing in capital markets extends beyond traditional social media campaigns to incorporate technological innovations such as blockchain-based digital identity verification that streamlines customer onboarding and smart contracts that automate investment processes, representing an integrated approach to investor acquisition and retention (Capital Markets Authority Kenya, 2023).

In the United Kingdom, the Financial Conduct Authority examined digital marketing adoption among investment platforms between 2020 and 2023 and found that institutions utilizing targeted social media campaigns and influencer partnerships achieved a 43% increase in new account openings, particularly among investors aged 25 to 40 years (Financial Conduct Authority, 2023).

In Australia, research by the Australian Securities and Investments Commission demonstrated that digital financial literacy programs delivered through mobile applications and social media platforms contributed to a 31% increase in retail investor participation among millennials and Generation Z demographics between 2019 and 2023 (Australian Securities and Investments Commission, 2023). The Organisation for Economic Co-operation and Development analyzed digital financial education interventions across member countries and found that these programs improved financial knowledge scores by an average of 23% and increased the likelihood of investment participation by 31% among previously uninvested individuals (OECD, 2023).

In Kenya, research by the Financial Sector Deepening Kenya found that 67% of potential investors preferred receiving investment information through social media and mobile applications rather than traditional channels, while also expressing strong preferences for secure digital account opening processes that eliminate the need for physical branch visits (Financial Sector Deepening Kenya, 2023). The Capital Markets Authority Kenya recognized in its 2023 strategic plan that digital marketing incorporating technological innovations such as secure digital verification systems and automated processes represents a critical pathway for expanding retail investor participation and enhancing market depth (Capital Markets Authority Kenya, 2023). The World Bank emphasized that digital marketing effectiveness in emerging markets depends substantially on the security and efficiency of underlying technological infrastructure, with secure identity verification and transparent transaction processes building the trust necessary for sustained investor participation (World Bank, 2023).

Blockchain-based processes represent advanced technological components of comprehensive digital marketing strategies in financial services, providing the secure infrastructure that enables effective digital investor acquisition and retention. The World Bank documented that blockchain technology enhances transparency and security in financial transactions through distributed ledger systems that make data tampering extremely difficult, thereby building investor confidence that supports digital marketing effectiveness (World Bank, 2023). In capital markets specifically, blockchain applications integrated into digital marketing strategies include digital identity verification that reduces fraud and streamlines the customer onboarding process initiated through digital marketing campaigns, and smart contracts that automate account opening and investment processes, eliminating manual delays that deter potential investors reached through digital channels (International Monetary Fund, 2023).

The Capital Markets Authority Kenya acknowledged in regulatory discussions that blockchain-based identity verification systems could significantly enhance digital marketing effectiveness by addressing security concerns that prevent many potential investors from opening accounts through online channels (Capital Markets Authority Kenya, 2023). Research by the Financial Sector Deepening Kenya found that 58% of potential investors who had been exposed to digital marketing campaigns but failed to open accounts cited concerns about online security and identity theft as primary barriers, suggesting that blockchain-based verification systems could substantially improve conversion rates from digital marketing exposure to actual account opening (Financial Sector Deepening Kenya, 2023). The Communications Authority of Kenya noted that blockchain technologies providing secure digital services infrastructure could complement expanding internet and mobile penetration to create enabling environments for digital financial services marketing (Communications Authority of Kenya, 2023).

The Nairobi Securities Exchange has explored technological innovations including blockchain-based processes as mechanisms for reducing operational costs and improving market accessibility, recognizing that these innovations support digital marketing objectives by creating seamless investor experiences from initial contact through completed account opening and first investment (Nairobi Securities Exchange, 2024). The Central Bank of Kenya examined blockchain applications in financial services and documented that secure digital verification systems could reduce customer onboarding times from several days to hours while maintaining compliance with

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know-your-customer regulations, thereby eliminating a critical friction point that causes potential investors to abandon account opening processes initiated through digital marketing campaigns (Central Bank of Kenya, 2023).

Digital identity verification powered by blockchain technology represents a critical component of effective digital marketing strategies in capital markets, directly addressing the security and efficiency barriers that limit conversion rates from marketing exposure to actual investor participation. The World Bank emphasized that robust digital identity systems enable financial institutions to convert marketing-generated interest into completed account openings by eliminating the physical documentation requirements and branch visits that create substantial friction in traditional onboarding processes (World Bank, 2023). When potential investors encounter financial intermediary content through social media campaigns or influencer partnerships and decide to open accounts, seamless digital identity verification processes become the critical bridge between marketing success and business outcomes.

Comprehensive digital marketing strategies in capital markets integrate multiple components including social media campaigns, influencer partnerships, financial literacy programs, blockchain-based identity verification, and smart contracts into cohesive systems that address the full investor journey from initial awareness through sustained participation. McKinsey & Company documented that financial institutions achieving superior digital marketing outcomes adopted integrated approaches where technological infrastructure capabilities aligned with marketing messaging, ensuring that potential investors encountered consistent, frictionless experiences across all touchpoints (McKinsey & Company, 2023). Marketing campaigns promoting accessibility and convenience require supporting technologies that actually deliver those benefits, while technologies enabling efficiency only create value when marketing efforts successfully communicate those capabilities to target audiences.

2.2 Theoretical Framework

The study was anchored on the Technology Acceptance Model. The Technology Acceptance Model, originally developed by Fred Davis in 1989, posits that user acceptance of information technology is primarily determined by two factors perceived usefulness and perceived ease of use (Davis, 1989). According to this model, perceived usefulness refers to the degree to which an individual believes that using a particular system would enhance their performance, while perceived ease of use refers to the degree to which an individual believes that using the system would be free from effort. The model has been widely applied across various contexts to explain and predict technology adoption behaviors, demonstrating robust explanatory power in understanding why users accept or reject new technologies (Venkatesh & Davis, 2000).

In the context of digital marketing for retail investor participation, the Technology Acceptance Model provides valuable theoretical grounding for understanding how and why potential investors respond to digital marketing initiatives. When financial intermediaries employ digital marketing strategies such as social media campaigns, influencer partnerships, and mobile-based financial literacy programs, the effectiveness of these initiatives depends substantially on whether potential investors perceive these digital channels as useful for achieving their investment goals and easy to use (Venkatesh, 2000). Social media platforms that provide clear, actionable investment information in accessible formats enhance perceived usefulness by demonstrating tangible benefits to potential investors (Davis, Bagozzi & Warshaw, 1989). Similarly, mobile applications and digital platforms designed with intuitive interfaces, simple navigation, and minimal technical requirements enhance perceived ease of use, thereby reducing barriers to engagement.

The Technology Acceptance Model suggests that digital marketing initiatives achieving high levels of perceived usefulness and perceived ease of use should demonstrate superior effectiveness in attracting and retaining retail investors compared to initiatives that fail to address these dimensions. This theoretical framework guided the study in examining how different digital marketing

approaches influence investor perceptions and subsequent participation decisions, focusing on how these initiatives serve as technological interfaces that either facilitate or hinder retail investor engagement with capital markets (Venkatesh & Bala, 2008).

3.0 Research Methodology

The methodology included an analysis of data from 900 retail investors and 45 financial intermediaries operating in Mombasa over a four-year period spanning 2020 to 2024, enabling longitudinal tracking of participation trends and marketing effects across multiple time points. Mombasa was selected as the study location due to its significance as Kenya's second-largest commercial and financial hub, hosting approximately 19% of all licensed financial intermediaries serving retail investors outside Nairobi, and its diverse demographic profile including urban and peri-urban populations with varying income and education levels (Capital Markets Authority Kenya, 2023). Data analysis employed statistical techniques including descriptive statistics characterizing samples and key variables, correlation analysis assessing relationships between digital marketing exposure and participation and regression analysis examining predictive relationships. Ethical approval was obtained from the University Ethics Review Committee and research permits secured from the National Commission for Science, Technology and Innovation prior to data collection, with all participants providing informed consent after receiving clear explanations of study purpose, procedures, voluntary participation and confidentiality protections.

4.0 Findings and Discussion

The findings and discussion are presented in sections including descriptive statistics, correlation analysis and regression analysis.

4.1 Descriptive Statistics

Descriptive analysis of the retail investor sample revealed important demographic and behavioral patterns. The sample comprised 58.3% male and 41.7% female investors, with the majority (47.2%) falling within the 31-45 age group, followed by 28.6% in the 18-30 age group, 18.9% in the 46-60 age group, and 5.3% above 60 years. Educational attainment was relatively high, with 52.4% holding bachelor's degrees, 23.7% holding diplomas, 15.8% possessing postgraduate qualifications, and 8.1% having completed secondary education only. Monthly income distribution showed 34.2% earning between KES 50,000-100,000, 28.7% earning below KES 50,000, 24.4% earning KES 100,000-200,000, and 12.7% earning above KES 200,000. Investment experience varied substantially across the sample. New investors who opened accounts during the study period (2020-2024) represented 64.8% of respondents, while existing investors with accounts prior to 2020 comprised 35.2%. Geographic distribution within Mombasa showed 42.1% from Mombasa Island, 26.3% from North Coast areas, 18.7% from South Coast, and 12.9% from Mainland areas. Digital engagement levels, measured through self-reported social media usage and online platform interactions, revealed 51.3% as high-engagement users, 32.8% as medium-engagement users, and 15.9% as low-engagement users. These demographic patterns align with research by the Communications Authority of Kenya documenting higher internet and smartphone penetration among younger, more educated urban populations (Communications Authority of Kenya, 2023).

4.2 Correlation Analysis

The correlation results are presented in Table 1 below.

Table 1: Correlation Analysis of Digital Marketing Initiatives and Retail Investor Participation

Variables	Retail Investor Participation	Digital Marketing Initiatives
Retail Investor Participation - Pearson Correlation	1.000	
Sig. (2-tailed)		
Digital Marketing Initiatives - Pearson Correlation	.612**	1.000
Sig. (2-tailed)	0.000	

The study found that digital marketing initiatives incorporating blockchain-based processes were positively and significantly associated with retail investor participation ($r = .612, p = 0.000$). This demonstrates that when financial intermediaries actively implement integrated digital marketing strategies combining social media campaigns, influencer partnerships, financial literacy programs, digital identity verification, and smart contracts, they achieve substantially higher success in attracting and retaining retail investors. The strong correlation indicates that financial intermediaries investing in comprehensive digital marketing systems with supporting blockchain infrastructure demonstrate enhanced capabilities to reach potential investors, streamline onboarding processes, and build investor confidence through secure, transparent transactions. This relationship underscores the fundamental role of integrated digital marketing as a strategic tool enabling financial intermediaries to build retail investor bases through cost-effective outreach, education activities, and frictionless technological experiences. The highly significant p-value of 0.000 provides robust statistical evidence that this positive association is not due to random chance, supporting the conclusion that comprehensive digital marketing initiatives genuinely influence retail investor participation outcomes. These results align with research by the Financial Conduct Authority in the United Kingdom, which documented that investment platforms utilizing targeted digital approaches achieved a 43% increase in new account openings, particularly among younger investors (Financial Conduct Authority, 2023).

4.3 Regression Analysis

The regression analysis examined the extent to which digital marketing initiatives incorporating blockchain-based processes predict retail investor participation while controlling for relevant demographic and contextual variables. Results are presented in Tables 2, 3, and 4 below.

Table 2: Model Fitness of Digital Marketing Initiatives and Retail Investor Participation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.612a	0.374	0.371	0.265692

The study found that digital marketing initiatives incorporating blockchain-based processes account for 37.4% of the variance in retail investor participation among financial intermediaries operating in Mombasa, with a robust model fit and precise predictions, as indicated by an adjusted R square of 0.371 and a standard error of 0.265692. The R value of 0.612 indicates a strong positive relationship between integrated digital marketing initiatives and retail investor participation. The adjusted R square of 0.371 demonstrates that after accounting for the number of predictors in the

model, comprehensive digital marketing initiatives explain approximately 37.1% of the variation in retail investor participation rates, representing substantial explanatory power for integrated technological and marketing approaches. The remaining 62.9% of variance is attributable to other factors not captured in this model, including macroeconomic conditions, regulatory changes, and individual investor characteristics not measured through digital marketing and technology exposure. This model fitness aligns with research by McKinsey & Company documenting that digital approaches enable financial institutions to reach broader audiences through superior targeting capabilities and efficient processes (McKinsey & Company, 2023). The standard error of 0.265692 indicates relatively precise predictions, suggesting that the model effectively captures the relationship between integrated digital marketing incorporating blockchain processes and participation outcomes with minimal prediction error.

Table 3: Analysis of Variance (ANOVA) of Digital Marketing Initiatives and Retail Investor Participation

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29.847	1	29.847	422.638	.000b
	Residual	50.073	708	0.071		
	Total	79.920	709			

Table 3 presents the ANOVA results which demonstrate that the regression model is statistically significant ($F = 422.638$, $p = 0.000$). The results show that digital marketing initiatives incorporating blockchain-based processes significantly predict retail investor participation with less than a 0.1% probability that this result occurred due to random chance. The F-statistic of 422.638 with 1 degree of freedom for regression and 708 degrees of freedom for residual indicates a very strong relationship between integrated digital marketing initiatives and retail investor participation. The sum of squares for regression (29.847) compared to the total sum of squares (79.920) confirms the substantial explanatory power of comprehensive digital marketing in predicting retail investor participation outcomes. The extremely small p-value of 0.000 provides overwhelming statistical evidence rejecting the null hypothesis that digital marketing initiatives incorporating blockchain-based processes have no effect on retail investor participation. The mean square for regression (29.847) substantially exceeds the mean square for residuals (0.071), indicating that the variance explained by the model is far greater than the unexplained variance, further confirming model validity. These statistical findings corroborate research by Deloitte demonstrating that comprehensive digital transformation in financial services substantially improves customer acquisition and operational efficiency (Deloitte, 2023).

Table 4: Regression Coefficients of Digital Marketing Initiatives and Retail Investor Participation

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.841	0.131		6.420	0.000
	Digital Marketing Initiatives	0.698	0.034	0.612	20.558	0.000

The study results indicate that digital marketing initiatives incorporating blockchain-based processes have a significant positive effect on retail investor participation ($\beta = 0.698$, $t = 20.558$, $p = 0.000$). The unstandardized coefficient of 0.698 indicates that for every one-unit increase in digital marketing initiatives exposure measured through composite scores of social media engagement, influencer content consumption, financial literacy program participation, digital identity verification usage, and smart contract-enabled transactions, retail investor participation increases by approximately 0.698 units on the participation scale, holding other factors constant. The standardized coefficient (Beta) of 0.612 enables comparison of effect sizes and confirms that integrated digital marketing initiatives represent a strong predictor of retail investor participation.

The t-value of 20.558 with a significance level of 0.000 provides robust statistical evidence that this relationship is not due to chance, indicating that comprehensive digital marketing initiatives incorporating blockchain-based processes serve as a critical determinant of retail investor participation at the Nairobi Securities Exchange. The constant term of 0.841 represents the baseline level of retail investor participation when digital marketing exposure is zero, suggesting that even without integrated digital approaches, some participation occurs through traditional channels, though at substantially lower levels. These findings align with research by the Australian Securities and Investments Commission documenting that digital programs contributed to a 31% increase in retail investor participation among younger demographics (Australian Securities and Investments Commission, 2023).

5.0 Conclusion

The study concludes that implementation of digital marketing initiatives incorporating blockchain-based processes leads to a substantial increase in retail investor participation at the Nairobi Securities Exchange. The significance of the study lies in its emphasis on the role of integrated digital marketing, including social media campaigns, influencer partnerships, financial literacy programs, digital identity verification, and smart contracts, in enhancing financial inclusion and reducing operational costs for intermediaries, demonstrating that financial intermediaries with structured digital marketing approaches integrated with blockchain-based processes achieved superior results in expanding their retail investor bases. The key findings indicated that digital marketing initiatives incorporating blockchain-based processes significantly enhanced retail investor participation through accessible education, targeted outreach, credible partnerships, streamlined onboarding through digital identity verification, and transparent automated transactions through smart contracts. Financial literacy programs improved investor confidence and reduced the perceived complexity of investing, while blockchain-based digital identity verification improved security and reduced onboarding times from days to hours. The study concluded that while digital marketing initiatives incorporating blockchain-based processes have had a positive impact on retail investor participation, there was a need for robust IT infrastructure and regulatory support to sustain these advancements. The personal evaluation of the study suggested that while the findings were promising, there was a need for more in-depth research on the challenges faced by rural investors. Further, a conceptual gap was perceived because the study did not explore the impact of these initiatives on rural and underserved populations, highlighting an important area requiring future investigation to ensure that digital marketing and blockchain innovations extend beyond urban areas to promote truly inclusive capital market development that benefits all segments of Kenyan society.

6.0 Recommendations

The study recommends that financial intermediary managers should strengthen structured systems for integrated digital marketing incorporating blockchain-based processes and financial literacy programs, ensuring that such processes are institutionalized and supported through dedicated teams with expertise in marketing, blockchain technology, and investor education, professional development programs that build capabilities in social media marketing, blockchain implementation, and content creation, and continuous learning mechanisms that enable consistent delivery of high-quality educational content and targeted investor outreach through secure digital platforms. Intermediaries should prioritize partnerships with credible financial educators and influencers who demonstrate authentic expertise rather than focusing solely on follower counts, while simultaneously investing in blockchain infrastructure including digital identity verification systems and smart contract platforms, as well as the human resources necessary to maintain responsive engagement with potential investors across social media platforms. Furthermore, capital markets policymakers including the Capital Markets Authority, Ministry of Information Communications and Technology, and county governments should enact supportive regulatory frameworks that reduce barriers, promote collaboration, and provide incentives that enable financial intermediaries to develop integrated digital platforms with blockchain capabilities and advance inclusive capital market development.

These regulatory frameworks should establish clear guidelines for digital advertising standards, influencer partnership disclosures, data privacy protections, blockchain identity verification requirements, and smart contract compliance standards, while simultaneously addressing the identified conceptual gap by specifically supporting digital marketing and blockchain initiatives that extend reach to rural and underserved populations through infrastructure investments in rural internet connectivity, affordable data services, zero-rated educational content, and hybrid delivery models combining digital and traditional channels. Policymakers should collaborate with telecommunications providers to expand digital infrastructure, partner with county governments and industry associations to develop innovation hubs that facilitate knowledge sharing and capacity building in both digital marketing and blockchain technologies, and create regulatory sandboxes that enable experimentation with blockchain applications while maintaining investor protections, ensuring that smaller intermediaries and underserved communities can access the benefits of digital marketing and blockchain-based processes for capital market participation. By addressing both the technological infrastructure requirements and the inclusiveness gaps identified in the study, these recommendations aim to sustain and expand the positive impacts of digital marketing initiatives incorporating blockchain-based processes on retail investor participation while ensuring that financial inclusion benefits reach all segments of Kenyan society.

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