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RESEARCH ARTICLE

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IMPROVING DIGITAL MARKETING EFFECTIVENESS OF NIGERIA NATIONAL PETROLEUM COMPANY

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ABSTRACT

This study explores the intricate relationships between Social Media Marketing Strategies (SMMS), Customer Digital Engagement (CUDE), Content Marketing Quality (COMQ), and Digital Marketing Effectiveness (DIME) within the Nigeria National Petroleum Company. It examines the direct impact of SMMS, COMQ, and CUDE on DIME, offering valuable insights into how these strategies enhance digital marketing performance in the petroleum sector. Using a stratified sampling method, data was collected from 450 respondents across Nigeria National Petroleum Companies and analyzed through Partial Least Squares Structural Equation Modeling (PLS-SEM). The results confirm that SMMS, COMQ, and CUDE significantly and positively influence DIME, highlighting their critical role in strengthening digital marketing effectiveness. These findings contribute to the broader discourse on DIME, particularly in resource-rich developing economies, by demonstrating how organizations can build and sustain marketing effectiveness through strategic digital initiatives. Additionally, this research provides actionable recommendations, urging Nigeria National Petroleum Companies to adopt a structured strategic framework that integrates sustainability, innovation, and diversification as fundamental pillars for enhancing DIME. Specifically, companies should establish a cross-functional task force dedicated to implementing these strategies, monitoring progress, and adapting to industry trends and environmental standards. This proactive approach will help organizations navigate market volatility, comply with evolving regulations, and maintain a competitive edge through sustainable and innovative digital marketing practices.

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INTRODUCTION

In today's digital era, organizations across industries leverage digital marketing to enhance brand awareness, customer engagement, and overall market performance (Chinomona, 2019). The growing reliance on digital platforms has transformed how businesses interact with their audiences, making it crucial for companies to adopt strategic approaches to remain competitive (Shoab Intiaz *et al.*, 2020; Wiredu, 2024). The Nigeria National Petroleum Company (NNPC), as a key player in the oil and gas sector, can benefit significantly from a well-structured and effective digital marketing strategy (Nazir *et al.*, 2023). Given its role in Nigeria's economic development, optimizing digital marketing effectiveness (DIME) is essential for NNPC to maintain a strong market presence, improve communication with stakeholders, and build customer trust (Levrini *et al.*, 2023). However, achieving this optimization remains a challenge due to the evolving nature of online consumer behavior, increased competition in the global energy market, and the complexity of managing digital marketing initiatives within a government-owned corporation (Saleem *et al.*, 2022; Wiredu, Bo, Labaran, *et al.*, 2021).

Furthermore, this study examines the influence of three critical factors; social media marketing strategies (SMMS), content marketing quality (COMQ), and customer digital engagement (CUDE) on DIME within NNPC. SMMS is a key driver in digital marketing, as it allows organizations to reach a broader audience through targeted campaigns, real-time communication, and interactive brand messaging (Purnomo, 2023). COMQ, on the other hand, determines the effectiveness of digital content in capturing consumer interest, delivering value, and fostering brand loyalty. High-quality content can enhance brand reputation, encourage customer interactions, and lead to increased conversions (Nazir *et al.*, 2023). Meanwhile, CUDE plays a significant role in sustaining consumer relationships by ensuring continuous interaction, engagement, and responsiveness on digital platforms. A highly engaged customer base often translates to stronger brand loyalty and improved marketing outcomes (Luo, 2022). Moreso, by investigating these factors, this study aims to provide actionable insights for NNPC's marketing team to optimize their digital presence, enhance consumer engagement, and improve overall marketing performance. Findings from this research will serve as a foundation for refining NNPC's digital marketing strategies, ensuring sustained growth and relevance in the competitive

oil and gas industry. Accordingly, the objectives of the present research are; to examine the impact of social media marketing strategies (SMMS) on digital marketing effectiveness (DIME) in NNPC, to assess how content marketing quality (COMQ) influences digital marketing effectiveness (DIME) in NNPC, and finally, to analyze the role of customer digital engagement (CUDE) in enhancing digital marketing effectiveness (DIME) in NNPC. Moreover, the study seeks to answer the following research questions; how do social media marketing strategies affect digital marketing effectiveness in NNPC? what is the influence of content marketing quality on digital marketing effectiveness in NNPC? and in what ways does customer digital engagement contribute to improving digital marketing effectiveness in NNPC? Additionally, the present study offers the following contributions to extant literature on digital marketing effectiveness; First, this study provides empirical insights into the role of digital marketing strategies in the energy sector, particularly in state-owned oil corporations. The energy sector, especially state-owned enterprises like the Nigeria National Petroleum Company (NNPC), has traditionally relied on conventional marketing and public relations strategies to communicate with stakeholders. It offers a framework for NNPC to optimize its social media and content marketing strategies to enhance customer engagement. Second, it offers a framework for NNPC to optimize its social media and content marketing strategies to enhance customer engagement. Given the increasing importance of social media marketing (SMMS) and content marketing quality (COMQ) in building brand engagement, this study will develop a strategic framework that NNPC can use to enhance its digital presence. The framework will outline best practices for leveraging social media platforms, such as Facebook, X (Twitter), LinkedIn, and Instagram, to increase customer interaction and brand visibility. Finally, the findings will contribute to marketing literature by expanding knowledge on digital engagement and its impact on brand effectiveness in the oil and gas industry. Despite the increasing use of digital marketing across industries, research on digital engagement in the oil and gas sector remains limited. Most digital marketing studies focus on consumer goods, retail, or service industries, leaving a gap in understanding how digital strategies work within capital-intensive, government-owned industries like petroleum. This study aims to bridge this gap by providing theoretical and practical contributions to marketing literature. Following the introduction, the paper is structured as follows: Chapter 2 covers the literature review, Chapter 3 details the research methodology, Chapter 4 presents the findings and analysis, and Chapter 5 concludes with the study's implications and limitations.

LITERATURE REVIEW

Social Media Marketing Strategies and Digital Marketing

Effectiveness: SMMS allows businesses to reach a wider audience through targeted campaigns, hashtags, and viral content. By consistently engaging with users on platforms like Facebook, X (Twitter), LinkedIn, and Instagram, companies can increase brand recognition, making their digital marketing efforts more effective (Ramadan Ibrahim Al-Masri, 2020). Accordingly, research conducted by Islam *et al.*, (2018) suggests that social media facilitates real-time interaction between brands and customers. Engaging content such as polls, Q&A sessions, live videos, and comment sections helps businesses build stronger customer relationships, leading to improved digital marketing effectiveness. Accordingly, compared to traditional advertising, SMMS provides a cost-efficient way to promote products and services. Paid social media campaigns allow businesses to target specific demographics with measurable results, ensuring better return on investment (ROI) for digital marketing initiatives (Keegan & Rowley, 2017). Moreso, social media platforms provide analytics and insights that help marketers understand customer preferences, behaviors, and engagement patterns. These insights enable businesses to personalize content and campaigns, leading to increased conversion rates and customer satisfaction (Seo & Park, 2018).

Additionally, effective SMMS strategies, such as call-to-action (CTA) posts, influencer collaborations, and shareable content, drive more traffic to company websites. This increased traffic leads to higher lead generation, ultimately improving the success of digital marketing campaigns (Dwivedi *et al.*, 2021).

Content Marketing Quality and Digital Marketing Effectiveness:

According to Chang & Chen, (2008) high-quality content captures audience attention, encourages interaction, and keeps users engaged. Well-crafted blog posts, videos, infographics, and social media content increase dwell time and encourage repeat visits, making digital marketing more effective. In addition, consistently delivering informative, relevant, and valuable content positions a brand as an industry leader. When customers perceive a brand as knowledgeable and trustworthy, they are more likely to engage with its digital marketing efforts, enhancing brand loyalty and reputation (Tabiat, 2022). Also, quality content helps educate potential customers about products and services, addressing their pain points and guiding them through the buyer's journey. Well-structured content with compelling calls to action (CTAs) boosts conversion rates, making digital marketing campaigns more successful (Vieira *et al.*, 2019). Furthermore, high-quality content improves search engine rankings, increasing organic traffic to websites. Well-optimized articles, blog posts, and videos with strategic keywords help brands appear in top search results, driving more visibility and effectiveness for digital marketing campaigns (Guimond, 2020). Moreover, engaging and valuable content is more likely to be shared on social media, expanding its reach beyond the brand's immediate audience. Viral content amplifies digital marketing efforts by attracting new potential customers, enhancing brand awareness, and increasing overall marketing effectiveness (Standing & Mattsson, 2018).

Customer Digital Engagement and Digital Marketing Effectiveness:

When customers actively engage with a brand through comments, likes, shares, and direct messages, they develop a stronger emotional connection to the brand. This leads to increased brand loyalty and repeat business, making digital marketing efforts more sustainable and effective (Jadhav *et al.*, 2023). Also, engaged customers are more likely to trust a brand and make purchasing decisions. Responding to inquiries, addressing feedback, and providing personalized experiences through digital platforms improve conversion rates, enhancing the overall success of marketing campaigns (Alyahya *et al.*, 2020). Similarly, A study by Sayudin *et al.*, (2023) discovered that digital engagement allows businesses to receive instant feedback from customers regarding products, services, and marketing strategies. This real-time input helps marketers adjust campaigns, refine messaging, and optimize content, ensuring that digital marketing remains relevant and effective (Adiyono *et al.*, 2021). Furthermore, customers who actively engage with a brand often create user-generated content, such as testimonials, reviews, and product demonstrations. This type of organic content boosts credibility, attracts new customers, and amplifies digital marketing reach beyond traditional paid promotions (Rizvanović *et al.*, 2023). In addition, customer engagement fosters positive word-of-mouth marketing, where satisfied users recommend brands through online reviews, social media discussions, and testimonials. This increases brand credibility, encourages potential customers to engage, and strengthens digital marketing effectiveness (Purnomo, 2023).

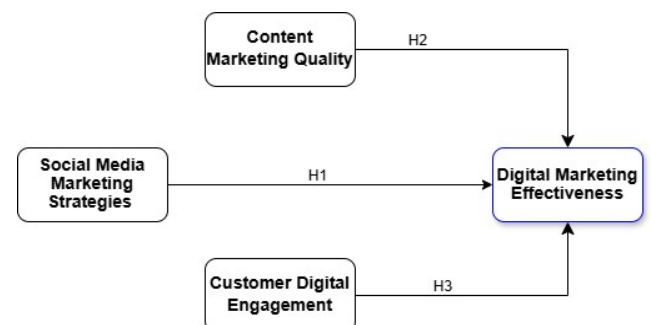


Figure 1. Conceptual framework

RESEARCH METHODOLOGY

Research method and sampling: The researcher employed a questionnaire-based approach to gather data, directly distributing written forms to respondents. This method enabled consultation on key variables pertinent to the study. The questionnaires incorporated both closed and open-ended questions, ensuring ease of coding and data analysis. This approach was selected for its efficiency in reaching a large sample within a short period, facilitating the swift collection of relevant information (Wiredu, Yang, *et al.*, 2021; Nsefumu *et al.*, 2024). The questionnaire was structured into three sections: the first included a face sheet to gather respondents' profile information, the second focused on competitive strategy, and the third addressed resilience. A five-point Likert scale (1 = Strongly Agree, 2 = Agree, 3 = Not Sure, 4 = Disagree, 5 = Strongly Disagree) was utilized for its reliability. This approach encouraged open responses while offering a cost-effective means to collect a substantial amount of data efficiently. The measurement scales were adapted from prior studies, with slight modifications to align with the specific context of this research (Wiredu, Bo, Yang, *et al.*, 2021). Participants were chosen based on their interest in the effectiveness of digital marketing at the Nigeria National Petroleum Company including CEOs, General Managers, and employees with a requirement that employees have a minimum of five years of experience at the organization in Nigeria. As part of the survey distribution process, the investigators included a consent form and clearly explained the study's objectives to participants, ensuring them that their responses would be kept strictly confidential and used solely for research purposes. Due to the diverse sub-sectors within the Nigeria National Petroleum Company under investigation, a stratified random sampling technique was employed. This method involves dividing the population into distinct strata and selecting a proportionate random sample from each group to ensure comprehensive representation of key variables. Given the varying number of enterprises within the Nigeria National Petroleum Company sub-sectors examined in this study, stratified random sampling with proportional allocation was employed to ensure adequate representation based on the inclusion criteria. During the initial phase of data collection, researchers reached out to 480 respondents through personal outreach, WhatsApp, Instagram, and Facebook. By the end of the data collection period, an impressive response rate of 96% (N = 450) was achieved, reflecting strong participant engagement. Since the study did not involve clinical or animal experiments, ethical approval was not required. Data collection remained private, and involvement was completely volunteer.

Demographic Profile of Respondents: Respondents were asked to provide details on their gender, company age, size, educational background, and work position. Their responses were analyzed using frequency and percentage distributions, as presented in Table 1. The findings indicated that the demographic profile comprised 300 males (67% of respondents) and 150 females (33%). Additionally, regarding company age, the results showed that 29% of Nigeria National Petroleum Companies had been operating for 1–10 years, while 60% had a business history of 11–20 years. The last category, consisting of companies with over 21 years in the industry, accounted for 11% of the sample. These results indicate that the majority of Nigeria National Petroleum Companies (69%) have been in operation for 11–20 years, reflecting a considerable yet relatively recent establishment in the industry. This distribution underscores a significant number of companies with substantial experience, equipping them to effectively manage the challenges and opportunities within the Nigeria National Petroleum sector. In terms of educational background, the findings reveal that the majority (63%) of Nigeria National Petroleum Company owners held a bachelor's degree, making it the most prevalent qualification among respondents. This was followed by master's degree holders, who comprised 26% of the sample, while only 11% had obtained a PhD. These results indicate that over three-quarters of the workforce in Nigeria National Petroleum Companies hold at least an undergraduate degree, highlighting a predominantly technical and vocational educational foundation among industry

leaders. This level of qualification likely aligns with the practical skills required for operational roles within the sector. The study also revealed that 12% (55) of respondents held the position of Chief Executive Officer, 31% (140) were General Managers, and the majority, 57% (255), were employees. Regarding company size, Table 1 indicates that most Nigeria National Petroleum Companies had a workforce of 9–49 employees (63%), while 22% employed between 50 and 100 workers, and only 15% had more than 101 employees. These findings suggest that the typical company size in this sector remains within the 9–49 employee range. This trend may be influenced by the extensive use of technology, which minimizes the need for large workforces by automating tasks that would traditionally require more personnel.

Table 1. Demographic Profile of Respondent's (N=450)

Characteristics	Category	Frequency	%
Gender	Male	300	67%
	Female	150	33%
Company Age	1-10	130	29%
	11–20	270	60%
	21 and above	50	11%
Educational Background	Undergraduate	280	63%
	Master degree	120	26%
	Ph.D. degree	50	11%
Work Position	Chief Executive Officer	55	12%
	General Manager	140	31%
	Employee	255	57%
Company Size	9-49	280	63%
	50-100	100	22%
	101 and above	70	15%

Measurements: The study's online survey was conducted in two stages. In the first phase, respondents provided demographic details such as gender, company age, educational background, work position, and company size, as summarized in Table 1. The second phase focused on measurement scales adapted from previous studies, as outlined in Table 2. The questionnaire incorporated two higher-order constructs, covering social media marketing strategies (SMMS), content marketing quality (COMQ), customer digital engagement (CUDE), and digital marketing effectiveness (DIME). To ensure accuracy and reliability, feedback from both employees of Nigeria National Petroleum Companies and industry experts was collected before the final questionnaire distribution. All constructs were assessed using a 5-point Likert scale, with response options ranging from 1 (strongly disagree) to 5 (strongly agree).

Table 2. Measurement Details

Construct	No of Items	Source
Social Media Marketing Strategies	5	(Dwivedi <i>et al.</i> , 2021)
Content Marketing Quality	5	(Alyahya <i>et al.</i> , 2020)
Customer Digital Engagement	5	(Tabiat, 2022)
Digital Marketing Effectiveness	5	(Purmomo, 2023)

Method of Data Analysis: The Partial Least Squares Structural Equation Modeling (PLS-SEM) method was employed to evaluate the theoretical framework due to its numerous advantages in analyzing complex research models. One of the key benefits of PLS-SEM is its ability to estimate relationships between variables with high precision by simultaneously assessing both structural and measurement models, thereby providing a comprehensive analysis (Hair *et al.*, 2021). Unlike traditional covariance-based SEM, PLS-SEM is particularly suitable for exploratory research as it efficiently manages complex relationships, including moderation and mediation effects, even when dealing with relatively small sample sizes (Wiredu, Yang, Saljoughipour, *et al.*, 2023). Moreover, PLS-SEM is widely recognized and applied across various academic disciplines, particularly in social media marketing strategies studies, underscoring its robustness and reliability in similar research contexts (Wiredu, Yang, Sampene, *et al.*, 2024). Its ability to handle non-normal data distributions, incorporate formative and reflective measurement

models, and optimize predictive accuracy further reinforces its suitability for this study. Additionally, given the study's focus on digital marketing effectiveness and strategic business approaches, PLS-SEM provides a flexible yet powerful analytical tool to derive meaningful insights. These combined attributes—precision, versatility, and credibility—establish PLS-SEM as the optimal methodological choice for this research.

RESULTS AND DISCUSSION

Measurement reliability and validity: To ensure the internal reliability of the constructs used in this study, multiple statistical tests were conducted, including composite reliability, Cronbach's alpha, factor loadings, and average variance extracted (AVE). These measures are widely recognized for assessing the consistency and validity of latent variables in structural equation modeling. Composite reliability and Cronbach's alpha evaluate the internal consistency of a construct, ensuring that the indicators effectively measure the intended concept. Factor loadings assess the strength of the relationships between observed variables and their underlying latent constructs, while AVE determines the amount of variance captured by the construct relative to the variance due to measurement error.

Common method bias (CMB): Common method bias (CMB) can distort statistical estimates by inflating standard errors, making it difficult to isolate the unique contribution of each predictor variable to the dependent variable. This issue can compromise the accuracy of findings, leading to misleading interpretations. To mitigate these concerns, the study assessed multicollinearity using the variance inflation factor (VIF), a widely accepted diagnostic tool for detecting collinearity among independent variables. According to Harman, (1976), a VIF score below 5.00 indicates an acceptable level of collinearity. As presented in Table 3, all VIF values fall within this threshold, confirming that collinearity and CMB are not present in this study.

Assessing reflective measurement model

Discriminate validity (Fornell-Larcker Criterion): Discriminant validity is an essential component of construct validity, ensuring that a measurement accurately captures its intended theoretical construct while remaining distinct from other variables. It helps establish that constructs measuring different concepts do not overlap excessively. Henseler *et al.*, (2015) suggest that discriminant validity is achieved when the structural model constructs have values below the 0.90 threshold.

Table 3. Summary of validity results

Indicators	Items	Factor Loadings	Cronbach's alpha ($\alpha > 0.7$)	Composite reliability (ρ_c)	AVE (> 0.5)	VIF
SMMS	SMMS 1	0.884	0.794	0.859	0.551	2.666
	SMMS 2	0.736				3.685
	SMMS 3	0.831				1.928
	SMMS 4	0.835				1.012
	SMMS 5	0.706				1.689
COMQ	COMQ 1	0.882	0.850	0.711	0.653	1.756
	COMQ 2	0.766				3.022
	COMQ 3	0.730				2.150
	COMQ 4	0.865				1.948
	COMQ 5	0.761				2.264
CUDE	CUDE 1	0.828	0.851	0.829	0.585	1.692
	CUDE 2	0.790				2.118
	CUDE 3	0.731				2.674
	CUDE 4	0.727				1.873
	CUDE 5	0.813				1.997
DIME	DIME 1	0.763	0.809	0.868	0.572	3.199
	DIME 2	0.740				3.121
	DIME 3	0.839				1.742
	DIME 4	0.840				1.676
	DIME 5	0.778				1.433

Table 4. Results of Discriminant Validity

Fornell & Larcker, (1981) Criteria					
	COMQ	CUDE	DIME	SMMS	
COMQ	0.503				
CUDE	0.471	0.732			
DIME	0.365	0.409	0.756		
SMMS	0.426	0.531	0.893	0.743	
HTMT Criteria					
	COMQ	CUDE	DIME	SMMS	
COMQ					
CUDE	0.735				
DIME	0.477	0.711			
SMMS	0.372	0.528	0.637		

According to Hair *et al.*, (2021), a recommended threshold of 0.70 or higher is considered acceptable for composite reliability, Cronbach's alpha, and factor loadings, indicating strong internal reliability. As shown in Table 3, the findings of this study confirm that all constructs meet or exceed these thresholds, reinforcing the robustness of the scales used. This suggests that the measurement items are reliable and consistent in capturing the intended constructs, ensuring the validity of the study's results. By meeting these statistical standards, the study establishes a strong foundation for further analysis, enhancing the credibility of the findings and their implications.

This study employed both the Heterotrait-Monotrait (HTMT) ratio and the Fornell & Larcker, (1981) criteria to assess discriminant validity. As presented in Table 4, the results from both methods confirm that the model meets the required thresholds, demonstrating strong psychometric properties and construct distinction.

Combined loadings and Cross loadings: Table 5 presents the results for both cross-loadings and combined loadings of the constructs, providing insight into the reliability and validity of the measurement model. The findings indicate that each variable exhibits stronger loadings on its respective items than on other variables, confirming

that each construct achieves valid convergent validity. This suggests that the measurement instrument effectively captures the intended theoretical constructs with minimal error. Furthermore, the results support the absence of measurement bias, aligning with previous research findings (Otoo *et al.*, 2024). By demonstrating strong convergent validity and a lack of bias, the study model ensures greater robustness and reliability. These findings enhance confidence in the measurement instrument, validating its suitability for analyzing the relationships between constructs within the study framework.

Table 5. Item cross-loading matrix of the constructs

Items	COMQ	CUDE	DIME	SMMS
COMQ1	0.882	0.208	0.402	0.523
COMQ2	0.766	0.405	0.503	0.426
COMQ3	0.830	0.543	0.426	0.352
COMQ4	0.765	0.256	0.548	0.549
COMQ5	0.761	0.589	0.482	0.480
CUDE1	0.465	0.828	0.172	0.546
CUDE2	0.433	0.790	0.354	0.424
CUDE3	0.314	0.731	0.479	0.324
CUDE4	0.391	0.827	0.503	0.505
CUDE5	0.434	0.813	0.517	0.419
DIME1	0.545	0.645	0.763	0.757
DIME2	0.347	0.483	0.740	0.636
DIME3	0.458	0.390	0.839	0.831
DIME4	0.531	0.312	0.840	0.835
DIME5	0.427	0.226	0.778	0.674
SMMS1	0.428	0.304	0.676	0.684
SMMS2	0.547	0.283	0.640	0.636
SMMS3	0.458	0.390	0.839	0.831
SMMS4	0.531	0.312	0.840	0.835
SMMS5	0.485	0.421	0.665	0.706

Model Performance and Goodness of Fit: Assessing effect size is an essential complement to assessing the significance level (p-value) of relationships between variables, as it provides a deeper understanding of the practical importance of observed effects within the study model(Nurhilalia *et al.*, 2019). Unlike the p-value, which only indicates whether a relationship is statistically significant, effect size offers insight into how meaningful or impactful those relationships are. In this study, effect size was assessed using F² and R² tests, which are commonly employed to measure the strength and explanatory power of each predictor within the model. As presented in Table 6, the results show that the F² and R² coefficients suggest effect sizes ranging from small to large, highlighting the varying degrees of impact that different predictors have on the dependent variables. Furthermore, the model’s goodness of fit was evaluated using root mean square error (RMSE), RMS_theta, and normed fit index (NFI), which confirmed the model's robustness and reliability. These comprehensive measures ensure that the analysis is both valid and reliable, providing policymakers with solid, data-driven insights to support informed decision-making(Elkmash *et al.*, 2022). This thorough evaluation of effect size and model fit underscores the credibility of the study's findings and enhances their practical value.

Table 6. Structural Model Fit Summary

Variables	R ²	F ²
COMQ		
CUDE	0.327	0.435
DIME	0.642	0.386
SMMS	0.419	0.279
Model Fitness Indicators	Saturated Model	Estimated Model
RMSE	0.341	0.297
NFI	0.364	0.425
(RMS_theta)	0.218	0.324

Hypotheses testing

Direct Path Analysis: The study introduced three direct relationships within the research model. Empirical results confirmed that SMMS has a strong and significant direct impact on DIME, as evidenced by

H1 ($\beta = 0.995$, $t = 8.407$, $p = 0.000$). Furthermore, COMQ significantly influences DIME, as supported by H2 ($\beta = 0.637$, $t = 11.248$, $p = 0.000$). Additionally, the analysis demonstrated that CUDE has a positive effect on DIME, as indicated by H3 ($\beta = 0.767$, $t = 9.416$, $p = 0.000$). Accordingly, Table 7 presents the results of these direct paths, emphasizing the significance and direction of each proposed relationship. Additionally, Figure 2 offers a visual representation of the structural model, including the final model with estimated parameters. This detailed illustration enhances the comprehension of the study’s framework and the relationships among key constructs.

Table 7. Results of Hypothesis Analysis

Hypothesis	Relationship	β	T-stats	P-value	Hypothesis Supported
Direct Relationship					
H1	SMMS->DIME	0.995***	8.407	0.000	Supported
H2	COMQ->DIME	0.637***	11.248	0.000	Supported
H3	CUDE->DIME	0.767***	9.416	0.000	Supported

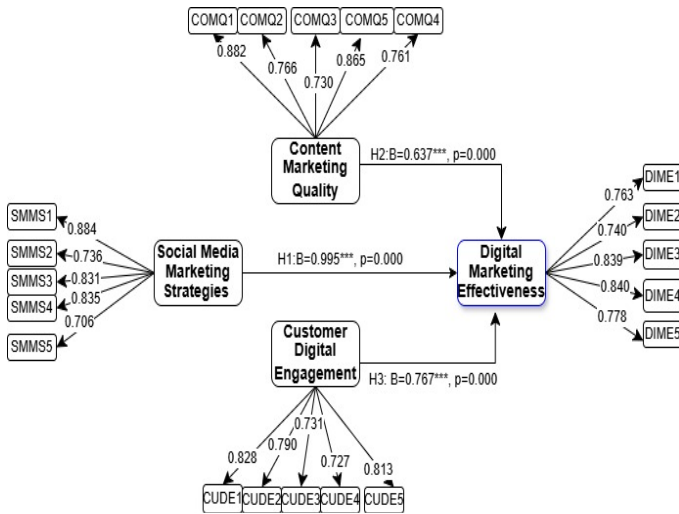


Figure 2. Final Model with Estimated Parameters

DISCUSSION

Scholars have shown considerable interest in social media marketing strategies (SMMS) when evaluating digital marketing effectiveness (DIME) within the Nigeria National Petroleum Company. However, research remains limited on the specific mechanisms through which SMMS, COMQ, and CUDE influence DIME, particularly in developing regions like Nigeria. To bridge this gap, the present study explores the direct relationships among these key factors. The results confirm that SMMS, COMQ, and CUDE significantly and positively impact DIME in Nigeria National Petroleum Companies, thereby supporting the hypotheses H1 to H3 outlined in this research. The outcome revealed that SMMS has a positive and substantial impact on the DIME of Nigeria National Petroleum Company. A possible explanation to this result could be that SMMS allows Nigeria National Petroleum Companies to interact directly with consumers, fostering real-time engagement, responding to inquiries, and addressing concerns. This interactive approach strengthens customer relationships, builds trust, and enhances brand awareness, leading to improved DIME performance (Dwivedi *et al.*, 2021). Furthermore, another reason for this fascinating positive outcome maybe that social media platforms provide advanced targeting capabilities, enabling Nigeria National Petroleum Companies to reach specific demographics based on location, interests, and behavior. By leveraging data-driven strategies, the company can optimize marketing campaigns, ensuring that promotional efforts reach the right audience, thus improving overall marketing effectiveness (Ramadan Ibrahim Al-Masri, 2020). Correspondingly, the outcomes of this investigation support H2 that COMQ has a significant influence on DIME. The result proposes that high-quality,

informative, and relevant content helps establish Nigeria National Petroleum Companies as a credible and authoritative source in the industry. Well-crafted content such as educational posts, energy insights, and sustainability initiatives resonates with the audience, encouraging interaction and fostering trust, which ultimately enhances DIME performance (Tabiat, 2022). Moreover, quality content is more likely to be shared across digital platforms, improving search engine rankings and expanding Nigeria National Petroleum Company's reach. Engaging and valuable content also keeps customers informed and interested, leading to higher retention rates and sustained engagement, which positively impacts overall marketing effectiveness (Vieira *et al.*, 2019). Lastly, the third hypothesis of this research established that CUDE positively impact DIME. A possible elucidation to this exhilarating outcome may be that active digital engagement through likes, shares, comments, and direct interactions creates a sense of community and connection between Nigeria National Petroleum Companies and its customers. This continuous engagement fosters brand loyalty and trust, leading to higher customer retention and improved overall marketing effectiveness (Jadhav *et al.*, 2023). Additionally, increased customer interactions on digital platforms provide valuable insights into consumer preferences, behaviors, and feedback. By analyzing this data, Nigeria National Petroleum Companies can refine its marketing strategies, personalize content, and optimize campaigns, leading to more effective digital marketing outcomes (Rizvanović *et al.*, 2023).

CONCLUSION

This study offers valuable insights into the relationship between SMMS, COMQ, CUDE, and DIME. The research hypotheses were tested using the SEM-PLS approach, and the empirical findings revealed that SMMS, COMQ, and CUDE positively impact DIME. These results enhance the understanding of digital marketing effectiveness in resource-rich developing economies, providing key insights for policy formulation and strategic planning within Nigeria's National Petroleum industry.

Practical Implications: This study provides several practical contributions. Given that the findings confirm the critical role of SMMS, COMQ, and CUDE in improving DIME, it recommends that: First, the positive influence of SMMS on DIME suggests that the Nigeria National Petroleum Companies should prioritize and allocate more resources to social media marketing efforts. By adopting data-driven social media strategies, such as targeted advertising, influencer collaborations, and real-time customer engagement, Nigeria National Petroleum Companies can enhance brand visibility, improve customer relationships, and maximize marketing ROI, ultimately strengthening its digital presence in the energy sector.

Second, the positive impact of COMQ on DIME implies that the Nigeria National Petroleum Company should focus on creating high-quality, informative, and engaging content to strengthen its brand authority. By delivering valuable content such as industry insights, sustainability initiatives, and energy efficiency tips Nigeria National Petroleum Company can build customer trust, improve audience engagement, and enhance its reputation, ultimately leading to greater digital marketing success.

Finally, the positive influence of CUDE on DIME suggests that the Nigeria National Petroleum Company should actively foster interactive and responsive digital platforms. By enhancing real-time engagement through social media interactions, feedback mechanisms, and personalized communication, Nigeria National Petroleum Company can strengthen customer relationships, build brand loyalty, and increase customer retention, ultimately improving its overall digital marketing impact.

Limitations and Future Research: While the investigation offers valuable insights, some limitations must be recognized. First, this study focuses solely on the Nigeria National Petroleum Companies, limiting the generalizability of the findings to other industries and

regions. Thus, future studies could explore the impact of social media marketing strategies, content marketing quality, and customer digital engagement on digital marketing effectiveness across different industries and countries, particularly in other resource-rich developing economies. Second, the study employs a cross-sectional approach, capturing data at a single point in time, which does not account for long-term changes in digital marketing trends. Therefore, future research could adopt a longitudinal study design to assess how SMMS, COMQ, and CUDE influence DIME over time, considering shifts in digital marketing strategies and evolving consumer behaviors. Lastly, the study does not account for external factors such as economic conditions, government policies, technological advancements, or competition, which may also influence digital marketing effectiveness. Thus, future studies should incorporate moderating variables like regulatory policies, digital infrastructure, and technological innovations to provide a more comprehensive understanding of the determinants of digital marketing success.

REFERENCES

- Adiyono, N. G., Rahmat, T. Y., & Anindita, R. (2021). Digital marketing strategies to increase online business sales through social media. *Journal of Humanities, Social Science, Public Administration and Management (HUSOCPUMENT)*, 1(2), 31–37.
- Alyahya, M., Dhruvakumar, S., Siddegowda, S. H., & Sreeharsha, N. (2020). Impacts of digital marketing on the pharmacies community in Saudi Arabia and determining the future model of the industry: A cross-sectional questionnaire-based study. *Indian Journal of Pharmaceutical Education and Research*, 54(4), 1193–1206.
- Chang, H. H., & Chen, S. W. (2008). The impact of online store environment cues on purchase intention: Trust and perceived risk as a mediator. *Online Information Review*, 32(6), 818–841. <https://doi.org/10.1108/14684520810923953/FULL/PDF>
- Chinomona, E. (2019). Modelling the Drivers of Impulsive Buying Behaviour: A Case of South Africa. *Journal of Economics and Behavioral Studies*, 11(1(J)), 27–38. [https://doi.org/10.22610/jeb.v11i1\(j\).2745](https://doi.org/10.22610/jeb.v11i1(j).2745)
- Dwivedi, Y. K., Ismagilova, E., Hughes, D. L., Carlson, J., Filieri, R., Jacobson, J., Jain, V., Karjaluoto, H., Kefi, H., & Krishen, A. S. (2021). Setting the future of digital and social media marketing research: Perspectives and research propositions. *International Journal of Information Management*, 59, 102168.
- Elkmash, M. R. M., Abdel-Kader, M. G., & Din, B. B. El. (2022). An experimental investigation of the impact of using big data analytics on customers' performance measurement. *Accounting Research Journal*, 35(1). <https://doi.org/10.1108/ARJ-04-2020-0080>
- Fornell, C., & Larcker, D. F. (1981). Structural Equation Models with Unobservable Variables and Measurement Error: Algebra and Statistics. *Journal of Marketing Research*, 18(3), 382. <https://doi.org/10.2307/3150980>
- Guimond, S. (2020). Corporations taking political stands on social media: risks, benefits, and potential for the creation of social value. *Digital and Social Media Marketing: Emerging Applications and Theoretical Development*, 249–261.
- Hair, J. F., Hult, G. T. M., Ringle, C., Sarstedt, M., Danks, N., & Ray, S. (2021). Partial least squares structural equation modeling (PLS-SEM) using R: A workbook. In *Springer*.
- Harman, H. H. (1976). *Modern factor analysis*. University of Chicago press.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135.
- Islam, J. U., Rahman, Z., & Hollebeck, L. D. (2018). Consumer engagement in online brand communities: a solicitation of congruity theory. *Internet Research*, 28(1), 23–45. <https://doi.org/10.1108/IntR-09-2016-0279>
- Jadhav, G. G., Gaikwad, S. V., & Bapat, D. (2023). A systematic

- literature review: digital marketing and its impact on SMEs. *Journal of Indian Business Research*, 15(1), 76–91.
- Keegan, B. J., & Rowley, J. (2017). Evaluation and decision making in social media marketing. *Management Decision*, 55(1), 15–31. <https://doi.org/10.1108/MD-10-2015-0450/FULL/PDF>
- Levrini, G. R. D., Chen, Z., Fang, J., Lin, B., & Shen, B. (2023). Study of Consumers' Purchase Intentions on Community E-commerce Platform with the SOR Model: A Case Study of China's "Xiaohongshu" App. *Behavioral Sciences* 2023, Vol. 13, Page 103, 13(2), 103. <https://doi.org/10.3390/BS13020103>
- Luo, S. (2022). Digital Finance Development and the Digital Transformation of Enterprises: Based on the Perspective of Financing Constraint and Innovation Drive. *Journal of Mathematics*, 2022. <https://doi.org/10.1155/2022/1607020>
- Nazir, S., Khadim, S., Ali Asadullah, M., & Syed, N. (2023). Exploring the influence of artificial intelligence technology on consumer repurchase intention: The mediation and moderation approach. *Technology in Society*, 72, 102190. <https://doi.org/10.1016/J.TECHSOC.2022.102190>
- Nsefumu, D. A. M. O., Jihong, S., & Wiredu, J. (2024). *GREEN MARKETING ORIENTATION AND SUSTAINABLE PERFORMANCE OF HOSPITALITY FIRMS IN THE MALABO CAPITAL OF EQUATORIAL GUINEA*.
- Nurhilalia, Rahman Kadir, A., Mahlia, M., Jusni, & Aditya, H. P. K. P. (2019). Determinant of market orientation on SME performance: RBV and SCP perspective. *Journal of Distribution Science*, 17(9), 35–45. <https://doi.org/10.15722/jds.17.09.201909.35>
- Otoo, P., Haojie, S., Wiredu, J., & Elvis, A. (2024). *The influencing factors of quality health care delivery and nhis accessibility: A*.
- Purnomo, Y. J. (2023). Digital marketing strategy to increase sales conversion on e-commerce platforms. *Journal of Contemporary Administration and Management (ADMAN)*, 1(2), 54–62.
- Ramadan Ibrahim Al-Masri, A. (2020). Impulsive Buying Behavior and Its Relation to the Emotional Balance. *International Journal of Psychological and Brain Sciences*, 5(1), 5. <https://doi.org/10.11648/j.ijpbs.20200501.12>
- Rizvanović, B., Zutshi, A., Grilo, A., & Nodehi, T. (2023). Linking the potentials of extended digital marketing impact and start-up growth: Developing a macro-dynamic framework of start-up growth drivers supported by digital marketing. *Technological Forecasting and Social Change*, 186, 122128.
- Saleem, A., Aslam, J., Kim, Y. B., Nauman, S., & Khan, N. T. (2022). Motives towards e-Shopping Adoption among Pakistani Consumers: An Application of the Technology Acceptance Model and Theory of Reasoned Action. *Sustainability (Switzerland)*, 14(7). <https://doi.org/10.3390/su14074180>
- Sayudin, S., Kartono, K., & Curatman, A. (2023). Increasing Business Effectiveness Through The Implementation Of An Integrated Digital Marketing Strategy. *Journal of World Science*, 2(11), 1908–1913.
- Seo, E. J., & Park, J. W. (2018). A study on the effects of social media marketing activities on brand equity and customer response in the airline industry. *Journal of Air Transport Management*, 66(September 2017), 36–41. <https://doi.org/10.1016/j.jairtraman.2017.09.014>
- Shoaib Imtiaz, 김동진, & Syed Hassan Ali. (2020). E-Commerce Growth in Pakistan: Privacy, Security, and Trust as Potential Issues. *Culinary Science & Hospitality Research*, 26(2), 10–18. <https://doi.org/10.20878/cshr.2020.26.2.002>
- Standing, C., & Mattsson, J. (2018). "Fake it until you make it": business model conceptualization in digital entrepreneurship. *Journal of Strategic Marketing*, 26(5), 385–399.
- Tabiat, A. (2022). The Impact of Digital Marketing on Sales Performance: The Case of Lebanese Pharmaceutical Companies. *European Journal of Business and Management Research*, 7(4), 349–355.
- Vieira, V. A., de Almeida, M. I. S., Agnihotri, R., da Silva, N. S. D. A. C., & Arunachalam, S. (2019). In pursuit of an effective B2B digital marketing strategy in an emerging market. *Journal of the Academy of Marketing Science*, 47(6), 1085–1108.
- Wiredu, J. (2024). Exploring Sustainable Supply Chain Management Practice and Environmental Performance: A Systematic Review Perspective. *Universal Journal of Carbon Research*, 1–18.
- Wiredu, J., Bo, Y., Labaran, U. I., & Georgine, F. (2021). The Effect of the Adoption of ICT on the Monetary Performance of Rural Banks in Ghana: A Case Study of Chosen Rural Banks in Eastern Region. *International Journal of Recent Research in Commerce Economics and Management (IJRRCEM)*, Vol. 8(Issue 1), pp: (230-237). <https://doi.org/www.paperpublications.org>
- Wiredu, J., Bo, Y., Yang, Q., & Agyemang, S. A. (2021). Customer Satisfaction on the Impact of ICT Based Products on Rural Banks: A Case Study of Anyinam-Rural Bank Limited in Ghana. *Journal of Business*, 9(4), 192–204.
- Wiredu, J., Yang, Q., Otoo, P., & Igbonaju, J. O. (2021). The Impact of Potency on Feminine Workforce Involvement in West Africa. Evidence from Countries in West Africa. *Journal of Business*, 9(3), 114–122.
- Wiredu, J., Yang, Q., Saljoughipour, S., Olufunke, E. C., Sampene, A. K., & Brenya, R. (2023). Stimulating environmental performance through green human resource practice: Does green transformational leadership matter? *Journal of Infrastructure, Policy and Development*, 7(1), 2127.
- Wiredu, J., Yang, Q., Sampene, A. K., Gyamfi, B. A., & Asongu, S. A. (2023). The effect of green supply chain management practices on corporate environmental performance: Does supply chain competitive advantage matter? *Business Strategy and the Environment*.
