EFFECT OF DIGITAL MARKETING PRACTICES ON PERFORMANCE OF SELECTED ENGINEERING FIRMS IN NORTH CENTRAL, NIGERIA

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Abstract
The closure of many engineering firms in the era of advanced technology has worried stakeholders and this necessitated this study which examined digital marketing activities of email and social media marketing and how they affect performance of engineering firms in north central, Nigeria. Survey design was adopted wherein questionnaire were distributed to 758 MD/CEOs of engineering firms registered with COREN. Census sampling technique was adopted and the data collected was analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The study found that email and social media marketing have positive and significant effect on performance. The study recommends that engineering firms should continue to deploy email marketing that provides customers with accurate and relevant information about their products and services. Also, that engineering firms should create and maintain accounts with all leading social media platforms that promotes and provide customers with relevant information about their products and services. They should also dedicate an employee who should manage these accounts with the changing trend. In addition, efforts should be made to carry out social media audit, tracking performance while adjusting the strategy accordingly.
Keywords: *Digital, Engineering, Email, Marketing, social media.*

INTRODUCTION

Globally, technological advancements and the advent of media has changed the fortune traditional marketing strategies into one which can barely be effective towards improving business performance (Faruk, et al. 2021). This change has impacted business operations all over the globe as many businesses from diverse sectors such as manufacturing, engineering, banking among others have been forced to embrace the new-normal in order to continue to perform and remain competitive among their rivals.

In Nigeria, a country experiencing rapid technological advancements and increasing internet penetration, digital marketing has become a crucial driver of business performance. The need to enhance online visibility, engage with customers directly, and leverage data-driven insights to optimize marketing strategies has seen businesses embrace digital marketing practices (Adedeji & Owolabi, 2017).

Digital marketing has become an essential tool for businesses to reach their target market, increase sales, and improve their brand image (Kapoor et al., 2023). The rapidly emerging digital technology of this twenty-first century has brought unprecedented changes in consumer online behavior. These changes present new challenges and opportunities for Marketers within this digital and business world. Through digital media consumer can access information anytime and in any place they want. Furthermore, they don’t just rely alone on what companies say about their brands but also on what their friends, associations, peers, media etc., are saying as well. From an organizational perspective, digital channel offers cost efficiency and facilitate marketers’ deepest need for frequent and interactive communication with their customers (Santos & Britos, 2022).

Digital marketing is the utilization of electronic media to promote products or services and to reach consumers. It embodies a wide range of products, services and brand marketing tactics which mainly use internet as a core promotional medium in addition to mobile and traditional TV and radio. Digital channels like the internet, e-mail, mobile phones and digital television offer new prospects to cultivate customer relationships. By being regularly in touch with customers, marketers can increase the level of personalization with low or non-excessive cost (Merisavo, 2019). Njelita et al. (2023) noted that digital marketing can take several forms including; are e-mail marketing, social media marketing, mobile marketing, website marketing, and search engine marketing. However, this study focused only on email and social media marketing and how they affect performance of engineering firms.

Email marketing entails sending focused emails to customers and subscribers to promote goods and services. One can accomplish this objective by crafting customized content, categorizing email lists, and implementing automated campaigns (Hubspot, 2021). Email marketing is highly relevant to the performance of businesses due to its effectiveness, it allows businesses to communicate directly with their target audience. By sending personalized and targeted messages, businesses can nurture leads, build relationships, and drive conversions more effectively. Businesses can leverage the power of email to achieve their marketing goals and outperform the competition leading to improved performance. Social media marketing on the other hand entails utilizing social media platforms to advertise products and interact with clients (Beveridge & Lauron, 2023). Nowadays, large, small and medium sized businesses are utilizing social media tools for business performance (Is-haq, 2019). This is because; it paves way for instant interaction with external environment and recognition.

Technological advancement has encapsulated the modern business environment especially in Nigeria and as a result, many firms specifically engineering firms have recognized and invested heavily in technology and online marketing practices. In addition, these firms have engaged the services of capable hands to manage their online presence with the bid to ensuring their sustained competitiveness and performance. However, despite the highlighted efforts among other, the performance of engineering firms has been on the decline as seen in the closure of many engineering firms in the Nigeria notably among them are Bugabi Construction & Engineering Ltd., Jacobs Well Construction Nigeria, Ltd. Tera Multi-Concepts Services Ltd. among others. This has casted doubts regarding the effectiveness of digital marketing in promoting performance of these firms and hence the need to examine the effect of digital marketing practices specifically, email and social media, on the performance of selected engineering firms in North Central, Nigeria.

The following hypotheses were tested in the study.
Ho_1: Email-marketing has no significant effect on the performance of selected engineering firms in North Central, Nigeria.
Ho_2: Social media marketing has no significant effect on the performance of selected engineering firms in North Central, Nigeria.

LITERATURE REVIEW

Digital Marketing

Digital marketing is the marketing of products or services using digital technologies or channels. It uses the internet as the chief promotional medium but also extends to channels- mobile phones, display advertising and any other digital medium — that do not require internet. The Digital Marketing Institute (DMI) aptly conceptualized it as "the use of digital technologies to create an integrated, targeted and measurable communication which helps to acquire and retain customers while building deeper relationship with them (Wymbs, 2011). This definition is insightful in that it emphasizes measurability, integration, as well as relationships and communications which are of strategic importance.

Digital marketing strategies are tactics used by organizations across the globe to attract customers, sell faster and attain various success stories. Every sale a firm makes increases their turnover and it's been categorized as marketing performance which comprises of profitability, market share and major dominance by the organization. And marketing managers are expected to develop a well-founded and accurate index of marketing performance to enable them to accomplish their goals (Barone & Decarlo, 2020). Digital marketing is so vital that it has helped customers to access vital information that is relevant to them at any point in time and at the comfort of their homes or offices. It has also helped customers (actual and potential) not to focus only on what firm says or offers about their products and services, but access this information on their own, or from friends, family members, peers etc. Digital marketing is the use of digital platforms and technologies to promote a firm's marketing activities that concentrate on consumer's reach (Afrina, et al. 2019).

Furthermore, Kariuki and Baraza (2019) stated that digital marketing enables firms to display its offering to customers and interact and communicate with them positively and this can positively influence the performance of any business organization. According to Bala and Verma (2018), there are various digital marketing strategies including social media channels such as Facebook and Twitter, Search Engine Optimization (SEO), email marketing, blogs and websites, and marketing products and services through online personalities and social media influencers. Other digital marketing strategies that can be employed by organisations include video advertisements, sponsoring content on more popular websites and carrying out on-line sales such as flash sales (Kalei, 2020).

E-mail Marketing

Email marketing refers to sending focused emails to customers and subscribers to promote goods and services. One can accomplish this objective by crafting customized content, categorizing email lists, and implementing automated campaigns (Hubspot, 2021). It is a form of marketing which exploits the power of electronic mail. Email is a tool that nearly everyone uses today, and it continues to grow and be more prevalent in the lives of people around the world (Caros, 2022). Email marketing is one of the most prevalent ways for organizations to reach and gain growth. It is a part of Internet marketing. Email marketing is an approach that helps in reaching the customers directly with the help of electronic mail (Barns, 2023).

E-marketing or internet marketing is the marketing of products and services over the internet (Emeh, et al., 2019). It entails the execution of marketing campaigns and strategies through digital and internet-based channels. Electronic marketing is not limited to marketing activities executed on the internet; its scope encompasses marketing operations done through electronic mail (e-mail) and wireless communication channels such as wireless local area networks (WLANs), wireless sensor networks, terrestrial microwave networks, cell phones, and satellite communication networks. It uses a range of technologies to help connect businesses to their customers (Gao et al., 2021).

Social Media Marketing

Kimani (2014) opined that social media marketing involves placement of advertisements or content on social media platforms, creating Facebook, Twitter and Instagram account for companies where people can interact with the company and the company can promote their goods and services, placing advertisements on the social media pages of targeted customers and embedding promotional material on social media posts. Social media marketing is marketing using online communities, social networks, blog marketing and more. It's the latest "buzz" in marketing. Global companies have recognized Social Media Marketing as a potential marketing platform, utilized them with innovations to power their advertising campaign with social media marketing (Neti, 2011).

According to Alalwan et al. (2017) social media marketing, also known as social network marketing, is defined as a dialogue sparked by consumers or businesses that circulates among the stated parties, revealing promotional information and allowing for learning from one another's use and experiences, which benefits all parties involved. Tuten and Solomon (2015) also stated that the utilization of social media platforms and channel is to create, communicate, exchange, and deliver offerings that are of value to an organization's stakeholders. Jara et al. (2014) described social media marketing as a new generation marketing tool encouraging higher attention and participation from the consumers through the use of social networks. With instant call and delivery capabilities of social media marketing has turn out to be a business essential for enterprises.

Social media marketing stands for the technique of receiving traffic from the social web (Das, 2021). It permits media practitioners, especially advertisers and marketers to point out that social media marketing research are antecedents of different outcomes, voter patronage, trust, and innovative performance, (Teh et al, 2020). Subjective evidence from preceding marketing text presents that firms use social media marketing to support their product online, maintain an open debate with their discontented customers, react to client observations and inquiries, enhance website traffic, promote their goods, produce novel business opportunities, contribute to career information, and create communities (Ihi et al. 2020).

Performance

Performance is considered to be the sum of accomplishments that has been achieved by all departments. The organizational goals that have been set in a given period of time, to outline its accomplishments that are involved in each stage (Lee & Huang, 2022). Organizational performance is "the ability to acquire and process human, financial and physical resources properly to achieve goals of the organization”. In fact, organizational performance is the outcome of an organization so that it is measured based on its goals and objectives (Lee, 2008). How an individual, organization, sector or industry has performed is usually reviewed at a given point in time, usually on a monthly or annual basis. Organizational performance has become one of the multi-dimensional and complex phenomena in the business literature. Although the concept of organizational performance is very common in the academic literature, but there is no unanimous agreement on its definition and measurement. There are two ways of measuring organizational performance: subjective and objective. Subjective measures are non-financial or non-economic indicators of performance measurement like sales growth, market share, employee satisfaction, customer satisfaction, product development, competitive advantage, customer retention, innovation and some other factors. Alam (2013) posits that organizational performance is a multidimensional construct that consists of four elements. Customer-focused performance, including customer satisfaction, and product or service performance; financial and market performance, including revenue, profits, market position, cash-to-cash cycle time, and earnings per share; human resource performance, including employee organizational effectiveness, including time to market, level of innovation, and production and supply chain flexibility. However, this study adopts the Balanced Scorecard developed by Kaplan and Norton (2001) where they held that performance should be measured from four dimensions; financial, customer, internal process and learning & growth.

Email Marketing and Performance

Nduji et al. (2023) carried out a study on the impact of email marketing on organizational performance in Nigeria Today: Evidence from Jumia Ltd, Lagos. The research design adopted for this study was the descriptive research design. The target population of the study was 158 employees of the firm under study. This also served as the sample size. Data were obtained through questionnaire. Hypotheses were analyzed using multiple regression technique. The study revealed that e-mail marketing has positive significant effect on performance of Juima Ltd, Lagos. The study exclusively focused on Jumia Ltd, Lagos which is somewhat limiting in terms of enabling the researcher to make broad generalizations due to the potential for response bias. Similarly, Bader et al. (2023) carried out a study on the impact of email-marketing affects marketing performance in Jordan, as assessed by consumer satisfaction and loyalty. The basic data for this study was gathered using a convenient sampling method. The research was conducted using a self-report questionnaire as the primary tool. The data was acquired from a sample of 217 e-marketing users using a questionnaire. The study hypotheses were tested using SPSS 24.0, AMOS 23.0, and Smart PLS 3.0. The results showed that email marketing had significant positive effects on performance. Using a convenience sampling method may introduce biases into the sample selection process, as it relies on selecting participants who are readily available or accessible.

James and Florence (2023) examined the impact of email marketing on the performance of deposit money banks (DMB) in the south-south region of Nigeria. Research hypotheses were formulated for the study. The performance of deposit money banks was measured with growth and effectiveness, while internet marketing forms the independent variable for the investigation. The cross-sectional survey research design was adopted for the study; the population was selected from 19 deposit money banks with offices across the south-south states. Two (2) participants were chosen randomly from the banks to form the thirty-eight (38) sample size for the study. Spearman’s rank order correlation coefficient and SPSS were used to determine the level of relationship between email marketing and the performance of deposit money banks in South-South, Nigeria. The study revealed a positive, direct, and significant relationship between email marketing and organizational performance in the Deposit Money in South-

South, Nigeria. This study focused on Deposit Money in South-South, Nigeria, whereas the current study focuses on engineering firms in North Central Nigeria.

Similarly, Olusegun (2023) conducted a study on the effect of email marketing and the performance of small-scale enterprises in Nigeria: A study of selected SMEs in Ikeja, Lagos State, Nigeria. A structured questionnaire was used to obtain primary data from 221 operators of SMEs in Ikeja, Lagos State. The data were analyzed using correlation, Analysis of Variance (ANOVA), and simple regression in the Statistical Package for the Social Sciences (SPSS 20). The findings of the study revealed that email marketing had significant positive effects and correlations with the performance of SMEs in Lagos State, Nigeria. Methodologically, this study data was analyzed using correlation, Analysis of Variance (ANOVA), and simple regression whereas the current study uses multiple regression analysis and partial least square (PLS).

Nomhwange et al. (2023) examined the effect of email marketing on performance of medium enterprises in North Central Nigeria. A survey research design was used for the study. the study's population is made up of 243 medium enterprises in North Central Nigeria. Two respondents; general managers and marketing managers were selected from each of the MEs studied. This has therefore, brought the study population to 486. The study adopted Census sampling technique, as a result 486 was returned as sample size for the study Data for the study were collected through structured questionnaire and analyzed using descriptive statistical tools such as tables and simple percentages. In addition, multiple regressions were used for further analysis and test of hypotheses. The findings from this study indicated that there is significant effect between different email marketing and sales growth of medium enterprises in North Central Nigeria.

Njau and Njuga (2023) examined the effect of email marketing in Tanzania and its impact on their performance: A case of micro enterprises in Moshi municipality, Tanzania. A descriptive research design was employed whereby a total of 70 micro entrepreneurs belonging to secondhand clothing, shoes and handbags, food vendors and saloon owners were randomly selected. Questionnaire and interview techniques were used as research tools in gathering quantitative and qualitative data. Findings showed that digital marketing has positive and significant effect on micro enterprises in Tanzania. However, the study was conducted in another country and may not be effectively applied in Nigeria due to country specific differences.

Social Media Marketing and Performance

A study conducted in Indonesia by Retno et al. (2024) investigated the impact of social media marketing on SMEs' business performance. Quantitative methods were used and data analysis was done using descriptive statistics. Samples were selected using the accidental sampling method. Data collection technique was conducted by distributing questionnaires to 42 SME owners in Palembang, South Sumatera. The findings indicated that 76 percent of respondents used social media for marketing activities. Social media marketing had a positive and significant effect on performance. However, the study was conducted in another country and may not be effectively applied in Nigeria due to country specific differences.

Hanif et al. (2024) examined the effects of social media marketing on Small and medium-sized enterprises (SMEs) in the context of Ghana. This research used a mixed-methods approach to meet the research objectives. Closed-ended and open-ended questionnaires were used to gather the data from 200 SMEs in the Wa Municipality. The data were analyzed using SmartPLS. The study revealed that social media have a significant and positive effect on SMEs. The study was specific to SMEs in Ghana, and therefore its findings may not be directly applicable to SMEs in Nigeria due to cultural differences. To address this gap, the current research focuses on engineering firms in operating in North Central Nigeria.

Njelita et al. (2023) examined the impact of social media marketing on the performance of small and medium-scale enterprises in Anambra state, with a specific focus Using a survey design, we conducted our research in Onitsha, Anambra State, targeting a population of 50,213 employees and operators from 2,233 registered SMEs (SMEDAN, 2021). With a 95% confidence level and employing the Taro Yamane (1967) method, we arrived at a sample size of 397. Through the use of questionnaires, we collected primary data, which we presented in tables and simple percentages. To test the hypotheses, the study employed simple regression analysis in SPSS. Findings revealed that social media marketing significantly and positively influences performance of small and medium-scale enterprises in Anambra State. Nonetheless, the study solely concentrated on SMEs in Anambra state, if it had encompassed the entirety of south eastern Nigeria, the study's findings would have been more comprehensive, contributing to better-informed generalizations.

Tawa et al. (2023) examined the effect of social media marketing on the performance selected small and medium-sized enterprises (SMEs) in the North-East region of Nigeria using a descriptive survey approach. Small and medium-sized enterprises that are officially registered in North-East Nigeria SME offices made up the study population. The sample size of 137 business owners who were operating for more than 3 years were selected for the study. The sample was determined using Krejcie and Morgan (1970) formula for determining sample size for categorical data and selected from the population using stratified random strategy following both descriptive and inferential statistics. SPSS 24 and multiple linear regression were applied to the data set for analysis. The data analysis showed a positive relationship between social media marketing and SMEs performance in the Northeast of Nigeria. This study though same in the industry focused on, was conducted in North East whereas the current one was conducted in a different zone that is, North Central.

Recently, Elizabeth and Hadiza (2023) studied the effect of social media platforms on the performance of Small-Scale Businesses in Maiduguri. The study was conducted in Maiduguri Metropolis, which constitutes of Maiduguri Metropolitan Council, Jere Local Governments Area, part of Mafa and Konduga Local Government Area of Borno State. The study used primary source of data through a structured questionnaire. Questions are closed ended and are administered personally to owner and managers of small-scale businesses. The population of this study is one thousand one hundred and one (1101) SSBs that are registered with Borno State Ministry of Commerce and Industry, who are actively engaged in business activities in Maiduguri Metropolis, Borno State, the study revealed that social media marketing has a positive and significant effect on performance of Small-Scale Businesses in Maiduguri.

Resource-Based View (RBV) Theory

This theory was propounded by Wernerfelt (1984) but popularized by Barney (1991). The Resource-Based View (RBV) of the firm posits that the sources of sustainable competitive advantage lie primarily in the application of a bundle of valuable resources at the firm's disposal. The RBV suggests that firms can achieve a sustainable competitive advantage and thereby improve their performance by identifying, developing, and deploying their valuable, rare, inimitable, and non-substitutable resources and capabilities. For resources to contribute to a competitive advantage, they must be valuable in the sense that they enable a firm to implement strategies that improve its efficiency and effectiveness (Barney, 1991). Resources must also be rare among a firm's current and potential competition. If a valuable resource is possessed by many competing firms, it cannot be a source of competitive advantage (Barney, 1991). For a resource to provide a sustainable competitive advantage, it must be difficult for competitors to imitate. This inimitability can stem from unique historical conditions, causal ambiguity, or social complexity (Barney, 1991). Finally, there should be no strategically equivalent valuable resources that are themselves not rare or inimitable (Barney, 1991).

A number of criticisms of RBV have been widely cited. Some argue that RBV is tautological, meaning it simply restates that firms with better resources perform better. Critics like Richard Caves (1980) suggest it lacks a clear explanation of how resources create value. RBV has been criticized for focusing too heavily on internal resources and neglecting the external environment. Authors like Michael Porter (1980) emphasize the importance of industry forces and competitive positioning for achieving sustainable advantage. Critics like Kathleen Eisenhardt and Joseph Galbreath (1997) argue that RBV offers limited practical guidance for managers. It doesn't clearly explain how firms can develop or acquire valuable resources.

Empirical studies have played a crucial role in validating and extending the Resource-Based View (RBV) of the firm. Helfat and Peteraf (2003) in Their work on "The Dynamic Resource-Based View: Capability Lifecycles" focuses on the evolution and management of capabilities over time, highlighting the need for firms to adapt their resource base dynamically to sustain competitive advantage. Newbert's (2007) meta-analysis assesses the empirical support for RBV, finding that studies which operationalize resources according to RBV's theoretical criteria (VRIN) are more likely to report positive findings supporting the theory. Also, Hitt et al. (2001) focuses on professional service firms and finds that human capital acts as a critical resource that impacts firm strategy and performance, supporting the RBV

Thus, this theory is related to this study because it posits that a firm's competitive advantage stems from its unique and valuable resources. In the context of firms and digital marketing, RBV highlights how effectively leveraging digital tools (website, social media, email marketing) as resources can create a competitive edge. By utilizing these resources strategically, SMEs can reach a wider audience, build brand awareness, and improve customer engagement, ultimately enhancing their performance.

METHODOLOGY

This study adopted survey design. The population of this study comprised all the engineering firms that are duly registered with The Council for the Regulation of Engineering in Nigeria (COREN). According to records obtained from COREN, there are seven hundred and fifty-eight (758) registered engineering firms operating in North Central, Nigeria. The population therefore comprised the MD/CEOs of each firm bringing the total population figure to 758. Census sampling technique was adopted wherein the entire 758 were selected as sample size. The study employed the use of structured questionnaire. Questionnaire items were adapted from previous works of Goic et al. (2019), Dodokh et al. (2019) and Kaplan and Norton (2001). The study employed SmartPLS's Partial Least Square Structural Equation Model (PLS-SEM) to evaluate the hypotheses that were put forth at the 0.05 level of significance.

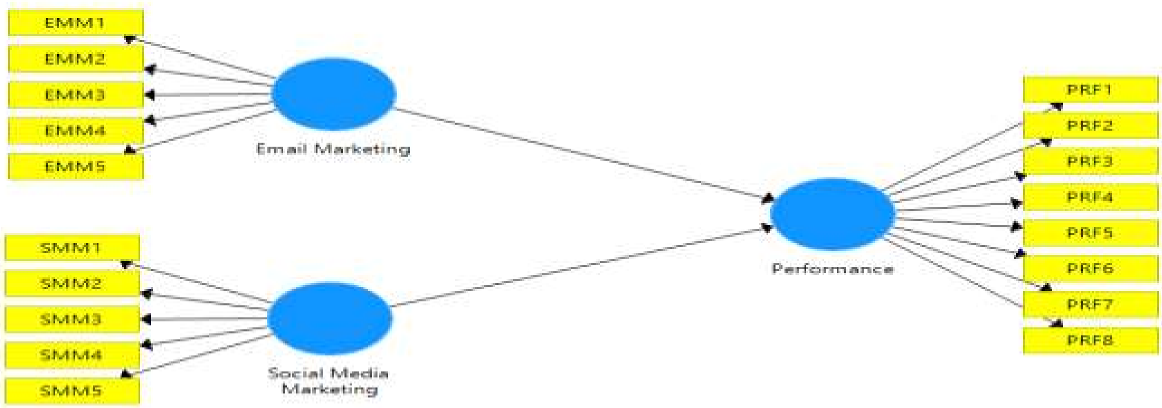

Fig.1: Theoretical Model on Digital Marketing and Performance of Engineering Firms in North Central, Nigeria.

RESULTS AND DISCUSSION

Out of the seven hundred and fifty-eight (758) distributed questionnaires, 527 were properly filled and returned giving a response rate of 70%. Subsequently, all further analyses were done using 527 responses data.

Assessment of Measurement Model

In assessing the measurement model, the researcher began by assessing the item outer loadings. As a rule, loadings above 0.708 are recommended, as they indicate that the construct explains more than 50 percent of the indicator's variance, thus providing acceptable item reliability (Hair, et al., 2019). Items with loading lower than 0.7 were deleted from the model as seen in figure 2 below.

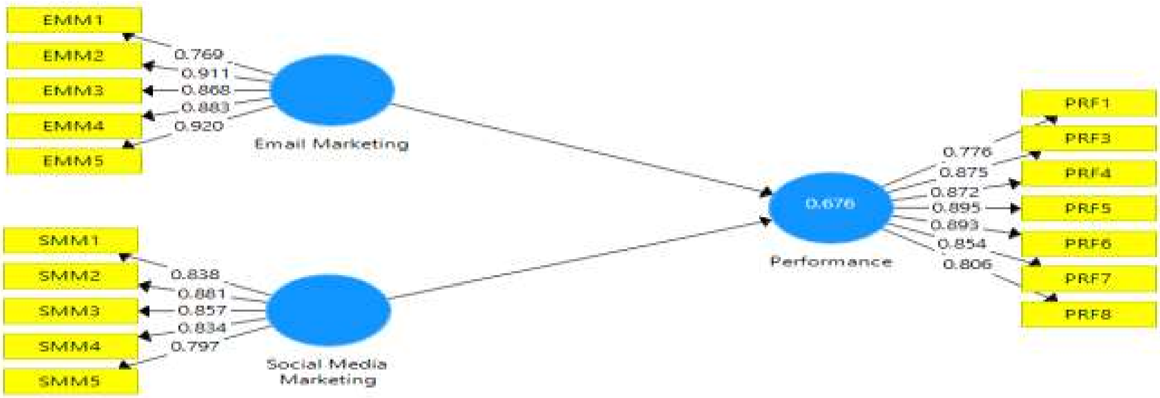

Fig 2: Indicator Loadings.

Table 4.2: Measurement Model Items

S/N	Variables		Factor Loadings	Cronbach Alpha	Composite Reliability	Average Variance Extracted (AVE)	No of Items
1	**Email Marketing (EMM)**	EMM1	0.769	0.920	0.940	0.760	**5**
		EMM2	0.911				
		EMM3	0.868				
		EMM4	0.883				
		EMM5	0.920				
2	**Social Media Marketing (SMM)**	SMM1	0.838	0.897	0.924	0.709	**5**
		SMM2	0.881				
		SMM3	0.857				
		SMM4	0.834				
		SMM5	0.797				
3	**Performance (PRF)**	PRF1	0.776	0.938	0.950	0.729	**7**
		PRF3	0.875				
		PRF4	0.872				
		PRF5	0.895				
		PRF6	0.893				
		PRF7	0.854				
		PRF8	0.806				

Source: SmartPLS Output, 2024

Composite reliability of Jöreskog's (1971) was applied to test for internal consistency of the study. All the values fall within the Hair et al. (2019) rating of good consistency. The Cronbach alpha value were above 0.60 which is the minimum threshold as recommended by Sekaran (2010). To test for the convergent validity, the average variance extracted (AVE) was used. All the latent variables showed values greater than 0.50 which indicates that the constructs explain at least 50 percent of the variance of its items. According to Henseler, et al., (2015) the Fornell-Larcker criterion does not perform well when explaining discriminant validity, particularly when the indicator loadings on a construct differ only slightly. As a replacement, they proposed the Heterotrait-Monotrait (HTMT) ratio of the correlations which is the mean value of the item correlations across constructs relative to the (geometric) mean of the average correlations for the items measuring the same construct (Voorhees et al., 2016). Discriminant validity problems are present when HTMT values are high than 0.90 for structural models (Henseler, et al., 2015).

Heterotrait-Monotrait Ratio (HTMT)

	EMM	SMM	PRF
EMM	1.000		
SMM	0.815	1.000	
PRF	0.785	0.862	1.000

Source: SmartPLS Output, 2024

The Variance Inflation Factor (VIF) was used to evaluate collinearity of the formative indicators. All the VIF values were less than 5 indicate the absence of critical collinearity issues among the indicators of formatively measured constructs (Hair, et al., 2019).

Model Goodness of Fit (GoF)

Sequel to the need to validate the PLS model, there is a need to assess the goodness of fit of the model as Hair, et al. (2017) suggested. This study used the standardised root mean square residual's (SRMR). The choice of this index was based on the fact that the SRMR provides the absolute fit measure where a value of zero indicates a perfect fit. The study adopted Hu and Bentler (1998) suggestion that a value of less than 0.08 represents a good fit while applying SRMR for model goodness of fit. The study result indicates an SRMR value of 0.060. This indicates the model is fit.

Assessing the Structural Model

Having satisfied the measurement model assessment, the next step in evaluating PLS-SEM results is to assess the structural model. Standard assessment criteria, which was considered include the path coefficient, t-values, p-values and coefficient of determination (R^2). The bootstrapping procedure was conducted using a resample of 5000.

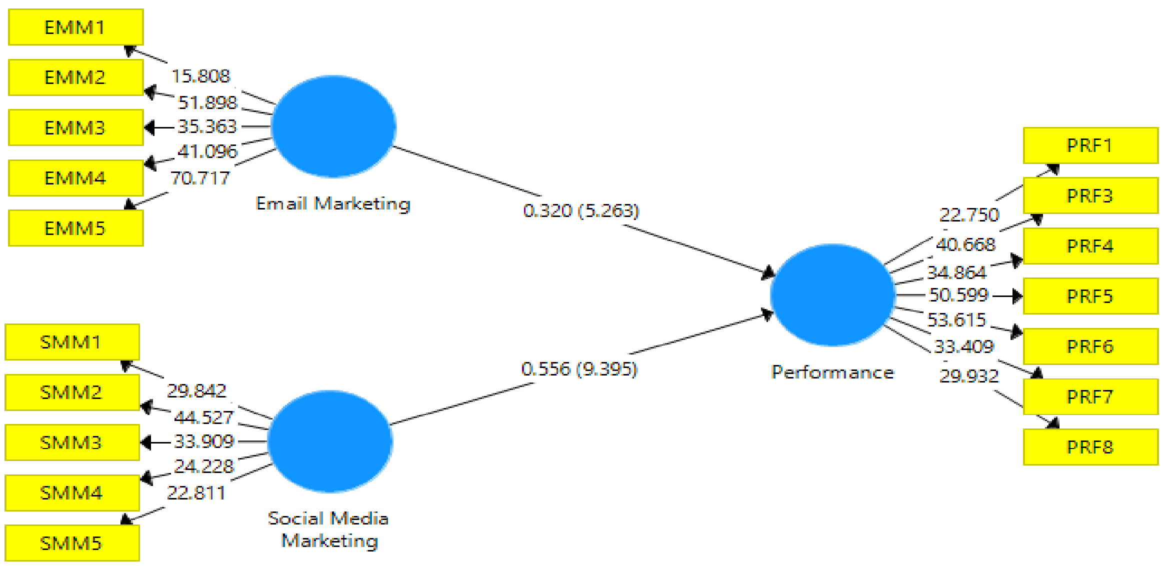

Fig. 3: Path Coefficients of the Regression Model.

R Square Table

	R^2	Q^2
Performance	0.676	0.669

Source: SmartPLS Output, 2024

The R-square value stood at 0.676 indicating that digital marketing proxied by email and social media marketing accounts for approximately 68% variation in performance. The remaining 32% variation could be explained by other factors not included in the study. Based on Hair, et al., (2019), the r-square is considered moderate. The result of the path analysis is presented in the table below:

Table 4.4: Path Coefficients

Hypotheses	Variable	B	T-Value	P-Value	Decision
Ho_1	Email Marketing -> Performance	0.320	5.263	0.000	Rejected
Ho_2	Social Media Marketing -> Performance	0.556	9.395	0.000	Rejected

Source: SmartPLS Output, 2024

The result from the analysis indicates that email marketing has positive and significant effect on performance. The decision was reached based on the t-value of 5.263 which is greater than 1.964 and a beta value of 0.320 with a p-value of 0.000. This finding implies that efforts by engineering firms to reach out to their clients through emails have yielded significant impact on their performance. This may be connected to the fact that emails are considered official means of communications by many firms and as such advertorials and enquiries through that channel are taken with high degree of importance. This finding is in agreement with that of Nduji et al. (2023), Bader et al. (2023), James and Florence (2023), Olusegun (2023) and Njau and Njuga (2023) who found positive and significant effect of email marketing on performance.

The result from the analysis indicates that social media marketing has positive and significant effect on performance. The decision was reached based on the t-value of 9.395 which is greater than 1.964 and a beta value of 0.556 with a p-value of 0.000. This finding implies that marketing activities by engineering firms via social media platforms have impacted their performance greatly and this may not be unconnected to the fact that social media provides the engineering firms with wider customer reach. This finding is in agreement with that of Retno et al. (2024), Hanif et al. (2024), Njelita et al. (2023) and Tawa et al. (2023) who found positive and significant effect of social media marketing on performance.

CONCLUSION AND RECOMMENDATIONS

Based on the findings of the study, it is concluded that the digital marketing is pivotal to performance of firms including engineering firms. Specifically, social media offers engineering firms access to wider audience and email marketing offers them verified and reliable avenue to reach their audience. Based on the study's findings, it is recommended that:

i. Engineering firms should continue to deploy email marketing that provides customers with accurate and relevant information about their products and services. However, to get favorable response from existing customers, marketing-oriented email should be designed in such a way that the subject line is simple; the content is engaging and persuasive while adding necessary link to the company's home page or websites.

ii. Engineering firms should create and maintain accounts with all leading social media platforms that promotes and provide customers with relevant information about their products and services. They should also dedicate an employee who should manage these accounts with the changing trend. In addition, efforts should be made to carry out social media audit, tracking performance while adjusting the strategy accordingly.

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E-mail marketing measures	**SD 1**	**D 2**	**U 3**	**A 4**	**SA 5**
Customers that received email usually click on the links contained in a given email advertisement or offer.					
Several customers have actually transacted with the firm based on email messages they received in the past.					
Customers do request for transaction notification and marketing offers through earlier mails sent to them.					
The list of customers on the firm email-list has been on increase in recent times.					
The email marketing campaigns we use effectively engage our target audience					
Social media marketing					
Customers can easily find my firm social media accounts in most social media platforms.					
People are usually interested in talking about my firm campaign or brand on social media platforms.					
Whenever a content is shared on my firm social media accounts, it generates several interactions from users					
The followership my firm social media accounts are attracting is encouraging					
We receive valuable customer feedback through our social media channels					
Organizational Performance					
My firm customer retention rate has improved					
My firm delivers on its value proposition to customers					
In my firm internal processes are streamlined					
In my firm innovation is part of service delivery process					
My firm organization climate supports its strategy					
My firm invest in management development programs					
My firm shareholders value has improved					
My firm generate adequate returns on its assets					