

**EMPIRICAL PAPER**

## Exploring Digital Marketing Adoption and Practices in Nigeria's Fishery Market: Insights from Entrepreneurial Experiences

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### Abstract

**Purpose:** This study explores the adoption and practices of digital marketing among entrepreneurs in Nigeria's fishery market, focusing on how social media platforms influence advertising, customer engagement, and business growth. Case studies from the maritime sector, such as fisheries, were scrutinized to show how digital platforms are helping companies reach new markets and enhance competitiveness.

**Methodology:** A qualitative research design was employed using semi-structured interviews with five participants representing different roles in the fishery value chain, including fish farming, processing, and e-commerce. Demographic data were analyzed descriptively, while thematic analysis identified recurring patterns related to digital marketing adoption, challenges, and its effects on business performance.

**Results:** Findings revealed that most respondents were young, educated, and digitally inclined entrepreneurs who actively used WhatsApp, Facebook, Instagram, and TikTok for marketing and customer interaction. Digital marketing improved visibility, customer reach, and sales outcomes. However, issues such as poor internet connectivity, limited digital skills, and customer preference for payment on delivery constrained full adoption.

**Novelty and Contribution:** The study offers rare empirical insights into digital marketing adoption within Nigeria's fishery subsector an underexplored area in the maritime economy. It bridges digital entrepreneurship and agribusiness practices in developing contexts.

**Practical and Social Implications:** The study highlights the need for digital literacy programs, improved internet infrastructure, and entrepreneurial training to enhance online marketing competence and support sustainable growth across Nigeria's maritime and fishery industries.

**Keywords:** Entrepreneurship, Digital Marketing, Fishery Market, Agric Business, Social Media Marketing

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### How to cite this article:

Titiloye, T. A., Elegbede, I., Obalola, M., Yinusa, S. A., Sanni-Matti, R., & Animashaun, M. (2025). Exploring digital marketing adoption and practices in nigeria's fishery market: insights from entrepreneurial experiences. *Elicit Journal of Economics and Management Studies*, 1 (1), 111-124.

## **1 Introduction**

Digital transformation has profoundly influenced the media landscape, particularly affecting traditional print media (Titiloye et al. 2025). As consumer behaviour transitions to internet platforms and social media, print media organisations see diminishing revenue from advertising and circulation. To endure, numerous entities are embracing digital tactics, amalgamating traditional marketing with digital innovation (Syahputra, 2025). The advancement of digital technology has profoundly transformed the marketing environment and customer behaviour. The digital revolution is catalysing a transition from conventional marketing to digital marketing, affecting consumer behaviour in searching, purchasing, and utilising items (Bala & Verma, 2018; Titiloye & Ige, 2025). Conventional enterprises encounter difficulties in aligning their marketing strategies with swiftly changing digital trends; yet, the application of technology like data analytics and online platforms has demonstrated efficacy in engaging consumers (Permana et al., 2024).

Micro, Small, and Medium Enterprises (MSMEs) must also embrace digital technology, as numerous small firms are beginning to utilise social media for marketing purposes (Izaak et al., 2022). Recent studies show the potential of digital marketing for SMEs to boost competitiveness and market reach (Syahputra, 2025). Digital platforms can enhance SME success by broadening consumer engagement and cultivating robust customer relationships (Elfadel et al., 2024). As organisations globally cope with the demands and opportunities of this digital era, the relevance and ramifications of digital transformation for Nigerian SMEs have gained increasing significance (Unegbu et al., 2024).

Nigeria's economy still heavily relies on agriculture for jobs, food production, and national income. Within the agricultural sector, aquaculture specifically fish farming has emerged as a promising option for improving livelihoods, raising revenue creation, and lowering unemployment, especially in rural regions (Olu et al., 2023; Haque & Mahmud, 2025). Fisheries comprise all the operations involved in producing fish and other aquatic resources for the main purpose of providing human sustenance, although alternative aims are possible (such as sport or recreational fishing) or getting decorative fish or fish products such as fish oil. The predicted yearly average per capita fish intake for Nigeria is 13 Kg (Odioko & Becer, 2022; Elegbede et al., 2025b). Nigeria's fishery market represents a substantial economic sector providing around 4% to the country's Gross Domestic Product, with the fish and seafood market anticipated to reach US\$17.88 billion in 2025 (Statista, 2025). Fish is an essential dietary staple for Nigeria, especially in the southern portion of the country where fish is highly regarded and one of the cheapest forms of animal protein available to many Nigerians (Odioko & Becer, 2022).

Marketing is acknowledged as a vital component of fish production, with the production process believed to be completed after the fish reaches the end consumers. With the significant volume of trades and economies in fish and fisheries products internationally, fish production represents a critical component of the marketing process particularly, in Nigeria, where it provides a means of subsistence and revenue generation to a huge part of the population (Ogbeide-Osaretin & Ebhote, 2020; Titiloye & Miftaudeen, 2021; Elegbede et al., 2025c). The internet as a virtual shop is regarded one of the emerging inventive markets that is swiftly developing and driven by technical improvements (Kaartem and Nystrom, 2021). Online fish marketing delivers fresh and safe fish goods, which gives it an edge over other fish retail shops (Nwoye et al., 2022). More so, after the expanding popularity of e-grocery and the development of cheaper freezing technology, there has also been a corresponding progressive rise in online fish marketplaces, which provide good online presence and opportunities to a greater fresh Africa catfish marketer. Further, online marketing assists the fish farmers and marketers who are struggling to access the market or transport their produce to consumers with little middlemen intervention (Nwoye et al., 2022; Adebayo et al., 2025). Regardless, it is worthy to remark that potentials of the aquaculture and fisheries business to contribute towards a sustainable agricultural output has remained unexploited as little or no attention is being devoted to this sector (Titiloye & Okerinde 2024). On the other hand, however, the benefit of web marketing is currently being enjoyed by various fish farming and marketing firms. According to Ajiboye et al. (2020), although fresh fish marketing is popular in Nigeria, online fresh catfish marketing is still in its infancy when compared to the larger market potentials established for it. This gap underlines the necessity for an exploratory study that analyses digital marketing adoption and practices from the lived experiences of fishery entrepreneurs in Nigeria. The main aim of this study is to explore the adoption and practices of digital marketing among fishery entrepreneurs in Nigeria, drawing insights from their experiences, challenges, and perceptions. To achieve this aim, the study seeks to:

- i. Identify the types of digital marketing tools and platforms used within the fishery sector.
- ii. Identify the effective online marketing strategies
- iii. Explore the challenges and barriers that hinder effective adoption of digital marketing.
- iv. Assess the perceived impact of digital marketing on business performance and customer engagement.

## **2 Literature Review**

### **2.1 Traditional Marketing**

The foundational tenets and theoretical frameworks of traditional marketing elucidate the attributes of products, the behaviors of consumers, and the intricacies of competitive interactions within the commercial landscape. These fundamental tenets and theoretical frameworks are employed to foster innovation in product development, devise strategic assortments and branding endeavors, formulate communication tactics, and respond to competitive strategies (Jain, 2021). As articulated by Higuera, 'Traditional Marketing encompasses any promotional, advertising, or campaign methodologies that have been utilized by enterprises over an extensive duration and have exhibited a consistent success rate. Traditional marketing methodologies include print advertisements, such as newsletters, billboards, flyers, and print advertisements in newspapers as shown in Figure 1 (Jain, 2021). Additional forms of traditional marketing may comprise television commercials or spots, along with radio broadcasts advocating for a business, product, or service.

Anawade & Sharma (2022), characterize traditional marketing as a collaborative framework wherein individuals or groups engage in the exchange of goods or services based on their needs and aspirations. E. Jermo McCarthy, in a seminal contribution in 1960, introduced this framework as a synthesis of essential components vital for marketing, which is commonly referred to as the 'Marketing Mix.' McCarthy's exposition established the foundational basis for the Marketing Mix theory. Anawade & Sharma (2022), delineate the marketing mix as a constellation of manageable tactical marketing instruments that the organization integrates to elicit the desired response from the target market. Furthermore, Anawade & Sharma (2022) assert that this mix encompasses all actions that the organization can undertake to influence the demand for its product and categorizes these instruments into four principal categories of variables known as the '4 Ps': Product, Price, Place, and Promotion (Jain, 2021).



**Figure 1** Categories of Traditional Marketing

Source: Jain (2021)

## 2.2 Digital Marketing

Digital marketing entails the utilization of digital technologies to advertise items or services online. Digital marketing has become indispensable for marketers, enterprises, and corporate entities; today, a few clicks may deliver anything to your doorstep. The evolution of digital marketing commenced when marketers recognized a paradigm shift from traditional marketing platforms to digital ones, which proved advantageous for their business growth (Parikh & Trivedi, 2021). Marketing refers to a company's endeavors to promote its products and services to diverse consumers via advertising (Rosário & Cruz, 2019). Digital marketing, as delineated by the American Marketing Association (2022), encompasses all marketing activities executed via electronic platforms utilizing various technological devices. Previous studies have characterized digital marketing in various ways.

As a new form of marketing, digital marketing is essential for expanding and boosting sales of goods and services in the modern world. To reach the target market, digital marketers use social media, email marketing, mobile marketing, and digital platforms. Businesses have evolved to employing technology and digital channels to carry out marketing operations. (Tümer et al., 2019). Social media platforms like Facebook, YouTube, LinkedIn, and Twitter allow consumers and marketers to communicate and promote the purchase of goods and services (Al-azzam & Al-Mizeed, 2021). By merging digital marketing strategy with real time data, artificial intelligence, and machine learning algorithms, firms may now provide highly targeted and tailored content and products (Vieira et al., 2023). Digital marketing evolved from direct marketing and engagement to co-creation and co-production processes, employing social networks and customer-to-customer platforms (Parikh & Trivedi, 2021). Additionally, as most people are addicted to various platforms, digital marketing makes it simpler to reach a bigger section of the population and helps firms to target a large audience regardless of their location, it also aids in the investigation of new markets (Rosário & Cruz, 2019).

### **2.3 Social Media Marketing**

The process of using social networking sites to advertise goods, services, or concepts to prospective clients is known as social media marketing (Ukoha et al., 2025). It entails interacting with users on social media sites like Facebook, Instagram, Twitter (now X), TikTok, and LinkedIn in order to raise awareness, foster relationships, and increase sales or other commercial objectives. Social media marketing, in contrast to traditional advertising, is very participatory and depends on producing and disseminating information that motivates people to take part (Anusi, 2025). According to Ukoha et al. (2025), social media marketing is the deliberate use of content, including pictures, videos, live streams, and narratives, to affect consumers' perceptions of a brand and their behaviour. It is an effective tool for small businesses with tight budgets since it enables companies to target particular groups according to their location, hobbies, and behaviour. Additionally, it creates direct lines of communication between companies and consumers, facilitating the instantaneous exchange of compliments, grievances, and criticism. Engagement is just as important to social media marketing as exposure (Anusi, 2025). Microbusinesses can utilise it to highlight testimonials, launch new items, foster client loyalty, and even instantly address customer concerns. It is more dynamic than conventional types of promotion since it can monitor responses and gauge results. Social media marketing gives small business owners, particularly those in developing nations, a level playing field to compete with larger companies by providing them with access to audiences they might not otherwise be able to reach. Social media can be used as a tool for branding, expansion, and client retention with innovative content and regular interaction (Ukoha et al., 2025).

### **2.4 Empirical Evidence and Case Studies**

Nigeria's fishing industry is essential to both creating jobs and ensuring food security. Smallholder fish farmers, fish traders, processors, and retailers working at different production scales make up the sector's dispersed value chain. According to Omananyi (2021) and Yesufu et al. (2014), fresh fish marketing in Nigeria is primarily a male industry with high initial capital requirements of N720,000 (about US\$1,580).

Social media platforms have significantly penetrated Nigeria's fish farming and trading communities, according to empirical research. According to a survey on Kwara State fish farmers' views towards social media, 56.9% of them utilise social media on a regular basis, and 63.8% of them use digital platforms to find information about fishing activities (Ifabiyi et al., 2023). Additionally, Ifabiyi et al. (2023) find that fishery entrepreneurs embrace digital platforms for a variety of reasons. Information sharing (90.8%), commercial purposes (87.7%), networking with friends and family (84.6%), product advertising and marketing (78.5%), obtaining market price information (69.2%), and locating input suppliers and producers (63.1%) were among these. These results show that fishery entrepreneurs see digital platforms as all-encompassing business platforms that handle various value chain roles rather than only as communication tools.

One important advantage of adopting digital platforms is increased marketing efficiency. WhatsApp usage considerably lowers marketing expenditures, according to research using statistical modelling (mean score 3.59 on a 5-point scale), with computed t-values of 14.58 and p-values <0.001, suggesting high statistical significance at the 99% confidence level (Inegbedion et al., 2021). Eliminating middlemen, reducing the requirement for actual market presence, lowering communication expenses, and reducing the demand for printed marketing materials are some of the ways that the cost-cutting mechanism works.

### **Marketing Communication Activities of Ikan Segar Indonesia E-Commerce Fishery Companies**

Ikan Segar a fishery company in Indonesia strategically utilizes social media platforms, including Facebook and Instagram, in conjunction with its official website and YouTube channel, to implement marketing communication strategies that encompass advertising, sales promotions, as well as the development of public relations and publicity. Advertising constitutes the primary focus within marketing communications, representing 79% of the total activities executed, a proportion that is markedly greater than the approximately 10% attributed to other marketing communication endeavors as shown in Figure 2. However, the variation in the volume of content disseminated remains relatively minor when comparing marketing communication activities that are oriented towards public relations and publicity, which are composed of six and seven unique content pieces, respectively. Marketing communication strategies in the realm of sales promotions persist through mechanisms such as discounts and

cashback incentives, while direct marketing initiatives have been ceased by the e-commerce operations of Ikan Segar Indonesia (Fery Indrawan et al., 2024).



**Figure 2** Proportion of Marketing Communication Efforts for Ikan Segar in Indonesia from June to August 2020

### **Digital Marketing Activities among Fresh African Catfish Marketers in Omambala Region of Anambra State, Nigeria**

Nwoye et al. (2022) examined the availability and implementation of digital marketing tools among fresh African catfish marketers situated in the Omambala region of Anambra State, Nigeria. Analytical approaches such as frequency count, percentage analysis, mean score evaluation, and multiple regression analysis were employed to elucidate the data collected from a sample comprising 120 participants. The digital marketing tools recognized as accessible within the study area encompassed social media marketing (84.2%), video/YouTube marketing (79.2%), websites (71.7%), and mobile applications (55.0%). The perceived benefits attributed to digital marketing encompassed dimensions such as seamless access to an expansive array of geographical locales and information, diminished costs, convenient operational hours, alongside improvements in customer base, sales volume, and profit margins (Hungevu et al., 2025). The degree of engagement with digital marketing tools among fresh African catfish marketers revealed a significant preference for social media marketing, video/YouTube marketing, mobile applications, and websites, with social media marketing emerging as the most extensively utilized instrument.

### **The Digital Marketing of Fisheries, Marine and Food Agriculture in Lhokseumawe City**

Hasan et al. (2021) undertook an investigation aimed at elucidating and augmenting marketing and business communication strategies pertinent to the digital era, specifically regarding marine, fishery, and agrifood products in Lhokseumawe City, with a particular focus on the issues faced by local fishermen and farmers. The outcomes revealed a noteworthy and promising potential for the fisheries, marine, and food crop sectors within Lhokseumawe City; nevertheless, the existing communication and marketing frameworks exhibited a lack of adequate development, thereby necessitating optimization through the collaboration of pertinent stakeholders (Hasan et al., 2021). The marketing communications, promotional initiatives, and online business strategies demonstrated a marked deficiency in creativity, especially concerning the effective application of information and communication technologies. The principal conclusion drawn from this study emphasizes that, within the current milieu of online marketing, promotion, and commerce related to fishery and agrifood products, advancements in online technology have rendered public engagement increasingly accessible. Internet platforms have become the predominant channels for both the acquisition and dissemination of information (Hasan et al., 2021). The extensive array of fishery and agricultural

commodities includes products that captivate the interest of the community (Hungevu et al., 2025). As a result, there exists a critical need for a platform that facilitates fishermen and farmers in directly marketing their fishery, agricultural, or processed products to consumers, thereby bypassing protracted and detrimental marketing chains. Furthermore, this scenario introduces a novel employment opportunity for millennials, particularly in leveraging the internet and new media for promotional, marketing, and online business pursuits (Hasan et al., 2021). The bargaining power of fishermen and farmers remains considerably diminished owing to the prevailing market structures, which tend to manifest characteristics of monopsony, oligopoly, and even monopoly (Elegbede et al., 2025a). Generally, fishermen and farmers engage in the traditional sale of their products through intermediary traders, resulting in prolonged marketing chains and restricted direct market access. Consequently, this predicament engenders a state of disadvantage among fishermen and farmers, perpetuating their condition of poverty and marginalization (Hasan et al., 2021).

### **3 Methodology**

This study adopted a qualitative research design using a phenomenological approach to explore the adoption and practices of digital marketing among entrepreneurs in Nigeria's fishery market. The qualitative design was considered suitable because it allows for an in-depth exploration of participants' lived experiences, perceptions, and contextual realities (Creswell & Poth, 2018). The phenomenological approach specifically seeks to understand how individuals make sense of their experiences within a particular social and economic context (Moustakas, 1994). Through this lens, the study examined how fishery entrepreneurs apply digital tools to enhance visibility, customer engagement, and overall business growth, thereby uncovering insights into their attitudes toward technology adoption and marketing innovation.

The study population comprised entrepreneurs actively involved in various segments of Nigeria's fishery value chain, including fish farming, fish processing, and e-commerce-based fish marketing. Participants were selected using a purposive sampling technique, which ensured that only individuals with direct experience in digital marketing practices were included (Palinkas et al., 2015). A total of five respondents participated in the study, representing diverse entrepreneurial backgrounds. Data were collected through a semi-structured interview guide titled Exploring Digital Marketing Adoption and Practices in Nigeria's Fishery Market. The instrument contained two sections: Section A captured demographic information (such as gender, age, education, and years of experience), while Section B focused on open-ended questions relating to the use of digital platforms, challenges encountered, and the perceived impact of digital marketing on customer reach and business performance.

Interviews were conducted between October and November 2025 across both urban and rural locations in Nigeria. Depending on the accessibility of participants, interviews were held either face-to-face or virtually via Zoom and WhatsApp, each lasting between 10 and 25 minutes. All interviews were conducted in English and audio-recorded with participants' consent. Ethical considerations such as informed consent, voluntary participation, and confidentiality were strictly observed following the ethical guidelines outlined by the American Psychological Association (APA, 2020). The data were analyzed using thematic analysis, guided by Braun and Clarke's (2006) six-phase framework: familiarization with data, coding, theme generation, reviewing, defining, and reporting. Transcribed data were systematically coded to identify recurring ideas and patterns related to digital marketing adoption. The analysis yielded five major themes—use of social media for advertising and engagement, effective online promotions, customer trust-building, challenges in digital marketing, and its overall impact on sales and market expansion. Demographic data were analyzed using descriptive statistics and summarized in Table 1 to provide context for participants' characteristics.

### **4 Results and Discussion**

The study comprised five respondents who represented various roles within Nigeria's fishery value chain. Among the participants, three were females and two were males, reflecting an increasing level of female participation in the fishery industry. All respondents were between the ages of 21 and 30 years (table 1), indicating a youthful and digitally inclined entrepreneurial group. In terms of educational background, every respondent held a Bachelor's degree, suggesting that the fishery sector continues to attract educated individuals seeking to explore opportunities in agribusiness.

Regarding employment status, most of the participants were either self-employed or job seekers, demonstrating the sector's growing appeal as an alternative source of income. The respondents were geographically diverse, with three residing in urban areas and two in rural communities, which highlights varying levels of digital access and exposure to online marketing opportunities. All respondents were single, consistent with their youthful demographic profile.

In relation to the nature of their businesses, three respondents were engaged in fish farming, one in fish processing, and one operated an e-commerce-based fishery business. Four respondents had between four and six years of experience in the fishery sector, while one had more than ten years, indicating a moderate level of industry experience overall. Additionally, four respondents reported the use of digital marketing tools, while one did not. Those who adopted digital marketing relied primarily on platforms such as Facebook, WhatsApp, Instagram, and TikTok for advertising their fish products and engaging with customers, showing a clear trend toward digital transformation within the fishery sector.

**Table 1** Demographic of Interviewee (N = 5)

Variable	Category	Frequency (n)	Percentage (%)
<b>Gender</b>	Male	2	40.0
	Female	3	60.0
<b>Age</b>	21–30 years	5	100.0
<b>Educational Qualification</b>	Bachelor's Degree	5	100.0
<b>Employment Status</b>	Self-employed	2	40.0
	Job seeker	3	60.0
<b>City of Residence</b>	Urban	3	60.0
	Rural	2	40.0
<b>Marital Status</b>	Single	5	100.0
<b>Type of Fishery Business</b>	Fish Farming	3	60.0
	Fish Processing	1	20.0
	E-commerce	1	20.0
<b>Years of Experience in Fishery Sector</b>	4–6 years	4	80.0
	More than 10 years	1	20.0
<b>Use of Digital Marketing</b>	Yes	4	80.0
	No	1	20.0
<b>Main Platforms Used</b>	WhatsApp, Facebook, Instagram, TikTok	—	—

#### 4.1 Thematic Analysis of Interview Responses

##### Theme 1: Use of Social Media for Advertising and Customer Engagement

Respondents who used digital marketing relied primarily on social media platforms such as WhatsApp, Instagram, and Facebook. These platforms were used to advertise products through status updates, posts, stories, and customer chats. Some respondents in this study also mentioned reposting content and networking as strategies to enhance visibility. This finding is in line with the study by Ifabiyi et al. (2023), which looked at fish farmers' attitudes towards social media in Kwara State and found that 56.9% of them use social media sites every day. In this ecosystem of adoption, WhatsApp is the most popular platform, with an adoption rate of 87.7%. This is much higher than Facebook (79.2%) and YouTube (45.4%). This hierarchical adoption pattern is based on practical business needs, not just platform preference. Obisesan et al. (2023) also showed that digital marketing platforms helped sell fish and made users' incomes go up.

Research on the effectiveness of WhatsApp marketing in fisheries contexts found that WhatsApp status updates with promotional offers have a 98% open rate, which is much higher than other ways of communicating. Recent research



on marketing strategies in Benue State has shown that social media marketing strategies have a big positive effect on how well a business does, with promotions being one of the most important factors (Adegbuyi, 2011).

## **Theme 2: Effective Online Promotions**

Respondents said that the best ways to market online were through discounts, holiday deals, and promotional posts. These incentives helped bring in new customers and keep old ones coming back. Sponsored posts and holiday sales were also mentioned as good ways to boost sales and get customers involved. Research on the pricing and marketing of processed catfish in Kwara State found that catfish marketers use a variety of discount types and pricing strategies to stay competitive (Salau et al., 2023). The research indicated that quantity discounts are the most commonly utilised discount type, succeeded by geographical discounts. When it comes to discount pricing strategies, giving new customers discounts was the most common, followed closely by customer value discounts. Modern marketing research demonstrates that price discounts operate via various psychological mechanisms. Established marketing theory posits that discounts generate perceived value enhancements that prompt immediate purchase decisions, especially among price-sensitive consumers typical of Nigeria's lower-income households (Salau et al., 2023).

## **Theme 3: Building Trust and Customer Relationships**

Participants said that being open, providing great customer service, and having social proof are all important ways to keep customers' trust online. They talked about sharing reviews, being honest about prices and product quality, and getting back to customers quickly. Empirical research focused on trust in Nigerian e-commerce revealed that trust profoundly influences online purchasing decisions, acting as a vital intermediary among product quality, convenience, and consumer behaviour. The study stressed that "trust significantly impacts online purchasing decisions," underscoring trust as essential to transactions in Nigeria's burgeoning digital markets (Chimezie et al., 2024).

According to Adegbuyi (2011), trust, communication, and mutual benefit are important for relationship marketing to work well in Nigerian agricultural companies. Social media sites make it easy for happy customers to share their experiences. They can post reviews, pictures of how they used the product, and recommendations that their friends can see, which builds trust. A single positive customer review on WhatsApp can be seen by everyone in a group chat, which can reach dozens of potential customers at once.

## **Theme 4: Challenges in Using Digital Marketing**

Major challenges reported included inconsistent internet connectivity, video editing difficulties, limited digital skills, and customers' preference for payment on delivery. Some respondents also mentioned that managing social media engagement consistently was difficult due to time constraints. These results are consistent with a study by Ifabiyi et al. (2023) that found that 29.2% of fish farmers consider poor internet connection quality to be a very serious infrastructure barrier to the adoption of digital marketing among farmers in Kwara state. Thirty percent of respondents in specific localities reported having limited internet reception, which further limits connectivity (Ifabiyi et al., 2023). Similarly, a study evaluating mobile phone and internet usage in Benue State found that one of the biggest obstacles facing fish farmers is a lack of network or poor network coverage (Attah et al., 2020). However, Ifabiyi et al. (2023) found that the most severe infrastructure barrier was irregular electricity supply, with a mean severity score of 2.15 on a 3-point scale.

For resource-constrained fishery entrepreneurs, the financial cost of data consumption is a significant burden in addition to concerns about infrastructure quality. In Kwara State, fish farmers reported average monthly data costs of 1,829.23 Naira (about US\$3.99), which is 2.4% of their mean annual income of 181,115 Naira. One of the biggest socioeconomic obstacles to technology adoption is the high cost of obtaining GSM and internet facilities (factor loading=0.764) (Attah et al., 2020; Ifabiyi et al., 2023). Furthermore, one important barrier limiting the effectiveness of technology use is digital literacy. The most common technical barrier, according to Awolumate (2018), is computer illiteracy, which affects 84.5% of fish farmers in his study. This incredibly high rate of illiteracy stands in stark contrast to the educational attainment of current digital adopters, indicating a market that is divided, with less educated farmers remaining excluded while educated pioneers have embraced digital tools.

Murray (2015) claims that some of the obstacles to the adoption of electronic commerce in Nigeria include a total and complete lack of a regulatory framework on e-commerce security, technical expertise, and fundamental infrastructures. Transaction-based digital marketing is discouraged by the real security concerns raised by this regulatory shortfall (Titiloye and Okerinde 2022).

### **Theme 5: Impact of Digital Marketing on Sales and Market Reach**

Most respondents observed that digital marketing had improved their sales volume and visibility. They reported reaching a wider audience beyond their local market and gaining new customers through online promotions. This result is consistent with the study by Inegbedion et al. (2021), which discovered that using social media, especially Instagram and WhatsApp, to market agricultural products increased demand for those products and improved farmer efficiency and turnover by significantly lowering marketing costs. Similarly, a study on fish marketing in Ogun State, shows that businesses that use modern marketing techniques and have access to market information generate higher marketing margins, an average of N6,280 per week for than traditional businesses (Babalola et al., 2015). The mechanism generating profitability enhancement includes direct market access (eliminating intermediaries), price discovery efficiency (enabling better pricing decisions), and inventory management efficiency (enabling rapid inventory turnover before quality degradation).

Nevertheless, one respondent mentioned that unstable networks sometimes affected performance. Overall, the participants viewed digital marketing as a transformative tool for expanding customer reach and increasing profitability. The results indicate that young, educated entrepreneurs dominate Nigeria's fishery market and are increasingly using digital platforms to market their products. This sustainability impact operates through multiple mechanisms: stable customer relationships reduce business volatility; predictable demand enabled by digital customer networks permits planning and production scheduling; access to market information enables inventory optimization; and broader geographic reach distributes risk across diverse customer markets rather than concentrating on single local markets (Nwoye et al., 2022).

## **5 Conclusion**

This study set out to explore the adoption and practices of digital marketing among entrepreneurs in Nigeria's fishery market, with a focus on understanding how digital tools, particularly social media platforms, are shaping business strategies, customer engagement, and overall market competitiveness. The findings affirm that digital marketing has become a transformative force in the fishery subsector, offering entrepreneurs especially young and educated individuals new opportunities to promote products, build customer relationships, and expand their reach beyond traditional boundaries. The research revealed that platforms such as WhatsApp, Facebook, Instagram, and TikTok have become essential instruments for advertising, interaction, and brand visibility. These platforms enable real-time communication, personalized customer engagement, and cost-effective marketing campaigns, thereby enhancing business performance and profitability. Entrepreneurs reported increased sales, improved visibility, and stronger customer loyalty, validating digital marketing as a catalyst for growth in the fishery industry. Nonetheless, the study also identified persistent barriers, most notably poor internet connectivity, limited digital literacy, high data costs, and customers' preference for payment on delivery which continue to restrict full digital integration within the sector. The thematic analysis highlighted that trust and transparency are central to sustaining online business relationships. Testimonials, prompt responses, and honest marketing were found to be crucial for maintaining customer confidence in digital transactions. Moreover, the prevalence of youth and female participation underscores a positive social transformation, suggesting that digital entrepreneurship in the fishery sector is becoming a viable avenue for empowerment, innovation, and inclusive growth. In light of these findings, the study concludes that digital marketing holds substantial potential to revolutionize Nigeria's fishery market if enabling conditions are strengthened. To maximize these benefits, policymakers and development agencies should prioritize investments in digital infrastructure, training programs on online business management, and the development of supportive regulatory frameworks for e-commerce and payment security. Bridging these gaps will not only foster entrepreneurial competitiveness but also contribute to broader national objectives of food security, employment creation, and sustainable economic development.

## **Practical and Social Implications**

The findings of this study have significant practical and social implications for entrepreneurs, policymakers, and development agencies seeking to enhance digital transformation within Nigeria's fishery sector.

From a practical perspective, the study demonstrates that digital marketing serves as a powerful tool for improving visibility, expanding market reach, and increasing sales among small-scale fishery entrepreneurs. The frequent use of social media platforms such as Facebook, WhatsApp, Instagram, and TikTok underscores the importance of low-cost, accessible digital tools in promoting agribusiness. By leveraging these platforms, entrepreneurs can communicate directly with customers, advertise products in real time, and build brand trust. The study also reveals that practical training on digital content creation, analytics, and customer engagement could further enhance the profitability and sustainability of fishery businesses.

From a social standpoint, the study highlights the growing participation of young and educated entrepreneurs, including a notable proportion of female participants, in the fishery sector. This reflects a shift toward digital entrepreneurship as a means of youth empowerment and rural economic development. However, persistent challenges such as poor internet connectivity, limited digital literacy, and consumer mistrust highlight the need for targeted interventions. Government agencies, NGOs, and private organizations can play a crucial role in addressing these gaps through capacity-building programs, improved internet infrastructure, and policy frameworks that support digital inclusion.

Ultimately, the study underscores that promoting digital marketing adoption in Nigeria's fishery market is not only a business imperative but also a social innovation strategy capable of enhancing food security, empowering youth and women, and fostering sustainable economic growth.

## **Limitations and Future Research Directions**

While this study provides valuable insights into digital marketing adoption among entrepreneurs in Nigeria's fishery market, certain limitations should be acknowledged. First, the research was based on a small sample of five participants, which, although appropriate for qualitative inquiry, restricts the generalizability of the findings to the broader population of fishery entrepreneurs in Nigeria. The limited sample size may not fully capture the diversity of experiences, marketing practices, or digital literacy levels present across different regions and subsectors. Additionally, the geographical scope of the study was relatively narrow, focusing on a few urban and rural areas. This limited coverage means that the findings may not reflect the full range of infrastructural and socio-economic conditions that influence digital marketing adoption across the country. Another notable limitation is the reliance on self-reported data obtained through semi-structured interviews. Participants' accounts were based on their personal experiences and perceptions, which may have been influenced by subjective biases or social desirability tendencies. As such, there is the possibility that some responses might have been overstated or understated in describing the success or challenges of digital marketing adoption. Finally, the study's temporal scope was limited to interviews conducted between October and November 2025. Given the rapidly changing nature of digital technologies and market dynamics, the findings represent a snapshot of current practices that may evolve significantly over time.

Based on these limitations, several recommendations can be made to guide future research in this area. Future studies should aim to include a larger and more geographically diverse sample of fishery entrepreneurs from various regions of Nigeria. This would allow for more representative findings and greater external validity. Researchers should also consider adopting a mixed-methods approach that combines qualitative interviews with quantitative surveys or performance data. Such an approach would strengthen the robustness of results and enable more precise measurement of relationships between digital marketing adoption and key business indicators such as profitability, sales volume, and customer engagement. In addition, future research could conduct comparative analyses across different agricultural subsectors such as poultry, crop farming, and aquaculture to identify cross-sectoral patterns and distinct drivers of digital adoption. Longitudinal studies would also be valuable in assessing how entrepreneurs' digital competencies and marketing behaviors evolve over time in response to infrastructural improvements, policy changes, or emerging technologies. Finally, further investigation into policy and infrastructural factors is recommended. Studies examining the influence of internet connectivity, e-payment systems, cybersecurity frameworks, and government initiatives could provide critical insights into the enabling environment for digital transformation in Nigeria's maritime

and agricultural sectors. By addressing these areas, future research can offer more comprehensive evidence to inform policy interventions, improve digital inclusion, and support sustainable growth in the fishery industry.

## Acknowledgements

The authors wish to express their sincere appreciation to the reviewer and the editorial team for their valuable comments and constructive suggestions, which have significantly enhanced the quality and clarity of this work.

## Conflict of Interest

The authors certify that they do not have any competing interests to declare.

## Declaration of Use Of Generative AI

The author(s) affirm that generative AI tools were utilized solely for purposes of language refinement and document formatting, in accordance with Elicit Publishing Limited's publication ethics. All research ideas, analyses, and interpretations presented in this work are entirely the responsibility of the author(s).

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