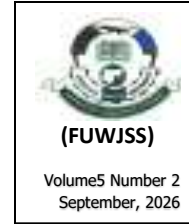


**COMMUNICATIONS TECHNOLOGY (ICT)
USAGE AND MARKETING EFFECTIVENESS
AMONG MICRO, SMALL AND MEDIUM
ENTERPRISES (MSMEs) IN SOUTHWEST,
NIGERIA**



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Abstract

This study examines how information and communications technology (ICT) usage influence marketing operations in micro, small and medium enterprises (MSMEs) performance in Southwest, Nigeria. The specific objective of the study is to examine the effects of ICT tools on marketing effectiveness of MSMEs performance in Southwest, Nigeria. In order to achieve this, survey research design was used to gather data for the study with the use of self-structured questionnaire with 5 - point Likert scale. MSMEs owners who registered with Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) formed the population of 277,270, while the sample size of 400 was determined using Taro Yamane formula. Out of 400 copies of questionnaires distributed to the respondents only 360 copies were validly returned and used for analysis, using a simple random sampling technique. The data collected were analyzed with descriptive statistics and inferential statistics. The analysis was done with the aid of the Statistical Package of Social Science (SPSS) version 23. The result of F statistics revealed that the totality of the variables of ICT tools have significant effect on MSMEs performance is 97.327, p value 0.000. ICT tools had a significant effect on marketing effectiveness of MSMEs with the values of $t = 10.374$ and $p = 0.000$. The study concludes that a multi-stakeholder approach comprising the government, business sector, and MSMEs' owners is required and the proper use of ICT technologies can improve marketing effectiveness, drive competitive advantage, and contribute considerably to the sustainability of MSMEs in the region. The study recommends that the government should make ICT business atmosphere more user friendly by providing ICT infrastructure that will promote the growth of Micro, Small and Medium Enterprises in the study area.

Keywords: ICT, Markets, MSMEs, economic development

Introduction

Micro, Small, and Medium Enterprises (MSMEs) constitute the backbone of economic development in developing countries, contributing significantly to employment generation, poverty alleviation, and innovation (Adebisi & Gbegi, 2023). In Nigeria, MSMEs account for over 96% of businesses and employ about 84% of the workforce (SMEDAN & NBS, 2021). However, despite their economic significance, many MSMEs struggle with operational inefficiencies, particularly in marketing. In an increasingly technologically oriented world, information and communication technology (ICT) tools have transformed worldwide marketing strategies. Social media platforms, Customer Relationship Management (CRM) systems, mobile apps, websites, and data analytics platforms all help organizations connect with customers more efficiently, improve brand visibility, and increase customer engagement (Ogbuanu *et al.*, 2022). For MSMEs, ICT provides a low-cost opportunity to expand their markets, gain customer insights, and remain competitive.

MSMEs are becoming more numerous and diverse in Southwest Nigeria, which is regarded as Nigeria's commercial hub. However, the extent to which these enterprises use ICT technologies to boost marketing performance remains inconsistent. Digital literacy, infrastructure, and financial constraints all continue to have an impact on uptake and usage. As a result, it is critical to investigate how ICT tools promote marketing performance amongst MSMEs in this region. While ICT tools have the potential to alter marketing practices for MSMEs, many in Southwest Nigeria have yet to reap the full benefits (Akinboade & Asaolu, 2024). According to studies, while awareness of the benefits of ICT is growing, real adoption and integration into marketing operations remains limited due to infrastructural deficiencies, prohibitively costly technological advances costs, and an acute shortage of digital skills. (Nwankwo *et al.*, 2023; Adegbuyi *et al.*, 2022).

Furthermore, the inconsistent use of ICT tools by MSMEs raises concerns with regard to their marketing effectiveness, as measured by customer reach, engagement, sales growth, and market competitiveness. This gap undermines business sustainability, particularly in an atmosphere where digital presence increasingly stipulates the business availability and customer access. Given the strategic importance of Southwest Nigeria in the country's economic landscape, and the central role of MSMEs in it, understanding how ICT tools influence their marketing outcomes is significant. However, there is a limited availability of empirical studies that specifically investigate this relationship within the region. This study aims to bridge that gap by assessing the extent, nature, and impact of ICT tool usage on marketing effectiveness in MSMEs in Southwest Nigeria

Evolution of ICT and its Engagement in Business Operations

Information and communication technology (ICT) refers to technologies that enable access to information via telecommunications. This includes Internet, wireless networks, smartphones, social media, CRM software, e-commerce platforms, and data analytics tools (Afolabi & Adegbola, 2022). These tools are extremely beneficial to MSMEs in terms of operations, communication, customer interaction, and marketing. According to Ogbuanu *et al.* (2022), WhatsApp Business, Instagram, Facebook Ads, Google Analytics, and mobile apps are particularly widespread among Nigerian MSMEs, considering that they make it possible businesses to automate processes, personalize communication, and improve customer relationship management, all of which contributes to better marketing outcomes.

Marketing effectiveness refers to how well marketing strategies achieve business goals such as brand awareness, customer engagement, lead generation, and sales performance (Adebisi and Gbegi, 2023). In the context of MSMEs, it involves deploying limited resources in ways that yield maximum market impact.

In accordance with Adegbuyi *et al.* (2022), MSMEs that use organized marketing strategies and ICT tools outperform others when it comes to marketing visibility, customer outreach, and market response. However, many MSMEs in underdeveloped nations continue making use of informal or traditional marketing tactics, therefore restricts their growth potential.

Ekeh (2023) investigated the effect of technology innovation on growth of medium enterprises in North Central Nigeria. The population of the study comprised of 243 medium enterprises in North Central Nigeria. The study adopted the census approach the entire population of 243 owner/managers of these medium enterprises in North-Central Nigeria served as the sample size of the study. Questionnaire were therefore, administered on this sample but only 223 were usable for analysis. The regression results revealed that technology innovation had significant positive effect on the growth of medium enterprises in North-Central Nigeria. The study concluded that technology innovation practice had significant positive effect on growth of medium enterprises in North Central Nigeria. The study recommended among others, that medium enterprises in Nigeria should focus on developing unique technology innovation through extensive research and development.

Also, Khalil, Woujoud, Abdelli, Baccouche and Nasr (2022) examined The Impact of Digital Technologies on SMEs' Resilience during the COVID-19 Pandemic. The study used a questionnaire survey to obtain primary data from 96 operators of SMEs in Saudi Arabia. The study used

regression analysis subsequently to analyse the data obtained from respondents. The findings revealed that the influence of digital technologies on the resilience of SMEs during COVID-19 was significantly positive. Furthermore, another study by Kawira, Mukulu and Odhiambo (2019) examined the effect of digital marketing on the performance of MSMEs in Kenya. With the aid of a structured questionnaire survey, the study obtained primary data from 302 operators of MSMEs in Kenya. Using descriptive and inferential statistics (multiple regression and correlation analysis), the data obtained were analysed and interpreted. The findings thereof revealed that digital marketing (mobile phone marketing, social media marketing and internet marketing) had a significant positive effect on the performance of MSMEs in Kenya.

Moses (2019) did a study on the technological development in Uganda, Africa and carried out primary and secondary research to analyse the impact of ICT technologies used there. He concluded that ICT tools were not effectively used for communications, especially in schools and colleges. He also discovered that lack of adequate facilities limited the people from expanding the businesses. He also focused on the fact that effective MIS systems are not used by both large and small organizations which could help them to achieve their business goals faster. He also found out that many issues happened because the information was wrongly entered into the system. He also suggested some methods that can be used to improve the efficiency of the ICT tools used.

Arjang, Sutrisno, Permana, Kusumastuti and Ausat (2023). Examined Strategies for Improving the Competitiveness of MSMEs through the Utilisation of Information and Communication Technology. Al-Buhuts, The research is qualitative in nature. Data collection techniques include listening and recording important information to conduct data analysis through data reduction, data display, and conclusion drawing. This study found that ICT utilisation can be an important strategy in improving the competitiveness of MSMEs. In its utilisation, MSMEs can utilise ICT to improve efficiency and effectiveness in business management, expand their market, and improve brand and product promotion more efficiently and effectively.

ICT Adoption among MSMEs in Nigeria

Despite ICT's revolutionary potential, its adoption amongst Nigerian MSMEs remains dispersed and often superficial. According to Nwankwo *et al.* (2023), main challenges to ICT adoption include insufficient infrastructure, limited technical know-how, a lack of financial support, and aversion to change. The research conducted additionally discovered that, regardless of how ICT technologies get implemented, they are not always leveraged strategically to enhance marketing performance. Similarly,

Akinboade and Asaolu (2024) discovered that while over 60% of MSMEs in Southwest Nigeria have access to smartphones and internet services, less than 30% actively use them for structured marketing purposes. This discrepancy between ICT availability and productive usage suggests a gap in digital marketing capability. Numerous empirical research establish a beneficial relationship between ICT use and marketing performance in MSMEs. Ogunnaike *et al.* (2023) reported that ICT technologies improve promotional reach, customer retention, brand positioning, and market intelligence in Nigerian small enterprises. Social media marketing, for instance, has enabled MSMEs to engage real-time with customers, collect feedback, and run low-cost ad campaigns effectively. However, ICT alone cannot solve all problems. Its effectiveness is determined by user competency, content quality, digital marketing strategy, and customer alignment (Chinomona, 2021). The strategic integration of ICT into core marketing activities is consequently critical to acquiring the benefits.

Marketing effectiveness refers to the ability of a business to achieve its marketing objectives while minimizing waste and optimizing resources. It involves measuring the effectiveness of marketing strategies and tactics and making data-driven decisions to improve performance. Marketing effectiveness is also a measure of how effectively a business uses its marketing resources (such as time).

Information and communications technology have becoming increasingly crucial tools for promoting businesses, particularly micro, small, and medium enterprises (Karim *et al.*, 2022). The use of ICT has transformed the way businesses work, with widespread access to the internet and social media platforms making it easier for business organizations to reach new customers and engage with existing ones. In Nigeria, ICT has provided MSMEs with new and imaginative ways to promote their products and services (Irefin *et al.*, 2012). Traditionally, MSMEs relied on print or broadcast media advertising, which was typically expensive and had a restricted reach. However, with the rise of social media platforms such as WhatsApp, Instagram, and Facebook, MSMEs may now reach a wider target audience at a low or no cost. Social media marketing has developed into an essential strategy for many MSMEs in Nigeria (Ladokun, 2019). Similarly, ICT has improved communication between firms and customers in Nigeria (Seyi, 2022). With technologies such as e-mails, instant messaging, and chatbots, Nigerian MSMEs can now communicate with their customers in real time and provide prompt solutions to their concerns. E-commerce platforms have also significantly influenced how MSMEs in Nigeria operate (Idris, 2015). Online marketplaces such as Jumia, Konga, and Jiji.ng have made it more accessible to MSMEs to sell their products online and reach a larger audience. Furthermore, ICT has enabled these online markets to

provide many payment options, such as debit/credit card payments and cash on delivery. This has resulted in a significant boost in MSMEs' sales in Nigeria, particularly during the COVID-19 pandemic, when many Nigerians must shop online due to transportation constraints. The aforementioned perspectives strongly suggest that the implementation of ICT could enhance MSMEs' marketing performance in Nigeria.

Theoretical Framework

The TOE framework was developed by Tornatzky and Fleischer (1990) to examine the factors affecting the successful adoption of ICT and its diffusion in MSMEs. The framework consists of factors that can be used to explain the adoption of ICT in MSMEs and they include: the technological contexts, the organisational contexts and the environmental contexts (Matarazzo, Penco, Profumo, and Quaglia, (2021); Ostritsova, (2019); Reggi, Gil-Garcia (2021). Despite the contribution of the TOE framework in the literature, the model is not free from criticism. The theory has been criticised on the grounds that it is too static in nature as it focuses on the factors (i.e., drivers and barriers) influencing the successful adoption of ICT alone. The TOE framework does not adequately consider the specific contextual factors that influence technological innovation and adoption. The framework is too broad and does not provide specific guidance for technological innovation and adoption. Some critics argue that the TOE framework lacks empirical support and has not been adequately tested. Lastly, the theory fails to explain the complexities and the dynamisms involved in the firm's ICT adoption process. Although the TOE framework is quite different from other models discussed previously due to its large number of variables, which makes it richer and very robust, care must be taken when using it to analyse the adoption of ICT in MSMEs (Bauer, van Dinther, and Kiefer (2020). The assumptions of TOE are as follows:

- **Technological Determinism:** The TOE framework assumes that technology is the primary driver of organizational change and innovation.
- **Organizational Rational:** The TOE framework assumes that organizations are rational and make decisions based on objective criteria
- **Environmental Determinism:** The TOE framework assumes that the environment is the primary driver of organizational change and innovation.
- **Linearity:** The TOE framework assumes that the relationships between technology, organization, and environment are linear and causal.
- **Static nature of organizations:** The TOE framework assumes that organizations are static entities that do not change over time

Limitations of the Theory are:

- **Ignores power dynamics:** The TOE framework assumes ignores the power dynamics within organizations and how they influence technological innovation and adoption.
- **Does not account for institutional factors:** The TOE framework does not account for institutional factors such culture, norms and values that influence technological innovation and adoption.
- **Lacks of temporal dimension:** The TOE framework Lacks a temporal dimension and not account for the timing and sequencing of technological innovation and adoption.

These criticisms, assumptions and limitations highlight the need for a more nuanced and dynamic understanding of technological innovation and adoption in organizations

Research Methodology

This study adopts the descriptive cross sectional survey research design to gather data for the study with the use of self-structured questionnaire. MSMEs owner who registered with SMEDAN (2021) formed the population of 277,720, while the sample size of 400 was determined using Taro Yamane formula. In addition, from the 400 copies of questionnaires distributed to the respondents only 360 copies of questionnaires were validly returned and used for analysis, utilizing a simple random sampling technique. A 5 - point Likert scale was developed and validated to collect information from the respondents. This research also made use of both primary and secondary data sources for the purpose of investigating these vital roles ICT can play in the performance of MSMEs. The choice of these instruments is because of their high reliability index of 0.94 and 0.812. In order to determine the suitability of this instrument for this study, the researcher adopted a content validity to measure instrument. This is because content validity allows for evaluating subjectively measure of how appropriate the items seem to various reviewers with some knowledge of the subject matter. Further, the study carried out a reliability analysis with cronbach alpha method of internal consistency. The data collected was analyzed with descriptive statistics and inferential statistics of Linear multiple regression statistics was used to test the hypotheses formulated at 0.05 level of significance. The analysis was done with the aid of the Statistical Package of Social Science (SPSS) version 23. The nature of the statistical data gathered informed the choice of statistical tool used.

Result and Discussion

ICT Tools and Marketing Effectiveness

Table 1: Marketing Effectiveness

S/N	Marketing effectiveness	SA	A	MA	D	SD	N	$\bar{X}$	STD
1	Improved market performance	178 (49.4)	121 (33.6)	50 (13.9)	10 (2.8)	1 (0.3)	360	4.29	0.828
2	Improved operational performance	148 (41.1)	123 (34.2)	73 (20.3)	13 (3.6)	3 (0.8)	360	4.11	0.907
3	Low transaction cost	128 (35.6)	110 (30.6)	80 (22.2)	30 (8.3)	12 (3.3)	360	3.87	1.094
4	Increased savings	133 (36.9)	133 (36.9)	60 (16.7)	29 (8.1)	5 (1.4)	360	4.00	0.993
5	Improved service delivery	143 (39.7)	110 (30.6)	78 (21.7)	25 (6.9)	4 (1.1)	360	4.01	0.997
6	Increased efficiency	157 (43.6)	114 (31.7)	63 (17.5)	22 (6.1)	4 (1.1)	360	4.11	0.973
7	Improved customer/client relationship	128 (35.6)	132 (36.7)	70 (19.4)	25 (6.9)	5 (1.4)	360	3.98	0.977
8	Enhanced productivity	144 (40.0)	136 (37.8)	53 (14.7)	22 (6.1)	5 (1.4)	360	4.09	0.955
9	Improved competitiveness	108 (30.0)	109 (30.3)	69 (19.2)	53 (14.7)	21 (5.8)	360	3.64	1.216
10	Work effectiveness is Improved	177 (49.2)	122 (33.9)	52 (14.4)	4 (1.1)	5 (1.4)	360	4.28	0.853

Source: Field Survey, 2025

Table 1: presents the results of the mean and standard deviation computed for the variables of ICT tools and marketing effectiveness in the study area. Looking at the result in the table, it can be seen that 96.9% of the respondents agreed that marketing effectiveness is enhanced through the use of ICT. This was based on the fact that the mean value computed for the perception question, 4.29, was greater than the acceptable mean of 3.00 with a standard deviation of 0.828 that indicated just a slight dispersion from the mean. Also from the table, 95.6% of the respondents agree that ICT tools improved operational performance of their enterprises. This was based on the fact that the mean value computed for the perception question, 4.11, was greater than the acceptable mean of 3.00 with a standard deviation of 0.907 that indicated just a slight dispersion from the mean. 88.4% of the respondents agree that ICT tools lower transaction cost of their enterprise. This was based on the fact that the mean value computed for the perception question, 3.87, was greater than the acceptable mean of 3.00 with a standard deviation of 1.094 that indicated just a slight dispersion from the mean. The use of ICT tools usually lead to higher efficiency and lowered transaction cost. Table 1 revealed that 90.5% of the respondents agree that ICT tools increased the savings of their enterprise. This was based on the fact that the

mean value computed for the perception question, 4.00, was greater than the acceptable mean of 3.00 with a standard deviation of 0.993 that indicated just a slight dispersion from the mean. 92.0% of the respondents agree that ICT tools improve their service delivery. This was based on the fact that the mean value computed for the perception question, 4.01, was greater than the acceptable mean of 3.00 with a standard deviation of 0.997 that indicated just a slight dispersion from the mean. 92.8% of the respondents agree that the use of ICT tools lead to increased efficiency of their enterprise. This was based on the fact that the mean value computed for the perception question, 4.11, was greater than the acceptable mean of 3.00 with a standard deviation of 0.973 that indicated just a slight dispersion from the mean. 91.7% of the respondents agree that ICT tools lead to improved customer/client relationship. This was based on the fact that the mean value computed for the perception question, 3.98, was greater than the acceptable mean of 3.00 with a standard deviation of 0.977 that indicated just a slight dispersion from the mean. 92.5% of the respondents agree that ICT tools lead to enhanced productivity. This was based on the fact that the mean value computed for the perception question, 4.09, was greater than the acceptable mean of 3.00 with a standard deviation of 0.955 that indicated just a slight dispersion from the mean. 79.5% of the respondents agree that ICT tool lead to improved competitiveness. This was based on the fact that the mean value computed for the perception question, 3.64, was greater than the acceptable mean of 3.00 with a standard deviation of 1.216 that indicated just a slight dispersion from the mean. 97.5% of the respondents agree that ICT tool lead to improved effectiveness. This was based on the fact that the mean value computed for the perception question, 4.28, was greater than the acceptable mean of 3.00 with a standard deviation of 0.853 that indicated just a slight dispersion from the mean. In conclusion, ICT tools enhance marketing effectiveness in the study area. The finding of this study is in consonance with the study by Arjang, Sutrisno, Permana, Kusumastuti, and Ausat (2023) who examined Strategies for Improving the Competitiveness of MSMEs through the Utilisation of Information and Communications Technology.

Table 2: Regression results for ICT tools and performance of MSMEs.
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	13.210	2.403		5.497	.000
	Marketing Effectiveness	.627	.060	.496	10.374	.000

a. Dependent Variable: Performance

Source: Author's Computation, 2025

The results from Table 2 also show that there is positive relationship between marketing effectiveness and performance of MSMEs with the standardized beta value ($B = 0.496$). The table further shows that marketing effectiveness had a significant effect on MSMEs performance with the values of $t = 10.374$ and $p = 0.000$ respectively. This is because the p-value of 0.000 is less than 0.05 level of significance. Therefore, the null hypothesis that states that marketing effectiveness does not have significant effect on MSMEs performance is rejected and the alternative hypothesis is accepted. The implication of the result is that a unit change in marketing effectiveness will result to 0.496 unit change in MSMEs performance in the study area. The finding corroborated with Arjang, Sutrisno, Permana, Kusumastuti, and Ausat (2023) as they explained that MSMEs can utilise ICT to improve efficiency and effectiveness in business management, expand their market, and improve brand and product promotion more efficiently and effectively.

Conclusion and Recommendations

The study of ICT tools and their impact on marketing effectiveness in MSMEs in Southwest Nigeria reveals both promising potential and pressing challenges. Information and Communication Technology tools ranging from social media platforms and websites to Customer Relationship Management (CRM) systems and mobile apps have revolutionized how MSMEs approach marketing by improving customer reach, engagement, branding, and feedback mechanisms. Empirical evidence shows a positive correlation between ICT adoption and marketing performance metrics such as sales growth, market visibility, and customer retention (Ogbuanu *et al.*, 2022; Adegbuyi *et al.*, 2022). However, the full potential of these tools is not being realized due to persistent barriers including inadequate infrastructure, digital illiteracy, financial constraints, and inconsistent strategic application (Nwankwo *et al.*, 2023; Akinboade and Asaolu, 2024).

In Southwest Nigeria, a location with relatively better ICT infrastructure, MSMEs' underutilization of these technologies indicates a gap between availability and efficient usage. To close this gap, a multi-stakeholder approach comprising the government, business sector, and MSMEs' owners is required. The proper use of ICT technologies can improve marketing effectiveness, drive competitive advantage, and contribute considerably to the sustainability of MSMEs in the region. MSMEs owners and staff should undergo regular training in digital marketing and ICT tool usage. Government agencies such as SMEDAN and private ICT hubs should organize subsidized workshops and certification programs tailored to MSMEs' needs.

The government and private telecom firms should collaborate to reduce the cost of internet access and provide affordable ICT tools. Public-private partnerships (PPPs) could also help MSMEs acquire software tools like CRM, ERP, and e-commerce platforms at discounted rates.

MSMEs support programs should integrate ICT strategy planning as a core service. Business advisory services must emphasize digital transformation and marketing analytics to help MSMEs optimize their marketing efforts. Government should enact supportive policies that incentivize ICT adoption, such as tax breaks for tech investments and grants for digital transformation projects. Additionally, FinTech institutions can offer MSMEs ICT-specific loans or credit lines.

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