Current Journal of Engineering and Science Research
Volume 3, Issue 1, pp 7-15, January 2026
ISSN (online): 3049-1738
DOI: https://doi.org/10.47001/CJESR/2026.301002
Available Online at https://www.cjesr.com

Digital Pathways Out of Poverty: The Role of ICT and SMEs in Poverty Eradication in Nigeria

[1]Fasiku Ayodeji Ireti, [2]Onileowo Temitope Teniola, [3]Sarat Kehinde Akinade

[1]Computer Engineering Department, Faculty of Engineering, Ekiti State University, Ado – Ekiti, Nigeria
[2]Entrepreneurship Department, Faculty of Management Sciences, Ekiti State University, Ado – Ekiti, Nigeria
[3]INAGFA coordinator, AI researcher, 235 Covepark Green, NE, Calgary, Canada
[1]Ekiti State University Sustainable Development Goal 1: No Poverty
[1]Ekiti State University Sustainable Development Goal 2: Zero Hunger
[1]Ekiti State University Sustainable Development Goal 8: Decent Work and Economic Growth
*Corresponding Author's E-mail: ayodeji.fasiku@eksu.edu.ng

Abstract: Poverty continues to be a persistent challenge in Nigeria despite decades of policy interventions and its abundant natural and human resources. As the nation strives toward inclusive and sustainable development, leveraging digital technologies and empowering Small and Medium Enterprises (SMEs) have emerged as critical pathways to poverty eradication. This paper explores *digital pathways out of poverty* by examining the role of Information and Communication Technology (ICT) and SMEs in promoting income generation, job creation, financial inclusion, and social mobility in Nigeria. The study adopts a conceptual approach, drawing on recent empirical studies, development reports, and policy frameworks to analyze how ICT-driven innovations are transforming economic opportunities across rural and urban sectors. ICT serves as an enabler of development by enhancing access to information, education, markets, and financial services. Mobile technologies, e-commerce platforms, digital financial services, and online learning have become essential tools for bridging inequality gaps. For instance, the rapid adoption of mobile banking and digital payment systems has improved access to credit and savings for marginalized populations, empowering micro-entrepreneurs and rural women. SMEs, on the other hand, are vital engines of economic growth and employment generation. The integration of ICT into SME operations through digital marketing, e-payment systems, supply chain management, and e-governance has increased productivity, reduced transaction costs, and expanded market reach. However, the digital divide, inadequate infrastructure, poor ICT literacy, and limited access to financing remain significant barriers to maximizing these benefits. This paper argues that sustainable poverty eradication through ICT and SMEs requires coordinated policy interventions, including investments in digital infrastructure, capacity building, entrepreneurship education, and supportive regulatory frameworks. Hence, digital transformation, when properly harnessed, represents not just a technological shift but a strategic pathway out of poverty toward sustainable economic development in Nigeria.

Keywords: ICT, SMEs, Poverty eradication, digital pathways, e-commerce, financial inclusion, policy.

I. INTRODUCTION

Nigeria been Africa's largest economy by GDP and population continues to face deep poverty and high underemployment. Structural constraints such as informalization, limited access to finance, and inadequate infrastructure have historically limited inclusive growth. Small and Medium Enterprises (SMEs) are widely recognised as a cornerstone of Nigeria's economy and a principal pathway for income generation and employment for millions of households. SMEs account for the vast majority of enterprises in Nigeria and contribute a substantial share of GDP and employment, making them central to any poverty-eradication strategy (Oluremi & Maku, 2024). Digital technologies and micro, small and medium enterprise (MSME) growth are repeatedly identified as promising vectors for inclusive growth but access, affordability, and firm-level constraints limit their poverty-reducing potential (Mateko, 2024).

In the last decade, the rapid proliferation and adoption of Information and Communication Technologies (ICTs) have

Current Journal of Engineering and Science Research
Volume 3, Issue 1, pp 7-15, January 2026
ISSN (online): 3049-1738
DOI: https://doi.org/10.47001/CJESR/2026.301002
Available Online at https://www.cjesr.com

emerged as a potentially transformative force in addressing these developmental challenges, offering an unprecedented opportunity to meet vital development goals, including poverty reduction (Mbuyisa & Leonard, 2017). Also, SMEs are widely recognized as the cornerstone of socio-economic development in developing countries, including Nigeria. They contribute significantly to the national Gross Domestic Product (GDP) and employment generation, playing a crucial role in economic growth and job creation. However, SMEs in Nigeria often face significant hurdles, including inadequate infrastructure, limited access to finance, and low levels of technology adoption, which can hinder their growth potential and, consequently, their impact on poverty reduction (Okundaye *et al*., 2019). Poverty reduction remains central to Nigeria's development agenda. While macroeconomic growth has been unevenly translated into poverty decline, micro-level actors especially SMEs represent a crucial engine for employment and income generation (Ibitomi *et al*., 2022).

ICT has changed how markets operate by lowering transaction costs, enabling access to information, and expanding financial services. The intersection of ICT and SMEs presents a powerful synergy, forming potential "digital pathways" out of poverty. ICT adoption can enhance SME performance by improving market visibility, increasing efficiency, facilitating financial inclusion, and boosting business resilience (Onileowo & Fasiku 2021). The use of digital tools enables micro-businesses, such as street telephony systems using mobile phones, to generate income, directly impacting the livelihoods of the poor and contributing to a reduction in financial and non-financial dimensions of poverty (Ugochukwu *et al*., 2025). Empirical and review studies show that ICT adoption by SMEs increases productivity, market reach and resilience (especially for micro and informal firms), which in turn can raise incomes and reduce poverty when adoption is sufficiently widespread (Bamigboye *et al*., 2024; Mbuyisa & Leonard, 2017).

Despite progress in digital access, the rate of ICT adoption within Nigerian and the key role SMEs play to hence employment and increase income generation in Nigeria. Their impact remained relatively low compared to developed nations, and persistent challenges like poor infrastructure and low digital literacy need to be address. This paper examines the critical role of ICT and SMEs in poverty eradication in Nigeria, analyzing how leveraging digital tools can empower marginalized communities, foster economic opportunities, and ultimately contribute to sustainable poverty reduction efforts. By investigating the relationship between digital innovation, SME growth, and poverty levels, this study aims to highlight the potential of technology to address pressing developmental challenges and propose recommendations for policymakers and stakeholders to harness these opportunities effectively.

II. LITERATURE REVIEW

Digital technologies and small-and-medium enterprises (SMEs) are repeatedly identified as promising channels for inclusive growth, but evidence about how ICTs and SMEs interact to reduce poverty remains mixed and context-dependent (World Bank, 2022). The existing body of literature largely supports the notion that Information and Communication Technologies (ICTs), when effectively integrated into the operations of Small and Medium Enterprises (SMEs), can serve as significant "digital pathways" to poverty reduction in Nigeria. Researchers consistently find a positive correlation between technology adoption, economic growth, and improved livelihoods, although significant challenges remain. Adewale (2022) investigated the role of e-commerce in generating employment across various sectors in Lagos, drawing on data from 400 businesses. The study found that e-commerce significantly promotes job opportunities in logistics, warehousing, and marketing especially among young people and emphasized the need for improved digital infrastructure to sustain this growth.

Ibitomi *et al*. (2022) investigated the effect of SME financing on Nigeria's economic growth over the period 1980–2020 using time series data obtained from secondary sources. The study employed the Vector Auto-Regression (VAR) modeling approach, incorporating unit root and co-integration tests to ensure data reliability and model validity. The findings indicated that commercial bank financing, development finance, and foreign direct investment significantly contributed to economic growth in Nigeria. Similarly, Mothibi and Sithole (2021) explored the role of digital tools in promoting job creation within Africa's informal sector, with a focus on Tanzania and Ghana. Based on a survey of 700 informal workers, their study revealed that digital platforms such as WhatsApp facilitated business expansion and income growth.

Foster and Heeks (2023) examined the employment impacts of digital innovation across Africa, Asia, and Latin America using data from ten countries. Their findings revealed mixed outcomes—while digital innovation spurred job creation in certain sectors, it also led to job displacement in others as a

Current Journal of Engineering and Science Research
Volume 3, Issue 1, pp 7-15, January 2026
ISSN (online): 3049-1738
DOI: https://doi.org/10.47001/CJESR/2026.301002
Available Online at https://www.cjesr.com

result of automation. They highlighted the importance of implementing robust digital skills policies to mitigate these challenges. Similarly, Sharma and Gupta (2021) discovered that digital financial inclusion in India, Pakistan, and Bangladesh contributed to poverty reduction by expanding credit access for small-scale entrepreneurs. They further recommended increased investment in digital infrastructure to sustain these gains.

Unachukwu *et al*., (2025) examined the contribution of agricultural exports to Nigeria's economic growth using the ARDL model over a 37-year period (1986–2022). Their study established a significant long-run relationship among agricultural exports, trade openness, and economic growth, affirming agriculture as a vital catalyst for national development. Likewise, Obitolu *et al*., (2021) explored the effects of climate change on agricultural productivity using econometric techniques, including the ADF test and Error Correction Model. Their findings indicated that rainfall exerts a notable short-run influence on agricultural output, underscoring the vulnerability of food production to climatic fluctuations. Collectively, these studies emphasize that strengthening agricultural productivity and exports can substantially drive economic growth. Also play a pivotal role in poverty alleviation, especially in rural communities where agriculture serves as the primary source of income.

Ekwueme and Ogbonna (2021) examined the impact of mobile banking on poverty reduction in rural communities of Southeast Nigeria. Using survey data from 250 respondents, their findings revealed that mobile banking significantly enhanced access to credit and savings, thereby facilitating investment in small-scale enterprises. The study highlighted the importance of expanding mobile network coverage and promoting digital literacy to maximize these benefits. Similarly, Ogunleye & Osemeke (2020) investigated the role of digital innovation within Nigeria's economy, drawing on data from 300 drivers and freelancers across Lagos and Abuja. Their study showed that while digital platforms such as Uber and Bolt provide short-term employment opportunities, issues of job insecurity and lack of employee benefits persist.

Charles *et al*. (2017) empirically investigated the impact of SME financing on economic growth in Nigeria using time series data covering the period 1999–2018. The study employed multiple regression analysis, with the aggregate contribution of SMEs to economic growth as the dependent variable. The independent variables included commercial bank credit to SMEs, lending rate, gross fixed capital formation, and electricity distribution. The model was estimated using the Ordinary Least Squares (OLS) method, and data analysis was conducted with E-Views 10.0. The results indicated that the lending rate had a negative effect on the aggregate contribution of SMEs to economic growth, while gross fixed capital formation also contributed to a decline in AGGDP. Conversely, credit to SMEs had a positive, though marginal, impact on economic growth, and improved electricity distribution was found to enhance AGGDP.

III. CONCEPTUAL FRAMEWORK: HOW ICT AND SMES LINK TO POVERTY REDUCTION

Efficient pathways to poverty reduction resulted to raise in household incomes, stabilize consumption, create jobs, and expand the options available to poor and vulnerable populations (Ayandibu & Houghton, 2017). The conceptual framework on how ICTs operate through SMEs to contribute to poverty reduction was discussed in this section. This paper identifies the core constructs (ICT inputs, SME mediating processes, socio-economic outcomes) and the causal pathways that connect them (Onileowo & Fasiku 2021). ICT adoption and its uses by SMEs to improve firm productivity, market access, and human-capital formation. Those firm-level gains translate into higher incomes, employment, and access to services at household/community level, thereby reduces poverty (Diyaolu & Oso, 2023).

The most adopted multi-level framework that links ICT adoption at the firm level, household and community poverty outcomes are via these four primary pathways:

i. **Productivity and Firm Performance:** ICT increases operational efficiency through automation, improved inventory management, and better customer relationship management, raising firm revenues and ability to hire.
ii. **Market Access and Price Realization:** Digital platforms expand customer base and reduce intermediaries, improving profit margins for producers and retailers.
iii. **Financial Inclusion and Risk Management:** Digital financial services enable savings, credit access, and efficient payment systems, increasing investment and smoothing consumption.
iv. **Human Capital and Innovation:** Access to information, training, and online services enhances entrepreneurial skills and adoption of improved production practices.

Current Journal of Engineering and Science Research
Volume 3, Issue 1, pp 7-15, January 2026
ISSN (online): 3049-1738
DOI: https://doi.org/10.47001/CJESR/2026.301002
Available Online at https://www.cjesr.com

3.1 Core constructs and definitions

The core constructs align with how ICTs can increase productivity and broaden access to markets and information, which are the main conditions for poverty reduction (Cobos & Malásquez, 2023). The core constructs of an ICT and SME were outline as follows:

i. **ICT (inputs):** physical infrastructure (mobile phones, internet, cloud services), software/platforms (e-commerce, digital payments), and human capital (digital skills).
ii. **SME mediating processes:** adoption and integration of ICT into business functions marketing and sales (online channels), operations (inventory, accounting), finance (mobile money, digital credit), and knowledge (market information, training).
iii. **Intermediate outcomes:** productivity gains, widened market access, cost reductions, improved product/service quality, greater access to finance, and enhanced business resilience.
iv. **Final poverty-reduction outcomes:** increased employment, higher and more stable household incomes, improved access to basic services, and greater household capabilities (education, health, social inclusion).

3.2 Causal pathways linking ICT to SME outcomes

A causal pathway refers to the sequence of mechanisms, factors, or processes through which an independent variable (cause) produces an effect on a dependent variable (outcome). Understanding causal pathways is essential in research because it moves analysis beyond simple associations and helps identify how, why, and under what conditions certain outcomes occur (Ibitomi *et al.*, 2024) Better access to ICT increases the ability of SMEs to use technology for business operations. Information provided via ICT improves decision-making, production planning, and competitiveness (Yekini *et al.*, 2012). The causal pathways linking ICT to SME outcomes can be outline as follows:

i. **Enabling infrastructure (ICT Availability & Affordability & access)**: The physical and service infrastructure (mobile networks, broadband, electricity, affordable devices) provide the platform that makes ICT use possible. Without reliable access, downstream benefits cannot occur. Empirical studies in emerging markets repeatedly show access (mobile subscriptions, internet, electricity) is a necessary precondition for measurable SME gains. Lower-cost mobile devices, cheaper data, and accessible platforms raise the probability SMEs will adopt digital tools (Oduntan & Isere, 2022; Mbuyisa & Leonard, 2017).
ii. **SME Adoption decision (Firm-Level Improvements):** SMEs decide whether to adopt ICT based on costs, perceived benefits, managerial capabilities, and external incentives (policy, market pressure). Adoption is influenced by firm size, owner/manager skills, and financing availability. Adoption itself does not guarantee impact, it begins the causal chain. Systematic reviews and qualitative studies identify financial constraints, lack of skills and resistance to change as common barriers to adoption. Once implemented, ICT improves firm productivity (automation, inventory control), extends market reach (e-commerce, digital marketing), and reduces transaction costs (digital payments) (Yuwono *et al*., 2024).
iii. **Internal process change (Operational efficiency):** ICT enhance automated processing and improve faster communication (intra-firm and supplier links), better inventory and accounting systems, and reduced transaction costs. These changes typically produce cost savings, speed improvements and better resource allocation with the proximate drivers of increased productivity. Several empirical papers show measurable productivity and profitability gains once SMEs integrate ICT into core processes (Tarutė & Gatautis, 2014).
iv. **Market access & demand expansion (external channels):** Digital adoption often requires initial capital, access to credit or digital finance mediates uptake and scaling. Digital platforms, e-commerce, social media and online marketplaces expand firms' geographic reach and lower customer-acquisition costs. This increases sales potential, enables niche targeting and improves customer engagement (reviews, digital marketing). Studies in emerging economies document stronger sales growth for SMEs that leverage online channels (Nwabuatu, 2024).
v. **Knowledge, learning & innovation capability (dynamic effects):** ICT fosters information flows and learning (access to market data, supplier info, best practices), which can increase firms' absorptive capacity and spur product/process innovation. Over time, ICT contributes to higher-order capabilities (knowledge management, analytics) that amplify returns beyond immediate efficiency gains. Research linking ICT to higher-order capabilities and downstream innovation supports this indirect path (Gaviria-Marin et al., 2021).

Current Journal of Engineering and Science Research
Volume 3, Issue 1, pp 7-15, January 2026
ISSN (online): 3049-1738
DOI: https://doi.org/10.47001/CJESR/2026.301002
Available Online at https://www.cjesr.com

vi. **Financial outcomes & access to finance (circular effects):** Improved records, digital transactions, and demonstrable sales growth increase SME creditworthiness, enabling access to formal finance. Digital payment histories and platform data can serve as alternative credit signals, further supporting investment and scale-up. Empirical work shows ICT-enabled transparency and revenue growth improve financing prospects (Ofoezie, 2024).

vii. **Aggregate outcomes: productivity, growth, employment & spillovers:** The combined effects of productivity, growth and employment lower costs, higher sales, innovation, and better finance, lead to firm growth, higher productivity and potentially net job creation. There are also positive externalities, suppliers and customers learn, markets deepen, and regional competitiveness improves. Macro and micro studies in emerging markets find positive associations between ICT adoption and SME output/GDP contribution, conditioned on other factors (Cobos and Malásquez, 2023).

viii. **Household Gains to Poverty Reduction:** Sustained increases in income and capabilities reduce poverty incidence and deepen social inclusion (access to services, education). Comprehensive reviews and country studies indicate that digitization can be associated with poverty declines when adoption translates to real productivity and job creation (Cobos and Malásquez, 2023).

IV. ICT AND SMES ROLES WITH PATHWAYS IN POVERTY ERADICATION

Information and Communication Technologies (ICTs) and Small and Medium Enterprises (SMEs) offer significant potential for poverty eradication in Nigeria by driving job creation, enhancing financial inclusion, and expanding market access, though challenges such as the digital divide and limited infrastructure persist (Onileowo & Fasiku 2021). ICT act as vital digital pathways out of poverty in Nigeria by empowering SMEs, which are the backbone of the economy, through enhanced efficiency, market access, and job creation. The basic role of ICTs and SMEs were outline in the following sub-sections (Zamani et al. 2017, Bamigboye, et al. 2024).

4.1 The Role of ICT

The effective application of ICT can significantly impact poverty alleviation in Nigeria, they are stated as follows (Eze et al., 2019; World Bank, 2022; Ozili, 2023):

i. **Job Creation:** The ICT sector directly and indirectly creates various employment opportunities, from telecommunications and software development to online content creation and digital marketing. Many formerly unemployed individuals now earn a living through ICT-related micro-businesses.

ii. **Enhanced Productivity and Efficiency:** Digital tools, such as e-commerce platforms, enterprise resource planning (ERP) software, and online communication channels, help SMEs automate processes, manage inventory, reduce transaction costs, and improve overall efficiency and quality of goods/services.

iii. **Expanded Market Access:** E-commerce platforms and digital marketing helps SMEs overcome geographical limitations, enabling them to reach broader local and global customer bases through e-commerce and social media platforms. This increased visibility boosts sales and revenue.

iv. **Financial Inclusion:** Digital innovations, particularly in FinTech and mobile banking, have expanded access to credit, savings, and insurance for previously underserved populations, including those in rural areas. Mobile money and online banking platforms provide essential financial services (credit, savings, insurance) to underserved populations, especially in rural areas. This access to financial services allows individuals to invest in small businesses and manage their finances more effectively, hence promote economic independence.

v. **Access to Information and Education:** Digital tools facilitate the dissemination of valuable information, such as market prices for agricultural products or online educational resources, empowering individuals and businesses to make informed decisions and acquire new skills.

4.2 The Role of SMEs

SMEs are critical drivers of the Nigerian economy and key players in poverty eradication efforts (Eze et al., 2019; Ibitomi et al., 2024). The basic roles of SMEs are stated a follows:

i. **Major Employers:** SMEs account for over 84% of employment in Nigeria and contribute significantly to the national GDP, making their success vital for widespread poverty reduction.

ii. **Economic Growth:** SMEs are a vital pillar of the Nigerian economy, contributing about 48% of the national GDP and employing 84% of the workforce. Their development is strongly linked to poverty alleviation through significant

Current Journal of Engineering and Science Research
Volume 3, Issue 1, pp 7-15, January 2026
ISSN (online): 3049-1738
DOI: https://doi.org/10.47001/CJESR/2026.301002
Available Online at https://www.cjesr.com

employment creation.

iii. **Utilization of Local Resources:** SMEs often use local resources and provide important training grounds for the workforce, contributing to a more self-reliant economy.
iv. **Bridging the Gap:** Integrating digital technology into SME operations can improve efficiency, increase their market reach, and allow them to compete more effectively, further bolstering their role in economic development.
v. **Fostering Entrepreneurship:** They provide an environment for developing indigenous skills, innovation, and self-reliance, which are essential for long-term economic development.
vi. **Rural Development:** Many SMEs operate in rural and semi-urban areas, stimulating economic activity and helping to mitigate rural-urban migration.

V. FINDINGS: HOW DIGITAL PATHWAYS OPERATE IN NIGERIA

ICT diffusion (mobile telephony, internet, digital payments) has accelerated in Nigeria over the last two decades. Previous study reviewed how ICT has changed Nigeria markets operation, lowering transaction costs, enabling access to information, and expanding financial services. Concurrently, ICT can be harnessed to boost SME productivity, thereby contributing to poverty reduction in the country. The following outline how ICT operate based on prior research and program evaluations.

i. **Market access and growth of digital markets:** Mobile phone penetration and the growth of social media and e-commerce platforms have enabled micro and small businesses to reach customers beyond their immediate locales. Entrepreneurs increasingly rely on platforms and social channels for marketing and sales, reducing reliance on costly intermediaries. Studies show that digital market access can significantly boost sales and its effect is larger for trade and services sectors than for small-scale manufacturing that requires local distribution.
ii. **Digital financial services and financial inclusion:** Digital financial services (DFS) have been among the most effective ICT enabled interventions for broad-based inclusion. Mobile payments, digital wallets, and agency banking have expanded access to basic financial services for previously underserved populations, enabling savings, cashless transactions, and digital record-keeping that support small-business growth. SMEs with access to mobile money and digital credit show faster turnover and better ability to smooth cash flow, contributing to higher employment.
iii. **Productivity gains and operational improvements:** SMEs that adopt basic digital tools mobile accounting apps, inventory trackers, and digital marketing report improved efficiency and lower transaction costs. Where effective, these tools translate into higher gross margins and time savings that can be reinvested. However, the adoption rate for such business applications is still constrained by awareness, perceived cost, and skill gaps.
iv. **Skills and human capital gains:** Digital skills programs and remote-work opportunities create new income pathways for youth. Evidence from program evaluations indicates that focused digital skills training paired with job-placement or incubation support that yields more durable employment outcomes than training alone. ICT alone produces modest benefits. When combined with business training, mentorship, and targeted microfinance, gains in profitability and household welfare are substantially higher. The World Bank emphasizes combining digital learning with pedagogic quality measures to maximize impact (World Bank, 2022).
v. **Macroeconomic context: recognition of digital sectors:** Recent national statistical updates that broaden the coverage of digital services and informal digital activity have increased the measured size of Nigeria's economy, underscoring the rising significance of digital sectors. Households connected to ICT-enabled SME employment or digital income streams exhibit higher consumption and some diversification of income sources, with measurable reductions in vulnerability indices.

VI. CHALLENGES OF ICT-SMES IMPLEMENTATIONS IN NIGERIA

Despite the potential, several challenges hinder the full leveraging of ICT by Nigerian SMEs:

i. **Inadequate Infrastructure:** Unstable power supply and limited internet connectivity remain major operational barriers.
ii. **Policy and Infrastructure:** While government policies exist (e.g., National Digital Economy Policy and Strategy), effective implementation, targeted investments in digital infrastructure, and policies that stabilize the economic environment (like controlling inflation and interest rates) are necessary for digital innovation to have a more significant impact on poverty reduction.
iii. **Lack of Access to Finance:** Initial investment costs for

Current Journal of Engineering and Science Research
Volume 3, Issue 1, pp 7-15, January 2026
ISSN (online): 3049-1738
DOI: https://doi.org/10.47001/CJESR/2026.301002
Available Online at https://www.cjesr.com

ICT adoption and lack of access to formal credit sources pose a significant burden for many SMEs. A lack of necessary digital skills and knowledge hinders effective use of technology, even where access is available.

iv. **Digital Divide and Literacy:** A significant gap exists between those with access to ICTs and those without, particularly affecting low-income and rural populations due to poor infrastructure, limited access to technology (computers, smartphones, internet), and high transaction costs.

v. **Cybersecurity Threats:** The increased use of digital platforms introduces new vulnerabilities to cyber threats, which requires resources for security measures.

To maximize the potential of ICT and SMEs for poverty eradication, policymakers and stakeholders must collaborate to invest in digital infrastructure, promote comprehensive digital literacy programs, create an enabling regulatory environment, and provide targeted financial support and incentives for technology adoption.

VII. POLICY IMPLICATIONS AND RECOMMENDED INTERVENTIONS

This paper provided the policy recommendations focused on infrastructure investment, capacity building, regulatory reform, digital finance expansion, and targeted support programs to scale ICT-enabled SME interventions for inclusive poverty reduction. To maximize digital pathways out of poverty, a multi-pronged approach is required. The following are the targeted and evidence-based recommendations:

i. **Invest in resilient digital infrastructure:** Expand affordable broadband and last-mile connectivity in underserved regions through public–private partnerships and targeted subsidies for community networks. Stabilize electricity access for SMEs via grid improvements and support for distributed energy solutions (e.g., solar-plus-storage for micro-enterprises).

ii. **Build market-relevant digital skills and entrepreneurship support:** Design modular digital-skills curricula for microentrepreneurs (e.g., digital marketing, bookkeeping, platform selling) and integrate these into formal TVET and youth programs. Pair training with incubation, mentorship, and placement services to bridge the skills jobs with an approach recommended by global organizations working on digital pathways for education (World Bank, 2022).

iii. **Improve SME access to digital-ready finance:** Encourage financial institutions and fin-techs to create tailored products (credit scoring using digital transaction histories, invoice financing) that recognize the realities of small firms. Support credit guarantee schemes and blended finance to de-risk SME lending for digital investment.

iv. **Regulatory modernization and data governance:** Develop proportionate regulations that balance innovation with consumer protection, particularly for fin-tech, data privacy, and platform governance. Promote interoperability, open APIs, and standards that reduce vendor lock-in and encourage competition. Hence, encourage partnerships between government, e-commerce platforms, and local SME associations to create low-cost listing and logistics solutions (e.g., aggregator models for rural producers).

v. **Strengthen measurement and evidence systems:** Continue updating national accounts and enterprise surveys to capture digital services and informal digital work more accurately. Establish robust M&E frameworks that track impact on incomes and poverty, using digital transaction data (with consent) to complement surveys.

VIII. CONCLUSION

ICT and SMEs together present a scalable pathway to reduce poverty in Nigeria by expanding financial inclusion, improving firm productivity, opening markets, and building human capital. Reviewed papers suggest meaningful potential such as digital tools, increases productivity and the market reach; digital finance expands inclusion; and digital skills broaden employability. However, the full promise of these pathways will only be realized if policy addresses core constraints such as infrastructure, affordability, skills, finance, and governance. Strengthening measurement systems and integrating digital strategies with SME, hence improve poverty-reduction. The greatest gains occur when ICT interventions are tailored to local contexts, bundled with capacity building, and accompanied by measures that close gender and geographic digital divides. Policymakers and development partners should prioritize integrated, evidence-driven interventions that expand connectivity, improve financial inclusion, and build the managerial and digital capabilities of SMEs as approach that can transform employment, income and resilience for millions of Nigerian households. With coordinated public–private action, Nigeria can amplify the poverty-eradication effects of the digital economy and enable more inclusive growth.

Current Journal of Engineering and Science Research
Volume 3, Issue 1, pp 7-15, January 2026
ISSN (online): 3049-1738
DOI: https://doi.org/10.47001/CJESR/2026.301002
Available Online at https://www.cjesr.com

REFERENCES

[1] Adewale, A. (2022). E-commerce and employment growth in Nigeria: A sectoral analysis. *African Journal of Business and Economic Research*, 18(4), 72-90.

[2] Ayandibu, A. O., & Houghton, J. (2017). The impact of information technology on the management of small and medium enterprises in Nigeria. *IIARD International Journal of Sociology and Management Studies*.

[3] Bamigboye, O. A., Olatunji, I. G., Salimon, A. I., & Adenle, O. E. (2024). Impact of Information and Communication Technology on Effective Financial Management: Experience from Nigerian Small and Medium Enterprises. *LAUTECH Journal of Accounting, Finance and Contemporary Management Research.*

[4] Charles, O., Obumneke, B.M. & Ojo , T. Y. (2017). Small and Medium Scale Enterprises performance and growth of Nigeria economy (2000-2015). *Journal of Entrepreneurship Development*, 4(2), 67-75

[5] Cobos, E. V., & Malásquez, E. A. (2023). Growth and Transformative Effects of ICT Adoption. *World Bank Group, Digital Development Global Practice, Policy Research Working Paper No:* 10352,

[6] Diyaolu, A. M., & Oso, O. O. (2023). Conceptual Model for Assessment of the Use of ICT among Small and Medium Scale Enterprises (SMEs) in Oyo State, Nigeria. *International Journal of Scientific and Management Research*, 6(6).

[7] Eze, S. C., Chinedu-Eze, V. C., & Bello, A. O. (2019). Determinants of dynamic process of emerging ICT adoption in SMEs–actor network theory perspective. *Journal of Science and Technology Policy Management*.

[8] Gaviria-Marin, M., Matute-Vallejo, J., & Baier-Fuentes, H. (2021). The effect of ICT and higher-order capabilities on the performance of Ibero-American SMEs. *Computational and Mathematical Organization Theory*, 27(4), 414-450.

[9] Ibitomi, T., Eke, T., Hammed, A., & Isiaka, A. (2022). Government entrepreneurship programmes and unemployment in Osun State, Nigeria. Journal of International Business Management (JIBM), London, UK. *Research Publishing Academy (RPA),* 5 (1), 1-12, https://rpajournals.com/jibm

[10] Ibitomi, T., Dada, D. A., Ayedogbon, J. O., Micah, E. E., & Aderotimi, B. (2024). Small and medium scale enterprises and economic growth in Nigeria. *Journal of Social Sciences and Management Studies*, 3(2), 26-45.

[11] Mateko, F. M. (2024). Information and communication technology and poverty alleviation in Nigeria. *African Journal of Science, Technology, Innovation and Development*, 16(3), 439-450.

[12] Mbuyisa, B., & Leonard, A. (2017). The role of ICT use in SMEs towards poverty reduction: A systematic literature review. *Journal of International Development*, 29(2), 159-197.

[13] Mbuyisa, B. B., & Leonard, A. (2017). ICT Usage in Small and Medium Enterprises: The Impact on Poverty Reduction. *International Journal of Research Studies in Agricultural Sciences (IJRSAS)*, 4(12), 1-9.

[14] Nwabuatu, E. N. (2024). The Role of Digital Technology in Improving Small and Medium Enterprises (SMES) Growth (A Theoretical Approach), *World Journal of Entrepreneurial Development Studies (WJEDS)*, Vol 9. No. 7 pp. 21 – 29. www.iiardjournals.org

[15] Obitolu, C., Ibekilo, B., Ifebi, O. & Akamobi, O. (2021). Climate Change And Agricultural Productivity Nexus In Nigeria. *ANSU Journal of Arts and Social Sciences (ANSUJASS)*, 8 (1), 57-74

[16] Oduntan, E. B., & Isere, V. O. M. (2022). Digital technologies for business sustainability in Nigeria: an empirical analysis. *African Journal of Management and Business Research*, 5(1), 12-22.

[17] Ofoezie, K. E. (2024); The Impact of ICT on performance of SMEs in the Emerging Market Economies: A System GMM Approach, *JABU International Journal of Social and Management Sciences*, vol. 9, no: 1 pp. 53- 61

[18] Ogunleye, S., & Osemeke, M. (2020). Digital innovation and employment generation in Nigeria: A case of the gig economy. *Journal of African Employment Studies*, 7(2), 75- 92.

[19] Okundaye, K., Fan, S. K., & Dwyer, R. J. (2019). Impact of information and communication technology in Nigerian small-to medium-sized enterprises. *Journal of Economics, Finance and Administrative Science*, 24(47), 29-46.

[20] Oluremi, D. O., & Maku, O. A. (2024). Small and medium scale enterprises and Nigeria economic growth. *International Journal of Small Business and Entrepreneurship Research*, 12(5), 71-89.

[21] Onileowo, T. T., & Fasiku, A. I. (2021). The concept and application of ICT on SMEs performance in Nigeria: limitation and challenges. *E-Academia Journal*, 10(1), 1-8.

[22] Ozili, P. K. (2023). Financial inclusion and poverty reduction in Nigeria: the role of information and

Current Journal of Engineering and Science Research
Volume 3, Issue 1, pp 7-15, January 2026
ISSN (online): 3049-1738
DOI: https://doi.org/10.47001/CJESR/2026.301002
Available Online at https://www.cjesr.com

communication technology (ICT). *Journal of Law and Sustainable Development*, 11(8), 1-18.

[23] Tarutė, A., & Gatautis, R. (2014). ICT impact on SMEs performance, Contemporary Issues in Business, Management and Education, *Procedia – Social and Behavioral Sciences* 110 (2014), pp. 1218 – 1225

[24] Unachukwu, I.B., Maduka, CR Oguanobi, C.R. & Akamobi, O.G. (2025). The contribution of agricultural exports to Nigeria's economic growth–A Time Series Analysis (1986–2022). *International Journal of Finance, Accounting and Management Studies*, 1(4), 158-174.

[25] Ugochukwu, E., Ijeoma, U., & Amechi, N. (2025). Digital Innovation, Employment and Poverty Reduction in Nigeria. *Journal of Policy and Development Studies*, 18(2), 138-157.

[26] World Bank (2022). *A Better Future for All Nigerians (Nigeria country report) retrieved on 6th November*, 2025. https://documents1.worldbank.org/curated/en/099730003152232753/pdf/P17630107476630fa09c990da780535511c.pdf?utm_source=chatgpt.com

[27] World Bank. (2022). *Digital financial inclusion and poverty reduction in Nigeria report*.

[28] Yekini, N. A., Rufai, M. M., Adetoba, B. T., Akinwole, A. K., & Ojo, O. (2012). ICT "Tools" for Poverty Eradication and Economic Growth in Nigeria. *Greener Journal of Educational Research*, 2(1), pp.13-19.

[29] Yuwono, T., Suroso, A., & Novandari, W. (2024). Information and communication technology in SMEs: a systematic literature review. *Journal of Innovation and Entrepreneurship*, 13(1), 31.

[30] Zamani, S. Z., Mbuyisa, B., & Leonard, A. (2017). The role of ICT use in SMEs towards poverty reduction: a systematic literature review. *International Journal of Entrepreneurship and Small Business*.

Citation of this Article:

Fasiku Ayodeji Ireti, Onileowo Temitope Teniola, & Sarat Kehinde Akinade. (2026). Digital Pathways Out of Poverty: The Role of ICT and SMEs in Poverty Eradication in Nigeria. *Current Journal of Engineering and Science Research*. 3(1), 7-15. Article DOI: https://doi.org/10.47001/CJESR/2026.301002

***** End of the Article *****