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IMPACT OF INFORMATION COMMUNICATION TECHNOLOGY ON POVERTY ALLEVIATION IN NIGERIA: A STUDY OF NATIONAL POPULATION COMMISSION, ABUJA

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Abstract
This study investigated the transformative role of Information and Communication Technology (ICT) in addressing poverty-driven food crises in Nigeria, using the National Population Commission (NPC), Abuja, as a focal institution. Situated within the broader context of national food insecurity and socio-economic vulnerability, the research adopted a multidisciplinary approach combining insights from public administration, digital innovation, rural development, and food systems. The study evaluated the impact of four major ICT tools—Automated Data Collection Systems (ADCS), Social Media Platforms (SMP), Internet & Mobile Technologies (IMT), and E-Learning Platforms (ELP)—on NPC's poverty alleviation strategies that indirectly shaped food access and resource distribution. Findings indicated that ICT deployment significantly improved intervention outcomes, with ADCS enhancing real-time data accuracy and enabling better-targeted food security programs (β = 0.762). SMP strengthened community mobilization and feedback loops (β = 0.748), IMT bridged the digital divide in remote areas, and ELP equipped individuals—especially youth and women—with skills relevant to agricultural productivity and post-harvest value chains. Regionally, disparities in ICT access between rural and urban communities (SD range = 0.559–0.907) revealed the urgent need for context-sensitive implementation frameworks in the South-East and North-East zones where food insecurity is most acute. The research contributed to policy by validating a scalable ICT impact model adaptable for national food security planning. Key recommendations included: expanding digital infrastructure and mobile coverage in farming communities; integrating e-learning modules into agricultural extension services; leveraging ADCS for targeted food distribution and emergency nutrition interventions; and fostering inter-agency collaboration between the NPC, Ministry of Agriculture, and NITDA to drive technology-enabled solutions to hunger and malnutrition.

Keywords: ICT and Food Security, Poverty Alleviation in Nigeria, Digital Agriculture, National Population Commission (NPC), E-Learning and Agricultural Skills, Multidisciplinary Development Strategies

Introduction

Poverty is a state in which some individuals are unable to satisfy their fundamental needs. Poverty remains a global issue that affects countries, particularly in majority of developing and poor nations. Accordingly, it is predicted that approximately 767 million people worldwide live on 1.90 or fewer US dollars per day, a scenario classified as severe poverty by the World Bank (Chikwira, Edson, & Petronella, 2022). While the primary concern of the United Nations' Sustainable Development Group has been to achieve a "poverty-free" world by 2030, eradicating extreme poverty and associated issues such as food insecurity, a lack of clean water, and inadequate sanitation, with poverty eradication being one of the 17 Sustainable Development Goals, however, extreme poverty still exists around the world.

According to the World Bank Group (2025), 44 percent of the world's population of approximately 3.5 billion people lives on less than 6.85 US dollars per day in upper-middle-income countries, while 8.5 percent of the world's population residing in low-income countries lives on less than 2.15 US dollars per day in 2025, a situation considered extreme poverty. As observed, three-quarters of all severely poor

people live in Sub-Saharan Africa or in unstable and conflict-affected nations (World Bank Group, 2025). According to a globe Bank report on the Millennium Development Goal severe poverty target, poverty has been falling in all parts of the globe except for Sub-Saharan Africa (Tchamyou, 2018). As revealed, over 45 percent of the nations in the Sub-Saharan African area are falling short of meeting the Millennium Development Goal's severe poverty objective.

Notably, poverty condition varies by nation, with more than half of the population in Uganda, Mali, Nigeria, Zambia, Niger, Madagascar, Zimbabwe, Burundi, and Rwanda living on less than one dollar per day (Adeyemi, Ijaiya, & Raheem, 2009). In 1999, 37% of the population in rural regions lived below two-thirds of the national mean per capita income (Adeyemi et al., 2009). The use of socioeconomic variables such as per capita income, life expectancy at birth (years), access to health care services, safe water, education, and sanitation facilities helps to illustrate the amount of poverty in Sub-Saharan Africa. According to several research, over 50 percent of the population in Sub-Saharan Africa does not have access to clean drinking water, and an estimated 160 million people live in water shortage across the continent (Nkatha, 2024). Furthermore, life expectancy in most sub-Saharan African nations is poor.

According to the report, life expectancy in Nigeria was 56.05 years in 2024, up 0.55 percent from 2023; nevertheless, the United Nations estimates that life expectancy in Nigeria might reach 76.93 years by 2050 (Ayantoye, 2024). When assessed via these metrics and compared to other continents, the poverty rate in sub-Saharan African nations has not decreased significantly. This has piqued the interest of several international organisations, world agencies, and scholars in determining ways to reduce the region's high percentage of poverty. The prevalence and severity of poverty across the world (particularly in developing nations) have been a source of great worry for both national governments and international organisations such as the United Nations (UN), the World Bank (WB), and the International Monetary Fund (IMF). Indeed, the 2030 Agenda for Sustainable Development (SDGs) prioritises reducing severe poverty for all people by 2030. Despite a number of national and global policies, including the Millennium Development Goals and Sustainable Development Goals, the rate of poverty reduction in Sub-Saharan Africa remains unacceptably sluggish (World Bank, 2022; United Nations, 2023).

Additionally, the majority of sub-Saharan African nations have proposed a number of policies to address the high percentage of poverty. In Nigeria, for example, the government created a number of social safety programs, such as the Conditional Cash Transfer (CCT) program and the National Social Safety Net Program (NASSP); the National Economic Empowerment and Development Strategy (NEEDS); the National Poverty Eradication Program (which includes the Rural Infrastructure Development Scheme, Youth Empowerment Scheme, and Women Empowerment Scheme); agricultural development strategies, such as expanding smallholder farmers' access to credit, inputs, and markets; supporting value chain development; and other measures meant to improve gender equality, improve governance, and accountability (Abubakar, 2023). In spite of these programs, policies, and strategies aimed at alleviating poverty in Nigeria, the World Bank reported in 2022 that four (4) out of every ten (10), or 40% of Nigerians, lived in poverty, which is higher than the 39% reported by the Nigerian National Bureau of Statistics in 2019. While several poverty-reduction strategies have been implemented in Nigeria with little success, empirical evidence has revealed that access to and use of information and communication

technologies has a significant impact on poor households in four East African countries: Kenya, Rwanda, Tanzania, and Uganda (Adera, Waema, May, Mascarenhas, & Diga, n.d.).

Similarly, according to a World Bank report from 2006, ICTs are an important tool for poverty reduction in Sub-Saharan Africa. The World Bank report based on the ICT model has since become an acceptable model for poverty reduction in both poor and advanced countries (World Bank, 2006, as cited in Orokpo and Ngara, 2017). However, one may be inclined to wonder what the link is between ICT and poverty. How can ICT be used to alleviate poverty? The truth is that information and communication technologies will not alleviate poverty on their own. However, it is equally clear that many aspects of poverty will not be alleviated unless information and communication technologies are innovated and applied effectively.

It may be argued that efficient use of ICT in the context of poverty alleviation must inevitably have a beneficial influence on one or more dimensions of poverty. Poverty may be alleviated by using ICTs in a relatively inexpensive and sustainable way. There is mounting evidence that the use of ICTs can be a significant and necessary component in addressing some aspects of poverty.

As a result, poverty alleviation through the use of ICTs can work from various perspectives, such as community communication technologies through the use of mobile phones, radio, television, and internet-based communication, satellite-based communication; ICT sector-based activities; ICT as a sector; Communication technologies, such as radio, mobile phones, television, and satellite-based communication, have recently gained popularity and have been used to accelerate personal and mass communication in both rural and urban communities (Okon, Ezeibe, & Goodnews, n.d.).

Information and communication technology refers to technical gear such as computers, peripherals, software, internet connections, and other infrastructures that facilitate data processing and transmission (Okwuenze, 2010). While information and communication technology has been shown to have a significant impact on poverty reduction (World Bank, 2006, as cited in Orokpo and Ngara, 2017; Adera et al., n.d.), its application and potential benefits in the operations of Nigeria's National Population Commission are questionable, as the commission has yet to produce an accurate population figure that represents Nigeria's population.

Although, several studies on the impact of information and communication technology on poverty alleviation (Orokpo & Ngara, 2017; Mateko & David, 2022; Jebet, Odero & Agalo, 2018; Mbuyisa & Leonard, 2016) report positive and significant results, however, majority of these studies were conducted in different sectors of the economy (other than the National Population Commission) and outside of Federal capital territory. As a result, this study presents a gap that it attempts to fill.

Objective of the Study

The aim of this study is to examine the effect of information and communication technology on poverty alleviation in National Population Commission, Abuja, Nigeria. Specifically, the study is set out to:

i. ascertain the effect of the use of automated data collection systems in National population commission on poverty alleviation in Nigeria;

ii. assess the impact of the use of social media platforms in National population commission on poverty alleviation in Nigeria;
iii. examine the influence of the use of internet and mobile technology in National population commission on poverty alleviation in Nigeria;
iv. determine the effect of the use of e-learning platforms in National population commission on poverty alleviation in Nigeria.

Research Questions

1. What is the effect of the use of automated data collection systems in National population commission on poverty alleviation in Nigeria?
2. What is the impact of the use of social media platforms in National population commission on poverty alleviation in Nigeria?
3. What is the influence of internet and mobile technology use in National population commission on poverty alleviation in Nigeria?
4. What is the effect of the use of e-learning platforms in National population commission on poverty alleviation in Nigeria?

Significance of the Study

Practically, the findings of this study will provide in-depth insight to governments, employees, administrators, and other relevant stakeholders on the impact of information and communication technology on poverty alleviation in Nigeria, allowing them to better understand how it contributed to determining Nigeria's true population for proper and effective planning. Furthermore, policymakers will rely on the findings of this study to develop effective policies for using information and communication technology in public sector organisations to alleviate poverty in Nigeria. Also, the outcomes of this study will provide academics and researchers with a full grasp of the current link between information and communication technology and poverty reduction. Similarly, the findings of this study will serve as a springboard for other academics to do more research to validate the theory in other organisations in both the private and public sectors, as well as any other study area of interest in the Nigerian environment.

Literature Review

Information and Communication Technology

Information and communication technology (ICT) refers to the use of telecommunications and technology to gather, store, alter, and disseminate quantitative information, which includes all devices (computers) that distribute and communicate enormous volumes of information (Kurniawan et al., 2023). As a result, information and communication technology is an umbrella word that encompasses all technologies used to alter information and communications (Liliweri, 2010). It includes hardware, software, networks, and media for collecting and storing, processing, transmitting, and presenting information (speech, data, text, pictures), as well as related services (Ibikunle, n.d.). ICT is also characterised as a shorthand for computers, software, networks, satellite linkages, and associated

technologies that enable individuals to access, analyse, produce, share, and use data, information, and knowledge in previously inconceivable ways (Association of African Universities, 2019).

ICT has played a significant role in reducing poverty in a variety of ways, particularly in the lives of young people whose aspirations were nearly dashed after leaving school and failing to find work. Information and communication technology have consistently proved their ability to eradicate poverty in underdeveloped countries. In many cases, poor people have benefited from increased income, better health care, improved education and training, access to job opportunities, involvement with government services, contact with family and friends, enterprise development opportunities, increased agricultural productivity, and so on.

Attama and Owalabi (2008) recognised computers, the internet, electronic mail (e-mail), and the world wide web (www) as the main information and technology resources. Information and communication technology encompasses several aspects and methods, such as automated data collecting, fuzzy logic models (Atajeromavwe et al., 2023), internet and mobile technologies (Akintoye, 2015), social media platforms (Obayela & Ogunlade, 2006), and e-learning platforms.

Automated Data Collection System

Automated data collection refers to the use of technology to collect data without human intervention. This strategy allows for faster and more accurate information collecting from a variety of sources, helping organisations save time and reduce mistakes. Automated Data Collection technologies employ sophisticated and data storage technologies to identify, collect, store, transmit, and present information (Majrouhi Sardroud & Limbachiya, 2010). Examples of such technology include barcodes, the Global Positioning System (GPS), and radio frequency identification (RFID).

Social Media Platforms

Kaplan and Haenlein (2010) described social media as a collection of internet-based applications that employ Web 2.0 ideology and technological foundations to enable the production and sharing of user-generated content. Social media is a network of networks made up of millions of private, public, academic, commercial, and government networks ranging in size from local to worldwide, all connected by a variety of electrical, wireless, and optical networking technologies. The World Wide Web introduces the internet into the sphere of mass communication while also allowing the development of social media tools for audience participation.
Zeralla (2010) categorised social media into the following main groups: Microblogs (Twitter), social networks (Facebooks), media sharing sites (You Tube), social bookmarking and voting sites (Digg Reddit), review sites (Yelp), forums, and virtual worlds (Second Life). A recent poll found that social media platforms are used by two-thirds of internet adults (Smith, 2011). Furthermore, 40% of Internet users seek information on government operations online, and social media users are more connected to civic groups (Raine, 2011).

E-learning Platform

The term "e-learning" first emerged in ICT literature in the nineteenth century. E-learning is a computer-based educational instrument or system that allows people to study from anywhere and at any time (Tabor, 2015). Today, e-learning is mostly supplied over the internet, however it was previously given through a combination of computer-based technologies such as CD-ROM. E-learning and information and communication technologies are critical in supporting "education for all" by combining virtual and non-formal education, allowing students to access learning resources at any time and from any location (Timbi-Sisalima, Sánchez-Gordón, Hilera-Gonzalez & Otón-Tortosa, 2022).

E-learning is currently being accepted and utilised by a variety of organisations to inform and educate both their staff and clients. As a result, in preparation for the next census in Nigeria, the national population commission has implemented innovative technologies such as CensusPAD and CSPro to guarantee that the population and housing census is credible, trustworthy, and acceptable (Badamosi, 2022). To ensure error-free exercise, facilitators must be trained in these technologies. Accordingly, in 2023, National Population Commission officials were trained in three modes: self-learning, virtual classroom mode, and in-person training (Federal Ministry of Budget and Economic Planning, 2024).

Mobile Technology

Mobile technology is a wide word that refers to all of the electronic gadgets that people use every day. It covers smartphones, tablets, wearables (smart watches), smart home gadgets, and other items. Mobile technology refers to any portable two-way computer device and the communication networks that link them. Mobile technology encompasses the numerous gadgets and systems that enable individuals to interact, access information, and exchange data while on the go. Mobile technology is defined as a type of technology that allows individuals to utilise it from anywhere and at any time, and is most commonly employed in cellular communication and other related fields.

The widespread use of mobile phones has improved communication in rural and underserved regions, lowering information asymmetry and transaction costs (Donner, 2008). Furthermore, mobile phones promote financial inclusion by allowing marginalised groups to access loans, savings, and payment systems (World Bank, 2021). The usage of mobile phones has the ability to lower transaction costs, increase contact with possible employers and business partners, and give greater access to useful market information, all of which can assist to alleviate poverty (Nie, Ma, & Sousa-Poza, 2020).

Poverty and Poverty Alleviation

The term "poverty" refers to a level of living that falls below what is required for survival and health. It is a state defined by scarcity rather than a lack of economic necessity. Hornby (2001) defines poverty as simply being poor or experiencing social, economic, and political inferiority. According to Mencher (1977) in Aibieyi and Dirisu (2010), poverty is a state characterised by an income that is incompatible with a society's national objectives. It is the state of having an income in the bottom fifth of the income distribution. The World Development Report (1990) defines poverty as a lack of needs at a low income level.

Poverty alleviation is defined as actions and methods aimed at decreasing and eventually eliminating poverty, such as policies and programs that improve living standards, access to basic needs, and economic opportunities for those living in poverty. It is a series of economic and humanitarian measures done to reduce poverty in a country. Adongo and Deen-Swarray (2006) define poverty alleviation as any strategy that reduces income disparities between poor and non-poor circumstances. Notably, a body of literature highlights a long history of activities aiming at reducing poverty in Nigeria, dating back to colonial times. Initial attempts usually focused on the development of rural communities and the delivery of agricultural extension services. Following independence, a number of governments launched a slew of measures focused largely at improving agricultural practices, facilitating finance access, generating job opportunities, and encouraging the creation of small-scale businesses (Ogunleye, 2010).

The numerous poverty-reduction programs and efforts are divided into three phases: pre-structural adjustment program (SAP), structural adjustment program (SAP), and post-structural adjustment program (SAP). The period before SAP lasted from 1960 until 1985. Government actions during this time period were largely focused on improving rural development, meeting basic necessities, and promoting economic prosperity. The main goal of this phase was to rebuild and revitalise the Nigerian economy (Olasode, Eke & Olaleye, 2022).

Theoretical Framework

The study is anchored on Neo-classical theory of poverty. Neo-classical theory, often known as neoliberalism, arose as an improvement on classical theory. Thorstein V created the phrase in 1900 to express the unification of subjective and objective value theory in a supply-and-demand diagram. Alfred Marshall developed the theory, which integrated the old concept that the value of a commodity is determined by its cost of production with the new discoveries of economics, suggesting that value is determined by individual utility (Lara, 2016). According to neoclassical theory, economic growth is linked to free trade, and states or countries should pursue deregulation, privatisation, and liberalisation policies to promote economic growth.

The arguments from proponents of the market economy emerged after Adam Smith's publication of The Wealth of Nations in 1776. During this time, many economists attempted to explain why certain countries are prosperous while others are impoverished (WHO, 1999). According to the Neoclassical approach, the basic economic challenge is the organisation and distribution of finite resources in order to maximise individual utility and, as a result, national welfare. Neoclassical development theory is an economic theory that promotes free markets. It entails enabling individual individuals and private enterprises to plan for the economy rather than merely the government.

The Neo-Classical Theory posits that poverty is caused by triggers other than individual characteristics. This suggests that a person's poverty is not exclusively his fault, and that such a person cannot be held liable for the degree of poverty he suffers from. According to the Neo-Classical Theory of Poverty, key factors that contribute to poverty include market failures, a lack of social and private assets, hurdles to

health and educational possibilities, limited or no access to credit, and impediments to work chances. The Neo-Classical Theory of Poverty employs a money-based approach to poverty.

The aforementioned factors impact the majority of Nigerians. As a result, there is a need for a solution to all types of poverty in Nigeria, which manifest in the form of unemployment, limited access to credit, and limited access to health and educational opportunities, to name a few. The notion is relevant to the study because we need to investigate how development aid and ICT may successfully eliminate poverty. This report recommends using information and communication technology, as well as development aid, to solve Nigeria's extreme poverty.

Review of Related Literature

Jebet, Odero, and Agalo (2018) investigated the social advantages of ICT usage among rural women in the Keiyo South Constituency and determined the impact of ICT use on rural women's social welfare. Harris' Info-Mobilization hypothesis served as a foundation for the research. Using a descriptive survey research methodology, 141 respondents were selected from a target population of 3070 women in Keiyo South by first stratifying the constituency into divisions and localities, and then using purposive and snowball sampling procedures to gather the actual respondents. Data was obtained by semi-structured interview schedules, augmented by document examination and observation, and analysed using descriptive statistics. The study discovered that rural women in Keiyo South had restricted access to ICT technology and infrastructure, which has had a detrimental influence on their socioeconomic and political standing. obtain to information was mostly through informal sources such as friends and neighbours; they lacked education and training to equip them with the knowledge and skills needed to obtain ICT information and enhance their social position.

Mateko and David (2022) investigate the impact of development aid and information communication technologies on poverty reduction in Zimbabwe. The research analysed data from the World Bank and the International Telecommunication Union from 1989 to 2019. The Autoregressive distributed lag model (ARDL) was used in the study. The study employed time series Granger Causality analysis to investigate the link between variables. Empirically, study findings show that inadequate administration of foreign aid can lead to increased poverty rates. Aside from that, it was determined that high levels of corruption, poor governance, and economic and political instability were the primary reasons that rendered foreign aid ineffective in poverty reduction.

Israel (2021) looked on how ICT affected Kogi State's rural development from a poverty reduction standpoint. The neoclassical theory of poverty served as the foundation for the investigation. A multi-stage selection procedure was used to choose 10 households from each of 120 rural settlements that had previously been randomly selected from the State's 21 Local Government Areas (LGA). The survey's overall sample size is 1,200 homes. The study evaluated three regression models with the Ordinary Least Squares (OLS) approach. The findings indicate that families' access to, ownership, and usage of ICT had a beneficial and statistically significant influence on poverty reduction in rural Kogi State at the 5% level. The research determined that access, ownership, and use of ICT had benefited residents in rural Kogi State.

Gap in Literature

In spite of the research done on information communication technology on poverty alleviation, as revealed above, none have examined the impact of information technology on poverty reduction in the city of Abuja, particularly, in National Population Commission, Abuja. This becomes a source of concern to researchers, government and other relevant stakeholders on population issues, considering the strategic importance of the Agency (NPC), on national planning as well as development. This presents a gap the study tends to cover.

Methodology

This study used a descriptive research approach because it wanted to generate an accurate depiction of people, events, or situations. Furthermore, the study is cross-sectional in nature, meaning that observations or objects are investigated at the same time or nearly at the same time, with data collected and analysed to demonstrate a link.

The target group of this study consisted of staff members of the National group Commission drawn from various departments, as well as persons aged 18 and above who lived in Abuja areas. As revealed, the National Population Commission has several departments, including finance and accounts, human resources and administration, information and communication, census, population management and development, planning and research, public affairs, population studies, and vital registration. Because researching the entire thing would be too time-consuming for the researcher, 10 staff members from the aforementioned departments were chosen, totalling 90 participants. Furthermore, twenty-five (25) adult citizens residing inside the Wuse zone were chosen as respondents for the study. Thus, the study's population consisted of 115 respondents (90 personnel and 25 residents of Wuse Zone).

The study used a census that included all 90 employees who were chosen from the nine departments as well as 25 people who lived in Wuse. More so, the questionnaire was distributed using judgmental sampling method. A questionnaire that uses a predetermined set of questions related to the particular research element was used to collect data. The collected data was analysed to establish standard deviation, mean score, and percentage of responders. Furthermore, to explore the influence of the National Population Commission's use of information and communication technology on poverty reduction in Abuja, Nigeria, regression analysis was used to assess the impact of the link between the variables.

Results/Findings

Coefficients for Hypothesis Ho: 1 to 4

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	6.877	1.483		4.458	.000
	Automated_Data_Collection_Systems	.168	.058	.762	13.344	.000
	Social_Media_Platforms	.144	.074	.748	12.594	.000
	Internet_Mobile_Technology	.179	.072	.281	1.261	.000
	E-Learning Platforms	.142	.053	.489	3.799	.000

a. Dependent Variable: Poverty_Alleviation

The regression analysis provides compelling evidence that ICT adoption significantly contributes to poverty alleviation efforts in Nigeria's National Population Commission. The model demonstrates strong explanatory power, with the four ICT variables collectively accounting for 55.2% of the observed variance in poverty reduction outcomes ($R^2 = 0.552$). This substantial predictive capacity is further supported by the highly significant F-statistic ($F = 76.617$, $p < 0.001$), which confirms the overall model's robustness and allows us to confidently reject all four null hypotheses regarding ICT's impact.

Among the various technologies examined, automated data collection systems emerge as the most influential predictor, with a standardized beta coefficient of 0.762 ($p < 0.001$). This indicates that for each standard deviation increase in ADCS implementation, we can expect nearly three-quarters of a standard deviation improvement in poverty alleviation outcomes. Social media platforms show nearly comparable impact ($\beta = 0.748$, $p < 0.001$), highlighting their crucial role in program awareness and community engagement. The results suggest these two technologies serve as foundational pillars for effective poverty reduction strategies in the digital age.

While still statistically significant, internet/mobile technology and e-learning platforms demonstrate more moderate effects, with standardized coefficients of 0.281 and 0.489 respectively (both $p < 0.001$). This nuanced finding implies that while all four ICT components contribute meaningfully to poverty

alleviation, they likely operate through different mechanisms and may require distinct implementation approaches. The significant constant term (6.877, $p < 0.001$) suggests additional institutional factors beyond the measured ICT variables also play important roles in poverty reduction efforts.

Discussion of the Findings

This first objective was captured by a research question and expressed under Ho:1. It was postulated in Ho:1 that there is no significant relationship between the use of automated data collection systems and poverty alleviation. This theorising logic was not supported. The result shows that there is a positive and significant relationship between the use of automated data collection systems and poverty alleviation in National Population Commission. Automated data collection systems, such as those used in the 2006 Nigerian census, improve the accuracy and reliability of demographic data, which is essential for effective poverty alleviation strategies (Chinda, 2025). Accurate data allows for better planning and implementation of poverty reduction programs, ensuring resources are directed to areas with the greatest need (Ikemelu, 2011).

The second objective was to examine at the relationship between the usage of social media platforms and poverty alleviation in the National Population Commission, as described by a research question and expressed as Ho:2. This second hypothesis states that there is no substantial association between social media platform use and poverty reduction. The findings indicate a favourable and substantial association between the usage of social media platforms and poverty reduction at the National Population Commission. Media coverage, particularly social media, is critical in distributing information about government poverty alleviation programs, raising public knowledge and involvement, which is required for these initiatives to succeed (Anorue et al., 2011). Social media platforms enable MSMEs to participate in e-commerce, which is critical for economic growth and poverty reduction (Egbokhare & Akwukwuma, 2014).

The third objective was to investigate the relationship between internet and mobile technology use and poverty alleviation in National Population Commission and was captured by a research question and expressed under Ho:3. This hypothesis stated there is no significant relationship between internet and mobile technology use and poverty alleviation. The outcome of the data analysis did not support the hypothesis. The result shows that there is a strong positive and significant relationship between internet and mobile technology use and poverty alleviation in National Population Commission in Nigeria. Mobile payment technology has been found to significantly impact consumption expenditure, which is a critical factor in poverty alleviation. In Rivers State, Nigeria, the adoption of mobile payments has been linked to increased economic activity and improved living standards (Iwedi et al., 2023). Mobile broadband coverage has been shown to increase household consumption and reduce poverty levels by enhancing labor force participation and employment, especially among women (Alao-Owuuna & Adediwura, 2023).

The fourth objectives was to determine the relationship between the use of e-learning platforms and poverty alleviation and was captured by a research question and expressed under Ho:4. This hypothesis stated there is no significant relationship between the use of e-learning platforms and poverty alleviation.

The outcome of the data analysis did not support the hypothesis. The result shows that there is a positive and significant relationship between the use of e-learning platforms and poverty alleviation in National Population Commission, Abuja, Nigeria. E-learning platforms have the potential to significantly impact poverty alleviation in Nigeria, particularly through their role in enhancing education and skill acquisition. The use of e-learning in adult education, as discussed in the literature, highlights its benefits in providing flexible and accessible learning opportunities, which can lead to improved employment prospects and economic empowerment (Onyernama et al., 2024).

Conclusion and Recommendations

This study provides compelling evidence that Information and Communication Technology (ICT) serves as a powerful catalyst for poverty alleviation within Nigeria's National Population Commission (NPC). The findings demonstrate that strategically implemented digital tools significantly enhance the efficiency, reach, and effectiveness of poverty reduction initiatives. Through rigorous analysis of four key ICT dimensions - automated data systems, social media platforms, internet/mobile technologies, and e-learning solutions - the research reveals how digital transformation can address persistent challenges in Nigeria's development landscape.

The results highlight automated data collection systems as particularly transformative, enabling more accurate poverty mapping and real-time monitoring of intervention outcomes. These systems address critical gaps in traditional approaches by reducing bureaucratic delays and minimizing errors in resource distribution. Equally noteworthy is the demonstrated impact of social media platforms in fostering participatory approaches to poverty reduction, bridging the gap between policymakers and beneficiaries through enhanced communication and feedback mechanisms. The study's regression analysis confirms these technologies collectively explain over half of the variance in poverty alleviation outcomes, establishing ICT as a fundamental driver of progress.

In view of the findings and the position of this study with regards to the relationship between Information Communication Technology on Poverty Alleviation in Nigeria, this study recommends as follows:

i. For automated data collection systems, the study's compelling evidence of their transformative impact (β=0.762) suggests the NPC should prioritize nationwide scaling of these systems. This expansion should focus on integrating ADCS with existing government poverty databases to create a unified national monitoring platform, enabling real-time tracking of interventions across agencies and improving the precision of resource allocation to Nigeria's most vulnerable populations.
ii. Regarding social media platforms, the demonstrated effectiveness in program awareness (mean=4.25) and community engagement (mean=4.36) calls for a more localized approach to content delivery. The NPC should develop poverty alleviation messaging in major Nigerian languages and train community digital champions to manage platform-specific discussion groups. This strategy would enhance participation from non-English speaking demographics while maintaining the interactive benefits that made SMP so impactful (β=0.748).

iii. The study's findings on internet and mobile technology reveal both its moderate influence (β=0.281) and critical role in rural accessibility (mean=4.31). To maximize this potential, strategic partnerships with telecom providers should be established to expand USSD services and mobile money solutions for benefit disbursements. Complementary measures should include subsidized data plans for program participants and infrastructure investments to close connectivity gaps in last-mile communities.

iv. For e-learning platforms, the exceptional performance in skills development (mean=4.52) presents an opportunity to create direct pathways from training to employment. The NPC should enhance its ELP offerings by incorporating certified vocational courses aligned with market demands, then systematically linking program completers to job placement initiatives. This approach would leverage the platform's proven capacity (β=0.489) while addressing its historical reach limitations.

Limitations of the study

The study encountered the following limitations stated below:

1) As cross-sectional study, critical factors were captured and measured just once and at a static point rather than as they were developing. Thus, completely missing out on the value of time explanation.
2) The study faced some cultural limitations because respondents of the target population mainly were drawn in a particular region of the country which makes it difficult to generalize the result of the study to other region of the country as well as other culture and countries.

Areas for Further Studies

Several promising directions emerged for future research based on the limitations and findings of this study.

First, longitudinal studies tracking the sustained impact of ICT interventions on poverty metrics over 5–10 years would provide valuable insights into the durability of observed effects. Such research could assess whether short-term gains in areas like digital skills training (ELP β=0.489) translate into lasting livelihood improvements or require complementary support mechanisms.

Second, comparative cross-national studies could examine how Nigeria's ICT-poverty alleviation model performs relative to other developing economies with similar demographic challenges but different digital infrastructure levels. This would help isolate context-specific success factors from universally applicable strategies, particularly for technologies like mobile money that showed implementation variances (IMT SD=0.701–0.864).

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