

The Role of Information Technology (IT) in Poverty Alleviation Among the Citizens of Zamfara State: Case Study of Zamfara Information Technology Development Agency (ZITDA), Zamfara State, Nigeria

¹Abdulrashid Umar & ²Abubakar Muhammad Magaji

¹Department of Office Technology and Management

²Department of Business Administration

Federal Polytechnic Kaura Namoda, Zamfara State, Nigeria

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Abstract

The primary objective of the Sustainable Development Goals (SDGs) 2030 is to eradicate poverty. The Poverty Alleviation Programme in Nigeria is a program implemented by the federal government, which has been adopted by the states and local governments thereafter. Approximately 78% of the population of Zamfara State lives in poverty, according to the Multidimensional Poverty Index of 2022. An alarming level of poverty is prevalent throughout the state. E-Commerce, E-Business, E-Governance, and other electronic transactions are crucial factors in promoting industrialization and sustainable development. Therefore, this article investigates the role of Information Technology (IT) in alleviating poverty among the residents of Zamfara State, Nigeria. Moreover, the Zamfara Information Technology Development Agency (ZITDA) Scheme functions as a primary source of data. The study was an empirical investigation that used a questionnaire as the primary instrument for data gathering. The data presentation and analysis methodology included a frequency distribution table and a percentage approach. A suggested IT-based strategy for Rural Areas seeks to effectively tackle the issues of poverty by providing empowerment and possibilities. One of the conclusions generated by the research is that Zamfara State does not provide emphasis to Information Technology. Due to its relevant function in many industries, Information Technology is a facilitator for poverty reduction and economic development. The adoption and effective use of information technology will enhance the quality of life and the efficiency of producing goods and services, ultimately leading to a society free from poverty. Hence, it is advisable for Zamfara State to contemplate the adoption of the Proposed IT-Mode via ZITDA.

Keywords: *Information Technology (IT), Poverty, Citizens, Societal Development, ZITDA.*

Corresponding Author: Abdulrashid Umar

Background to the Study

Information Technology (IT) refers to the integration of digital platforms, including both hardware and software, to collect, process, store, and transmit information (Sofowora, 2009). In the context of this study, Information Technology (IT) is seen as a resource that may not be the only means to address a certain objective within the framework of societal development. Therefore, it is inherent that it should be compared with other resources that are equally necessary for a development project. When conducting comparisons, we often examine the characteristics of the objects under comparison. For instance, we must also consider the variations in resources required for poverty reduction (Mebawondu et al., 2012).

In Zamfara State, as well as in Nigeria and Africa as a whole, poverty is a significant and pressing issue faced by its citizens. As a general rule, poverty is linked to the circumstances in which individuals reside. Comparative conditions refer to the distinct circumstances that can only be determined by comparing the situations of one set of individuals or an entire economy with another (Ogunmola, 2007). Poverty is defined by many dimensions including limited buying power, vulnerability to risks, hunger, high mortality rate, poor life expectancy, inadequate access to social and economic services, and other related problems. A more comprehensive characterisation of poverty considers it as the lack of access to the necessary knowledge for active involvement in the larger community, whether at the local, national, or global scale (World Bank, 2010).

The poverty rate in Zamfara State has been experiencing a quick and incessant growth, rising on a daily basis. The majority of Zamfara residents rely on agriculture, with the agricultural sector seeing a decline in recent years due to insecurity caused by banditry and kidnapping for ransom. This has led to widespread rural-urban migration in the state. Thus, the research assesses the ways in which the adept use of information technology might enhance the effectiveness of poverty alleviation services. This paper mainly examines the use of Information Technology in poverty alleviation, specifically focusing on the Zamfara Agency for Poverty Alleviation (ZAPA) Scheme. Hayat, K. et al., (2014) said that information technology (IT) is not a panacea for poverty in itself. It can only really alleviate poverty when employed appropriately and at the appropriate moment. The lack of active contribution in contemporary technology by many developing nations has resulted in their continued poverty, since the industrial revolution has bypassed them.

Justification for the Research

The field of Information Technology (IT) is now exerting significant influences on the traditional systems of government and living. Presently, governments are promoting a reassessment of strategies to enable the integration of information technology at every level of governance (Yanty Siahaan & Sihombing, 2019). Ongoing creation and evaluation of pragmatic, practical, and creative systems is necessary to meet the current and future societal demands in accordance with technology advancements. Applicable information technology content should be created for consumption on a worldwide, national, and regional scale (Kundishora, 2005).

According to the National Bureau (2018) in its National Multidimensional Poverty Index Report (2022) reported that, Zamfara State has an estimated population of 3,278,873 People. From which are 1,641,623 Male and 1,637,250 Female (2011 Estimate) National Population Commission. The Citizens poverty rate stands at 78% ($3,278,873/100 \times 78 = 2,557,521$ Citizens) of the total population.

Camble (1994) stated that, there is no doubt that information is power, therefore the content and context through which information passes must be simple, timely, accurate and easily accessible for the citizens to achieve desired objectives. Therefore, Zamfara State must start making direct contributions to the pool of Information Technology resources so as to alleviate the high rate of poverty in the State.

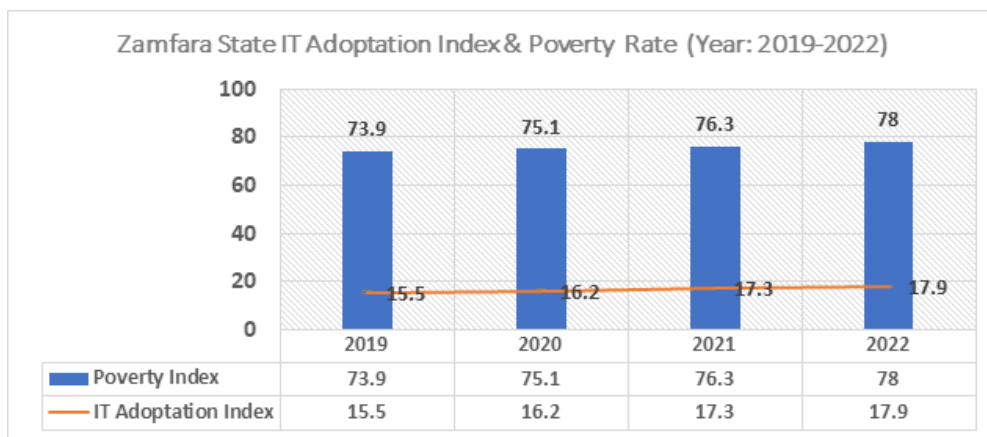


Figure 1: IT & Poverty Index Chart

Source: Premium Times (1st June, 2024) & Survey: ZITDA (2024)

The provided chart depicts the poverty rate of Zamfara State in 2019 at 73.9%, with an IT adaptation rate of 15.5%. In 2020, the poverty rate increased to 75.1%, with a slight shift to the IT adaptation rate of 16.2%. In 2021, the poverty rate rose to 76.3%, with a slightly higher IT adaptation rate of 17.3%. In 2022, the poverty rate increased to 78%, while the IT adaptation rate slightly rose to 17.9%.

Consequently, the poverty rate in Zamfara State is at a concerning level and persists in rising year. However, the level of IT adaptation in the state is now quite low and showing the slowest pace of growth.

Objectives of the Research

The main aim of this research work is to determine the role of Information Technology on poverty alleviation most especially among the citizens of Zamfara State, Nigeria. Some of the specific objectives of the research are to:

1. Know the role IT plays or can be able to play in poverty alleviation.
2. Examine the rate of IT adaptation and priority by Zamfara State government.
3. Ascertain the programmes of ZITDA and their relevant to societal needs and poverty alleviation.

Research Questions

In achieving the objectives of this research work, the following Questions are posed:

1. What role does IT Plays in Poverty Alleviation?
2. To what extent does Zamfara State government adapt and prioritize IT?
3. How relevant are the programs of ZITDA to societal needs and poverty alleviation among the citizens of the State?

Research Design/Methodology

The research is of an empirical character and involves a population of 50 staff members employed by ZITDA. Given the magnitude of the population, the research used all 50 members of the Staff as the sample. An inventory questionnaire was devised by the researcher to gather data from the chosen sample. All of the surveys sent have been properly completed and returned. Presented as a frequency distribution table, the acquired data was analysed using a percentage analysis approach.

Data Presentation (Frequency Table) and Analysis (Percentage%)

Table 1: Information Technology Play an Important role in poverty Alleviation

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agreed	31	62.0	62.0	62.0
Agreed	17	34.0	34.0	96.0
Valid Strongly Disagreed	1	2.0	2.0	98.0
Disagreed	1	2.0	2.0	100.0
Total	50	100.0	100.0	

Source: ZITDA Survey, 2024.

The table above indicates that 31 respondents, accounting for 62% of the total respondents, strongly agreed that information technology plays a significant role in poverty alleviation. Additionally, 17 respondents, representing 34% of the total respondents, agreed that information technology plays an important role in poverty alleviation. Another 1 respondent, representing 2% of the total respondents, strongly disagreed that information technology plays an important role in poverty alleviation. The study above suggests that a significant majority of the respondents strongly believed that information technology plays a crucial role in aiding poverty reduction.

Table 2: Zamfara State government don't prioritize IT as a means of poverty alleviation

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agreed	20	40.0	40.0	40.0
Agreed	25	50.0	50.0	90.0
Valid Strongly Disagreed	2	4.0	4.0	94.0
Disagreed	3	6.0	6.0	100.0
Total	50	100.0	100.0	

Source: ZITDA Survey, 2024.

Based on the provided table, 20 respondents, representing 40% of the total respondents, expressed a strong agreement that the Zamfara state government does not give priority to information technology (IT) as a method of reducing poverty. In addition, 25 respondents, accounting for 50% of the total respondents, expressed agreement that the Zamfara state administration did not allocate priority to information technology as a method of reducing poverty. Out of all the responses, 2 respondents, accounting for 4%, expressed significant disagreement on the statement that the Zamfara state administration does not give priority to information technology as a method of reducing poverty. In conclusion, 3 participants, accounting for 6% of the overall responses, expressed disagreement on the lack of emphasis placed by the Zamfara state administration on information technology as a strategy for reducing poverty. The above analysis indicates that the majority of the participants held the belief that the Zamfara state government did not prioritise information technology as a means of alleviating poverty.

Table 3: The programs of ZITDA target the societal needs of poverty alleviation

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Agreed	10	20.0	20.0	20.0
Agreed	15	30.0	30.0	50.0
Valid Strongly Disagreed	3	6.0	6.0	56.0
Disagreed	22	44.0	44.0	100.0
Total	50	100.0	100.0	

Source: ZITDA Survey, 2024.

The table above indicates that 10 respondents, accounting for 20% of the total respondents, strongly agreed that the programs of ZITDA address the societal needs of poverty alleviation. Additionally, 15 respondents, representing 30% of the total respondents, agreed that the programs of ZITDA address the societal needs of poverty alleviation. No respondents strongly disagreed with this statement. Furthermore, 22 respondents, representing 44% of the total respondents, disagreed that the programs of ZITDA address the societal needs of poverty alleviation. The aforementioned research suggests that most of the respondents expressed disagreement on the effectiveness of ZITDA programs in addressing the social requirements of poverty reduction.

Summary of Results

The major findings derived from the collected data and analysis indicate that Information Technology plays a significant role in poverty alleviation. However, the Zamfara state government does not prioritize IT as a means of poverty alleviation. Additionally, the programmes of ZITDA do not address the societal needs of poverty alleviation.

Proposed Information Technology IT - Model

The bulk of the population of Zamfara State consists of rural residents and relies largely on agricultural production. According to Ajakaiye (2014), the development of the rural sector is the primary determinant of the total economic growth of the state. Considering the above

circumstances, a proposed IT-based model is suggested, which involves centers in rural regions, similar to the ICT model presented for the Country of Pakistan. The implementation of this IT Based Model for Rural households would facilitate the integration of rural communities with emerging technology, therefore enabling the generation of prospects for enhancing their agricultural output.

Furthermore, apart from all the available knowledge, a strong incentive is established for rural communities to eradicate elements that contribute to technology phobia. The model comprises the ICT-Rural Development Department (ICT-RDD), the Rural Community Centre (RCC) which is subdivided into the ICT-Training Centre, the Rural Knowledge Marketing (RKM), and the Television (T.V) and Radio Stations. The Technical and Financial Support Department will promptly offer the necessary financial and technical assistance to the RCC via the IT RDD, if required (Hayat Khuhawar et al., 2014).

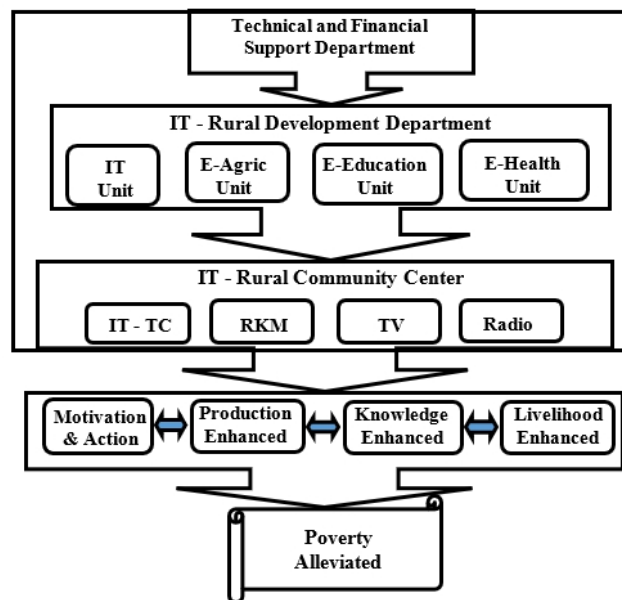


Figure 2: Proposed IT Based Model

Review of the IT-Based Model

1. The Technical and Financial Support Department: The responsibility for the budget, implementation, and oversight of all operations lies with this department, which further generates prompt reports for the government.

2. Rural Development Department (IT-RDD): A key objective of this department is to collect data on IT, Agriculture, Education, and Health units and ensure the prompt and suitable training of teachers in rural community centres with the latest advancements. A key goal of RDD is to increase awareness among rural areas that need more care and attention.

3. Information Technology-Rural Community Centres (IT-RCCs): With its constituent parts including the IT Training Centre (IT-TC), Rural Knowledge Machine (RKM), TV and Radio broadcasts, this component has immense importance. A Remote Knowledge Module (RKM) will be implemented in a Rural Community Centre (RCC) to augment the consciousness and education of the rural citizenry. Information technology instructors will be assigned the responsibility of instructing rural inhabitants on the use of Remote Knowledge Machine (RMM).

- i. IT-Training Centre (IT-TC)** would be established by the department of IT-RDD in every hamlet. Therefore, it will provide essential instruction on the use of Rural Knowledge Management (RMM) for all sectors of the rural industries. The creation of these centres will enhance the education of the general people in obtaining essential knowledge on almost all rural elements.
- ii. Rural Knowledge Machines (RKMs).** RKMs are scientific apparatus specifically developed to provide information and technology directly to farmers. Its intended function is to provide information on agriculture, agro-chemicals, and other significant agricultural topics. The main language interface of RKM is English, however it may also be developed as a multilingual interface to enhance understanding for rural inhabitants who communicate in Hausa, Fulani, or any other language spoken in their area of residence. The interface of RKM is designed to provide the necessary information, including audio/video and textual content, maps and landmarks for total crops, information on fertilizers, seeds, land preparation, plant protection, irrigation practices, poultry farming, wood cutting, dairy, bee and fish farming, handcrafts, fruit gardens, livestock, market prices, flood and weather forecast, health, education, and employment.
- iii. Television and Radio** media platforms have a significant influence on the cultural and behavioural dimensions of a country's populace (Eaton, 2011). Radio and/or television usage is prevalent among the inhabitants of almost every hamlet. Television and radio function as mediums for the production and distribution of a wide range of informative, entertaining, and educational content. It functions as a specialized means of public communication created only for farmers and labourers. The objective of these programs is to methodically embed government policies in many areas of national life such as health, education, industry, agriculture, and research.

Need for the IT Centers and its Relevancy

Employing modern technology and up-to-date information in tele-centers is crucial for enhancing rural communities (Moll, 2013). The dissemination of information via telecentres will not only be advantageous but also motivate rural people to efficiently use the information in times of need. Internet connectivity will be provided to each community telecenter, along with the essential provision of computers, printers, Rural Knowledge Machines (RKM), and TVs. A secure internet connection will be established to connect each rural center with all other rural centers in the region.

Training and Capacity Building

The effectiveness of any system is often regarded to depend on the implementation of

appropriate training (Aliyu & Issa, 2006). Post-implementation of the suggested IT Model, personnel in the rural community must undergo training on an annual basis. A comprehensive set of training courses on tele-center operations, Furthermore, it is an undeniable reality that the people residing in rural regions typically lack access to western education, which renders them unable to properly use the RKM. School-based tele-centers provide a significant benefit as they allow for easy training of both staff and students. This training enables them to effectively communicate critical information to farmers, ordinary people, and their families when they are present at the rural tele-centers. The vital function of students, instructors, and personnel of rural community centres is to facilitate the dissemination of knowledge to ordinary villagers and farmers, thus enabling them to comprehend and overcome their apprehension towards the employment of contemporary technology.

Access to Capital Assets

Notwithstanding the availability of knowledge, limited access to alternative resources would hinder most farmers from using contemporary technology for new livelihood strategies or enhancing agricultural productivity (Rizqulloh & Firmansyah, 2021). Moreover, it is a verifiable reality that there are restricted banking facilities available for rural people. Such a scenario would be detrimental to the complete implementation of the information obtained via established rural centres.

Conclusion and Recommendations

It is concluded from the results of this research that Information Technology (IT) is a facilitator for poverty reduction and economic progress due to its effective function in all sectors. Effective implementation and use of information technology would enhance the quality of life and the creation of products and services, ultimately leading to a society free from poverty. Thus, considering the results and conclusion of the research, the below suggestions are proposed:

1. The Zamfara State government should prioritise information technology (IT) as a crucial tool for reducing poverty.
2. The state government, specifically the ZITDA agency, should adopt and fully implement the IT-Model proposed in this research work. This model highlights and addresses many problem areas that have contributed to the state's alarming poverty rate.
3. The programmes of ZITDA should focus on addressing the societal needs and aiming to alleviate poverty among the citizens. Furthermore, residents should make a concerted effort to integrate Information Technology into their daily lives, particularly in ways that enhance the success of their enterprises.

Gap Filled: Mindset Change in Government

Governments worldwide are being urged to enhance the efficiency and effectiveness of internal operations and processes within government departments and institutions by implementing internetworking. Externally, governments are being urged to ensure greater transparency and provide citizens with access to government information (Kundishora, 2005). The administration of Zamfara State is now confronted with the task of overhauling its

operations, which is a fundamental change required by the era of network intelligence. To promptly adapt to IT advancements and their demands, the government must undergo both internal and external reform. The Zamfara State Government must recognize its primary duty of establishing a favourable atmosphere that facilitates the growth of Information Technology (IT) for the betterment of the State. This includes addressing the requirements of the people and enhancing their livelihood. An essential component of such plans should be the provision of IT infrastructure, roads, and power (including solar and renewable energy) for remote and rural regions. As stated by the International Labour Organisation (2001), the government should thoroughly comprehend Information Technology (IT) and its impact on both the government and society as a whole. The Policy should explicitly and unambiguously define the function of the government.

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