

Efficient Internet Connectivity to Rural Area: An Approach to Implement Effective Cashless Policy to Improve Micro Economic Activities in Nigeria

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Abstract

Internet connectivity is a vital tool which plays a crucial role in providing the digital support for the diversification of the economy through improving the knowledge of the micro economic using ICT tool as an enabler. In 2012, the central bank of Nigeria (CBN) launched the cashless policy aimed at promoting the use of electronic payment methods such as debit cards, mobile money, and internet banking in order to digitized payments, however, 12 years on, how effective has the policy been? This research study unveils the challenges ranging from financial literacy, infrastructure deficit, poor internet network connectivity, poor road network connecting rural areas to urban areas as drawback factors which is why the cashless policy has not been effective. The result of this study explain that there is need for the federal government and concern stakeholders to develop and implement an efficient internet which will help to close the digital gap between the rural and urban areas in Nigeria and also help the cashless policy to drive the micro Economic activities in Nigeria.

Keywords: Internet Connectivity, Cashless Policy, Central bank of Nigeria

1. Introduction

1.1 Background of the Study

In 2012, the Central Bank of Nigeria (CBN) launched the cashless policy aimed at promoting the use of electronic payment methods such as debit cards, internet banking and mobile money in order to digitize payments. (Kofo, 2023), like India that introduced a similar policy in 2016, the goal was to modernize the financial service sector by reducing cash in circulation, increase digital payments, increase financial inclusion, reduce poverty, reduce corruption, curb the funding of terrorist activity, and improve the efficacy of monetary policies in managing inflation thus promoting economic growth in the country. Cashless policy refers to a set of measures and initiatives introduced by the central bank or government to reduce the usage of physical cash in financial transactions within a country. (Dugeri, 2013), The policy aims to promote electronic and digital payment platforms, as alternatives to cash. Nigeria has been challenge by a lack of access to reliable internet connection in rural areas, this has hindered the country's progress in areas such as e-learning, health care and commerce (Adeyemi, 2022). The government and stakeholder in the financial sector needs to develop a plan on how to connect rural area for an effective cashless policy implementation. Internet connectivity refers to the ability to connect to the internet, enabling users to access and interact with online resources, services, and information. (Ayodel, 2015), It involves establishing a connection between a device (such as a computer,

smart-phone, or table) and internet infrastructure, allowing for the transmission and reception of data packets across network. Recognizing the importance of internet connectivity, various initiatives have been undertaken to bridge the digital divide between urban and rural areas. For instance, government interventions, such as the National Broadband plan, was aimed at expanding internet coverage to undeserved regions, additional public – private partnerships have been formed to enhance infrastructure development and deliver affordable internet services to remote areas (Ejoh & Okpa, 2014).

1.2 Statement of the Problem

Nigeria like the rest of the world is facing a number of economic challenges with a cautionary market outlook. This research study identifies the following problem

- (a) Poor Network Connectivity to Rural Areas.
- (b) Lack of financial Education to its citizen
- (c) Poor Public- Private partnership toward effective cashless policy
- (d) Lack of prudent policy and implementation by the Federal government which will be carryout by the CBN.

1.3 Objectives of the Research

- (i) improve poor network connectivity to urban and rural areas.
- (ii) Initiates programs to educate its citizen.
- (iii) Collaborate with stakeholders to develop a road map for the effective cashless policy
- (iv) Authorizing the central bank of Nigeria for effective cashless implementation.

1.4 Scope and Limitation of Study

The Scope of this research covers information on the poor Network Connectivity in Rural Areas and the drawback of cashless policy in Nigeria. The data used in this study was collected from verifiable sources online, which serve as the secondary data to this research work.

Some of the limitations of this research study include

- (a) Inadequate information from rural areas on the possible approach to access network connectivity.
- (b) Limited information online on why the government couldn't sustain the cashless policy

1.5 Significance of Study

The result of this study will help the Federal Government of Nigeria in the following areas

- (a) Give the Government a holistic understanding of the future needs of internet network connectivity of its citizen.
- (b) Help to plan for digital inclusion and technological approaches for rural connectivity.
- (c) Develop a better framework for implementation of cashless policy.
- (d) Support monitoring of cash in circulation in the economy.
- (e) Develop result orientated initiative to boost micro business in the country.

2. Literature Review

2.1 Conceptual Framework

2.1.1 Historical Development of Internet Network in Nigeria

The first ISP in Nigeria went live in the early 1990s, marking the beginning of the modern internet age in the country. Before this, only persons who worked for the government or in academic institutions had access to internet. (www.innovative.ng, published 16 march, 2023). The Nigeria Internet Group was formed in 1995 after the first internet workshop organized by the Yaba College of Technology in collaboration with a number of organizations including the Nigeria communications commission.(NCC), national Data bank, literacy Training and Development program for African (University of Ibadan) and Administrative staff college of Nigeria (ASCON), with the direct assistance of the United States Information Service (USIS), Regional Information Network for Africa (RINAF) and the British Council. The workshop was put together in order to raise the level of awareness of the benefits of internet in Nigeria and provide a forum for discussing the future of networking. Four years later, in May 1999, the Nigeria communications commissions (NCC) in collaboration with the

Nigeria Internet Group (NIG), organized and African internet summit (AFRINT' 99), hosted by the Federal Ministry of communications. The summit, which took place at the ECOWAS Secretariat from 11- 13 May 1999, focused on the sustainable development and utilization of the internet in Africa, and sought to create a common forum where African internet practitioners can come together and discuss policy issues peculiar to African (www.Vanguard.com, October 27, 2010)

The evolution of telecommunication in Nigeria can be classified into four distinct phases:

- (1) Fixed- line and dial-up telephony: fixed-line telephony was the dominating technology in Nigeria during the early days of telecommunication. To communicate with persons in other areas of the nation or abroad, customers had to dial long- distance codes. Nigeria's dialing code is +234, while the country code number is 234.
- (2) Mobile phone service: the arrival of mobile telephony in Nigeria transformed the telecommunications business, allowing millions of individuals to use telephone services without relying on fixed-line connections. MTN Nigeria developed the first mobile network in Nigeria in 2001, followed by Econet wireless Nigeria (now Airtel Nigeria) and Globacom in 2002)
- (3) Internet connectivity: The Internet's spread in Nigeria began in the early 2000s with the introduction of dial-up internet services. The introduction of broadband internet services in the late 2000s and early 2010s represent a considerable improvement, resulting in widespread acceptance of internet service throughout the country.
- (4) 5G network technology is the most recent important development in the growth of telecommunication in Nigeria. While 5G implementation in Nigeria is still in its early phases, the technology is projected to change the telecommunications sector by allowing faster download and upload rates, greater connection, and the creation of new apps and services.

2.2 Theoretical Framework

Several Studies have highlighted the disparities in internet connectivity between urban and rural areas (Abaenewe, 2013). Internet connectivity refers to the ability of electronic devices like computer system, mobile phones smart devices to connect to the internet, enabling the users of the devices to access and interact with online resources, services, and information. Internet connectivity can be achieved through various means, including wired connections like Ethernet cables or fiber optic links, as well as wireless connections such as Wi-Fi, mobile data network (3G, 4G, 5G), satellite connections, or even broadband over power lines.

2.2.1 Internet Connectivity

Availability of internet connectivity allows individuals, business, and organizations to browse websites, send or receive emails, engage with social media application, access online banking services, stream videos, download files, and utilize various online applications and tools.(Achugamonu et al., 2016), Internet access is a vital enabler for digital communication, E-commerce, online collaboration, remote work, and access to a wealth of information and digital resources available on the internet.

Rural areas, especially in developing countries, often suffer from inadequate infrastructure and limited access to reliable internet connection (Adewolo, 2015), Limited connectivity acts as a barrier to the efficient implementation of cashless transactions, as it impedes the ability of rural residents to access online banking services and make electronic payments.

2.2.2 Cashless Policy

Cashless policy refers to a set of measures and initiatives introduced by a central bank or government to reduce the usage of physical cash in financial transactions within a country. Cashless policy aims to promote electronic and digital forms of payments, such as cards, mobile wallets, internet banking, and digital payment platforms, as alternative to cash.

Lack of efficient internet connectivity in rural areas has a direct impact on the effectiveness of the central bank of Nigeria cashless policy. Poor connectivity and unreliable network hinder the adoption of digital payment methods among rural populations (Alireza & Zahra, 2011). The inability to access online banking services and make digital transactions undermines the objective of reducing cash dependence and promoting financial inclusion.

2.3 Evaluation of the Literature Review

The adoption of cashless transaction has gained significant momentum worldwide, leading to the need for

efficient internet connectivity in both urban and rural areas. However, rural areas in Nigeria often face unique challenges in terms of infrastructure, distance, and connectivity. Evaluation of related work used in this research study aims to explore existing research and initiatives focused on improving internet connectivity in rural areas to support the cashless policy efforts of the Central Bank of Nigeria (CBN). The table 2.1 below shows related works evaluated in this research.

Table 1. Related Works Evaluated in this Research Work

S/NO	RESEARCHER	WORK	Summary of findings
1	Kofo, 2023.	The CBN cashless Policy: Winning or whining.	Identify financial literacy, infrastructure, inadequate telecommunication networks, limited access to electricity and poor road network as factors hindering the effectiveness of digital financial services in rural areas.
2	Adewolo, (2015)	The perception and use of electronic banking among business executives in Lagos State	Identify limited connectivity acts as a barrier to the efficient implementation of cashless transactions.
3	Abaenewe and Ndugba, 2013.	Electronic banking and bank performance in Nigeria.	Identify disparities in internet connectivity between urban and rural areas.
4	Alireza, and Zahra, 2011	Barriers to Electronic banking development	Identify low connectivity and unreliable networks hinder the adoption of digital payment methods among rural populations.

2.4 Research Gap

One of the studies that were reviewed which gave our research a springboard was “The CBN cashless Policy: Winning or whining.” By Kofo, 2023.

It is important to note that the weaknesses of the research are:

1. Issue of electricity power supply to remote rural areas in Nigeria was not addressed in the research.
2. Ensuring that the presence of internet network providers in rural areas is functional.
3. Security of personnel and Internet work service provider’s infrastructure should be well patronized.
4. Comprehensive Education, informal and formal financial knowledge is important.

Hence, there is need to close this research gap by our researching study, “Efficient Internet Connectivity to Rural Area: An Approach to Implement Effective Cashless Policy to Improve Micro Economic activities.” To achieve efficient Internet connectivity to rural area, The Federal, State and Local Government, Internet service providers in Nigeria, electricity power distribution company, Mobile Application developers and other relevant stakeholders needs to have a long term memorandum of understanding which will be adopted by any successive government to timely address the need of efficient internet connectivity to both rural and urban areas in Nigeria which will help implement effective cashless policy and also improve the Micro Economic activities in Nigeria.

3. Methodology Adopted

The main objective of this research work is to bring to notice of previous work done by researchers and equally proffer a solution on how to address poor network connectivity mostly in rural areas which is a major drawback to the success of functional cashless policy in Nigeria.

This section explains that verifiable retrieved online data was used in this research work.

3.1 Data Source and Method of Data Collection

The type of data used in this study is secondary data, collected from verifiable source online, which help to establish a focus of our research study.

3.2 Population of Study and Sample Size

The population defines the limit within the research findings are applicable. The population of this study is an aggregate of date of publication of information retrieved online. The sample consist of the number of years studies to determine currency in circulation vs currency outside banks which is between January and December 2022 (in trillions of naira).

3.3 Analysis Tool

Online verifiable chart showing Nigeria currency circulation within the banking system and outside the banking system.

4. Result and Discussion

4.1 Data Presentation and Analysis

The basic problems and weaknesses confronting internet connectivity to rural areas and drawback associated with the cashless policy of the central bank of Nigeria has been established as evaluated in the literature review.

Some of the drawback which has hindered the progress of efficient internet connectivity and functional cashless policy can be summarized as identify in this research work as following.

- a. Issue of poor electricity power supply to remote rural areas in Nigeria.
- b. Ensuring that the presence of internet network providers in rural areas in Nigeria is functional.
- c. Security of personnel and Internet network service provider’s infrastructure should be well patronized by all stakeholders.
- d. Comprehensive Education, informal and formal financial knowledge is important.
- e. Continuation of implementation of electricity power supply, internet services and cashless policy by successive government should be maintain by any new government and should be included in the National and State constitution.

4.2 Nigerian Currency in Circulation Vs Currency Outside Banks

The Central Bank of Nigeria (CBN) plays a vital role in implementing policies to improve financial inclusion and drive the adoption of cashless transactions. Table 4.1 shows the amount of Nigeria currency in circulation outside the bank due to poor network connectivity and other needed factors to drive the cashless policy in Nigeria.

Table 2. Nigerian currency in circulation VS Currency outside bank

Nigerian currency in circulation vs Currency outside banks between January and December 2022 (in trillions of naira)

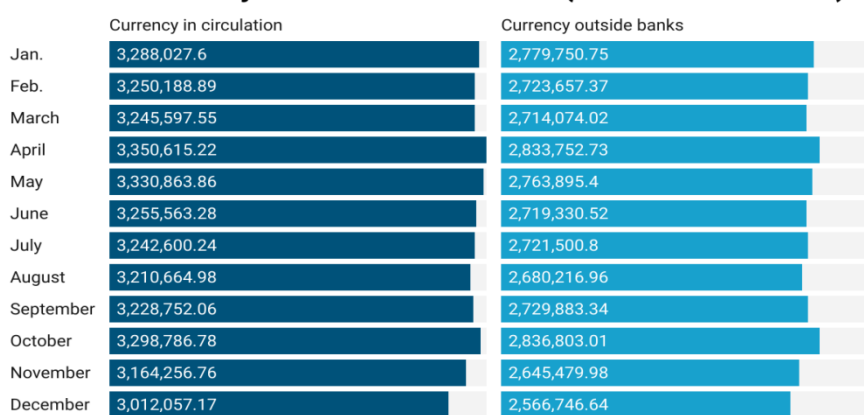


Chart: Dataphyte • Source: CBN Money and Credit Statistics • Created with Datawrapper

4.3 Nigeria Broadband penetration between January 2022 and January 2023 (in Percentage)

Measuring the impact of internet connectivity initiatives is essential for evaluating their effectiveness and identifying areas for improvement. The table below shows broadband penetration used between January 2022 and January 2023. As at January 2023 internet penetration stood at 48.2 percent, meaning that 51.8 percent of locations in Nigeria lack broadband Internet penetration.

Table 3. Nigeria’s Broadband Penetration between January 2022 and January 2023

Nigeria's Broadband Penetration between January 2022 and January 2023 (in percentages)

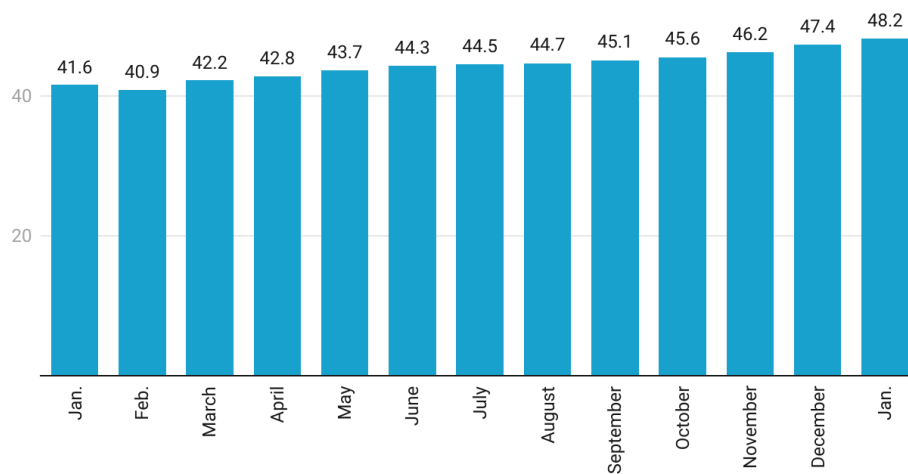
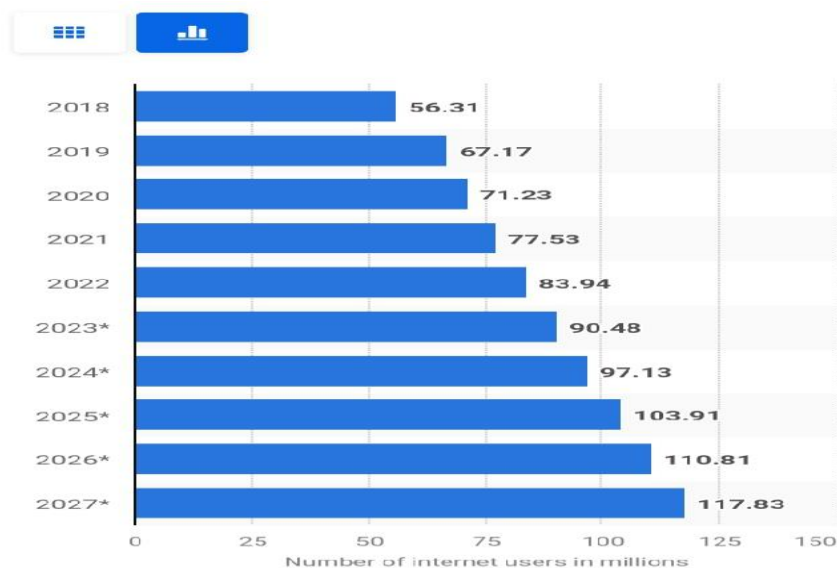


Chart: Dataphyte • Source: NCC • Created with Datawrapper

4.4 Number of Internet users in Nigeria from 2018 to 2022, with forecast from 2023 to 2027 (in millions)

It is an established fact that millions of users in Nigeria keep penetrating the internet as shown in table 4.3 below, but yet this number doesn't reflect in the number of cashless transaction as captured by the Central Bank of Nigeria. There is need to develop holistic approach to infuse this number of users in the cashless policy of the Central Bank of Nigeria.

Table 4. Number of internet users in Nigeria from 2018 to 2022, with forecasts from 2023 to 2027 (in millions)
Source www. Statista.com/statistics



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4.5 Discussion of Result

From the results gotten from the analysis from the chart. The following can be deduced:

- (1) From table 4.1 above explain that there is still much high amount of money outside the Nigeria banking system which need to be discouraged by doing the following

- a. Provide efficient electricity and Internet services to rural areas in Nigeria which power the various platform for cashless transaction.
 - b. Comprehensive education, which comprise of informal and formal financial knowledge is important.
 - c. Reduce charges via electronic cash transaction to encourage more online bank users.
2. From table 4.2 explain that broadband penetration stood at 48.2 percent. Meaning 51.8 percent of location in Nigeria lack broadband internet penetration. The following need to be done to arrest this drawback:
- a. Plan and provide digital inclusion and technological approaches for rural connectivity.
 - b. Government should partner with concern stakeholders to provide internet services to it's citizen.
 - c. Restructure the Federal, State, and local government constitutions for sustained development of electricity, network connectivity and government incentive like reduce tax towards electronic cash transaction, successive government should sustain the development.
3. from table 4.3 explain from 2018 – 2023 shows increase in internet network penetration by users and data from 2024 till 2027 shows that their will be further increase in internet penetration. From the result the following can be deduced:
- a. Financial institutions should improve the electronic cash transaction platform infrastructure.
 - b. Central Bank of Nigeria should encourage commercial bank to build data centre
 - c. infrastructure in rural areas to increase cashless transaction in the country.
 - d. Increase security of personnel and infrastructure of commerce bank in rural areas.

5. Summary, Conclusion and Recommendation

5.1 Summary

The result obtained from this research shows that internet connectivity infrastructure can be improved to control circulation of currency outside banking system, also there is need to expand and provide digital inclusion and technological approaches for rural and urban connectivity.

Cashless policy is very important to the Nigeria economy, it will facilitate mobilization of fund from surplus units to deficit units and therefore, the platforms for achieving this policy must be promoted. The data shows that as at January 2023 48.2% of Nigeria citizen penetrated the broadband, more awareness and promotion is needed to reach more s users. It's certain that more internet users keep increasing yearly, there is need for the Central bank of Nigeria to develop plans and innovative incentive to encourage more Nigerians to use different channels of cashless transactions.

5.2 Conclusion

This research study highlights the challenges faced in implementing cashless policy, which is characterized by poor network connectivity in rural areas. The government, Central Bank of Nigeria, concern stakeholders should understand digital inclusion and equitable access to the internet, including in rural areas, advocating for policies that prioritize bringing high-speed broadband infrastructure to undeserved regions, fostering economic growth, and reducing the digital divide between urban and rural areas. Government and stakeholders should understand that functional cashless policy remains a crucial avenue to promote financial inclusions, social economic development and alleviate poverty which will help position Nigeria as a leading digital economy within the next few years.

5.3 Recommendation

This research profer recommendation on what the government and stakeholders needs to do which will improve the cashless policy of the Central bank of Nigeria.

1. Improve on the current internet connectivity infrastructure, which will help achieve a transparent cashless policy payment system. This will provides via opportunities that support economic development. The ability to track transactions and monitor the flow of money through digital channels offers increased transparency, traceability, and accountability, reducing the risk of fraud and corruption in the financial system.

2. Review of constitution should be made to adopt the continue implementation of functional road map of electricity, internet connectivity and cashless policy by successive government in different arms of government, which will help the micro development of economy.
3. Central Bank of Nigeria should encourage commercial bank to operate and build data centre in rural areas which will move the nations towards formal digital identification and offer an avenue to access value-added services such as low-cost loans to support business growth.
4. Security of rural area personnel working in the data centre infrastructure should be patronized by Federal, State and Local Government, which will encourage the expansion of rural internet connectivity.
5. It's important to note that the data derive from efficient internet connectivity and cashless policy can be leveraged not just within the financial service industry but across various sectors such as healthcare, transportation, and education to improve service delivery and achieve progress in key areas beyond financial services.
6. Wider acceptable functional cashless policy can help the government in tax collection and tracking , which can be used to increase internally generated revenue and reduce the tax gap.

5.4 Contribution to Knowledge

This research work has contributed to knowledge:

1. Has present to the Nigerian government and stakeholders the present and future need to include rural areas in internet connectivity for a better functional of cashless policy in Nigeria.
2. The need for any successive government in power to continue on the development road map of electricity, internet connectivity and cashless policy.

5.5 Future Work

Other researchers should research on security aspect of digital platforms used in cashless transaction in Nigeria system to help build confidence among users in Nigeria financial system due to online financial application error transaction and fraudsters penetrating the financial technology.

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