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DIGITAL DIVIDE AS A CLOG IN THE WHEEL OF DIGITAL ECONOMY: WHAT OPTIONS FOR NIGERIA?

Ikechukwu Chime*

Abstract

The rise of the digital economy, fuelled by technological innovations and digitalisation, has revolutionised every aspect of society and the economy. Unfortunately, the digital divide in Nigeria is hindering many citizens from participating in this new economy due to a lack of access to digital resources. To address this issue, this paper employs the doctrinal research methodology to provide a comprehensive overview of the digital economy. The paper evaluates the extent of the country's digital divide and identifies the factors contributing to its widening. It analyses the current legal and policy frameworks to bridge this gap. Ultimately, the paper recommends greater investment in telecommunication and electrical infrastructure, improving data availability and affordability, connection quality, and allocating more resources to digital education to encourage the development of locally relevant content and applications in languages. It concludes that bridging that divide will require targeted regulatory and policy initiatives recommended herein.

Keywords: Digital economy, digital divide, technology, digitalisation

1. Introduction

Information and Communication Technology (ICT) is the main driving force behind today's global socio-economic activities. Its influence has permeated every aspect of life, constantly evolving and changing how we communicate and carry out economic activities.¹ The increasing digitalization of economies, widespread access to the internet, and the disruptive power of technology have made access to digital services necessary for optimal engagement in today's world. Among the most common forms of technology that drive the digital economy are mobile devices, particularly telephones, when combined with the internet.

The liberalization of the telecommunication industry has unleashed improved access to telephones and internet services in Nigeria.² Increased access to

*PhD, Department of Property Law, Faculty of Law, University of Nigeria, Enugu Campus; email: ike.chime@unn.edu.ng; <https://orcid.org/0009-0009-1818-0410>.

¹ R Bukht and R Heeks, 'Defining, Conceptualizing and Measuring the Digital Economy' *International Organisations' Research Journal* (2017) 13 (2) 143.

² A study was conducted to appraise the impacts of Global System of Mobile (GSM) Communication in Nigeria from its inception in 2001 till date, and it was found that GSM and its attendant technology growth and development have played invaluable roles in placing Nigeria in its rightful position in this era of digitalisation. U Ahmed & A Musa, 'Assessment of Mobile Phone Use in Nigeria from Inception to Date' (2016) *Sch Bull* 192.

mobile devices has also led to improved use of technologies and innovations that depend on telephone services, resulting in a significant growth in the number of internet users in the country.³ The Nigeria Communications Commission (NCC), the regulator of the Nigerian telecommunication sector, reported that about 122.5 million Nigerians had access to and were actively connected to the internet.⁴ These data imply that Nigeria's teledensity rate is 91%, with a 55.4% internet penetration rate as of the beginning of 2023.⁵

Growth in teledensity and internet penetration is critical for developing the nation's digital economy. Through the National Digital Economy Policy and Strategy (NDEPS) launch, the government seeks 'to reposition the Nigerian economy to take advantage of the many opportunities that digital technologies provide.'⁶ Furthermore, Nigeria's digital economy has developed faster than the traditional economy, growing at an average annual rate of 9.9%/year from 1998 to 2017, compared to the 2.3% growth in the overall economy.⁷ Consequently, its digital economy vision seeks to shape a nation where digital invention and entrepreneurship are used to create value and prosperity for all. It recognises the transforming impact of technology on every area of life and, thus, seeks to become a leading player in the sector. Also, given the application and pervasive impact of technology in every area of life, the nation hopes to utilise the digital economy in achieving the age-long effort to diversify the economy, hoping its development will catalyse diverse economic growth. To this end, government agencies have been modified as engines for digital transformation projects.⁸

³ M Gyemang and O Emeagwali, 'The Roles of Dynamic Capabilities, Innovation, Organizational Agility and Knowledge Management on Competitive Performance in Telecommunication Industry' [2020] 10 (7) *Management Science Letters* 1533.

⁴ Statista, 'Total Number of Active Internet Users in Nigeria from 2017 to 2023 (in millions)' (6 Sept 2023) <<https://www.statista.com/statistics/1176087/number-of-internet-users>> accessed 15 Sept 2023.

⁵ Ibid.

⁶ Mallam KashifuInuwa, 'Digital Economy: Collaboration Amongst Stakeholders Accounts for Unprecedented Achievements – DG NITDA' <<https://nitda.gov.ng/digital-economy-collaboration-amongst-stakeholders-accounts-for-unprecedented-achievements-dg-nitda/>> accessed 15 Sept 2023.

⁷ A Oguntoye, 'Analysts Review How Digital Platforms Have Become Integral to Nigeria's Economic Growth' <<https://www.proshareng.com/news/TECH%20TRENDS/Analysts-Review-How-Digital-Platforms-Have-Become-Integral-To-Nigeria-s-Economic-Growth/54276>> accessed 15 Sept 2023.

⁸ In 2019, the former Ministry of Communication, the executive arm that drives government communication apparatus, was changed to Ministry of Communications and Digital Economy, ostensibly, "to improve revenue generation for Nigeria and create many digital jobs." The change was also aimed at increasing Nigeria's involvement and capturing a significant share of the multi-trillion global digital economy fund. See E Paul, 'Ministry of Communications and Digital Economy: What's in a Name Change?'

These economic benefits of the digital economy impact both the public and private sectors and drive socio-economic change. However, many Nigerians need access to this digital economy and its many benefits. 61% of Nigerians in rural communities need access to the digital economy, and in the urban region, about 40% of Nigerians are still connected.⁹ Within this divide, only about 45% of women against 62% of men have access to digital technologies to foster participation in the digital economy.¹⁰ This divide is compounded by factors like financial capacity, digital awareness and education, gender disparity, lack of adequate infrastructure, etc., and it significantly impacts the growth of the country's digital economy. The ripple effect of the digital divide in Nigeria is multidimensional.¹¹

Against this background, this paper conducts an overview of the digital economy in Nigeria. Section two provides a conceptual and theoretical framework; section three assesses the nature, causes, and consequences of the digital divide in Nigeria; section four analyses the laws, policies and institutions that are in place to bridge the digital divide. The recommendations and conclusions are outlined in section five.

2. Conceptual and Theoretical Framework

2.1 Understanding Digital Economy

The meaning of digital economy has evolved since 1996, when the concept was first conceived.¹² Buhkt and Heeks provide an extensive analysis of the evolution of definitions of digital economy.¹³ From Nigeria's perspective, the digital economy revolves around the utilisation of digital transformation, knowledge, and technology to deliver goods and services; an economy that thrives on the Fourth Industrial Revolution (4IR), the convergence of all sets of digital innovation that spurs social, economic development and economic output

<<https://techpoint.africa/2019/10/28/ministry-communications-digital-economy/>>
accessed 15 Sept 2023.

⁹ A Adepetun, 'NCC Tasks Innovators on an Indigenous Solution to Bridge Nigeria's Digital Divide' <<https://www.google.com/amp/s/guardian.ng/news/ncc-tasks-innovators-on-indigenous-solution-to-bridge-nigerias-digital-divide/amp>> accessed 15 Sept 2023.

¹⁰ While digital divide is troubling, digital gender divide is more troubling. Digital gender divide which focus on the extent of exclusion of women in digital transformation now occupies an integral point in gender inequality discussion the world all over. See OECD, 'Bridging the Digital Gender Divide: Include, Upskill, Innovate' (OECD, 2018) <<https://www.oecd.org/digital/bridging-the-digital-gender-divide.pdf>> accessed 15 Sept 2023.

¹¹ Robert A Manning, 'Emerging Technologies: New Challenges to Global Stability' [2020] *Atlantic Council: Showcroft Centre for Strategy and Security* 4.

¹² Tapscott Tapscott, *The Digital Economy: Promise and Peril in the Age of Networked Intelligence* (New York: McGraw-Hill Publishers 1997).

¹³ Buhkt and Heeks (n 1)

created from digital technologies and innovations and the NDEPS offers a broad definition of the digital economy as any aspect of the economy that is based on or driven by technologies.¹⁴

The various definitions of the digital economy have been summed into three different approaches by the Organisation for Economic Cooperation and Development (OECD):¹⁵

1. *Bottom-up Approach*: This approach to defining the digital economy focuses on the production processes and output of industries and organisations in determining whether they constitute part of the digital economy. From this perspective, the digital economy is the sum of sectors producing digital output or heavily reliant on digital input. This narrowly defined approach will only accommodate the economic outputs of the ICT sector and e-commerce market in terms of online sales of goods and consumers' spending on digital equipment.¹⁶ This method considers the contribution of digitalisation to economic growth. Still, its confined or narrow parameters offer an inadequate assessment since it excludes so many aspects of what can be considered part of the digital economy. From a different perspective, the emphasis on digital inputs also opens up an all-encompassing scope of activities and sectors that fall under the digital economy. For instance, the definition of G20 DETF¹⁷ that categorises a broad range of economic activities using digitised information and knowledge as the critical factor of production, though narrow in limiting digital economy by digital input, encompasses all sectors of the economy since most of these sectors use digital inputs.
2. *Top-Down or Trend-Based Approach*: This approach aggregates the collective effect of the value created by digital transformation and its impact on the economy. Thus, its view of the digital economy will include the transformative effect of technology on individuals, society, industries, and sectors of the economy. This method evaluates fundamental trends driving digital transformation and further examines how these trends are reflected in the real economy. This approach goes

¹⁴FMoCDE, *National Digital Economy Policy and Strategy (2020-2030) NDEPS* (Abuja: FMoCDE 2020) 2.

¹⁵ OECD, 'A Roadmap Toward a Common Framework for Measuring the Digital Economy: Report for the G20 Digital Economy Task Force' <<https://www.oecd.org/sti/roadmap-toward-a-common-framework-for-measuring-the-digital-economy.pdf>> accessed 15 Sept 2023.

¹⁶Jurica Novak and others, 'The Rise of Digital Challengers: How Digitization Can Become the Next Growth Engine for Central and Eastern Europe' <<https://www.mckinsey.com/~/media/McKinsey/Featured%20Insights/Europe/Central%20and%20Eastern%20Europe%20needs%20a%20new%20engine%20for%20growth/The-rise-of-Digital-Challengers.ashx>> accessed 15 Sept 2023.

¹⁷ Ibid.

beyond the conventional metrics to capture how the benefits of digital investments can transcend from one company to another, multiplying their final impact. Doing so reveals that the digital economy is much larger and more widely spread than previously thought, thus casting a new light on how to make plans for the future.¹⁸ The IMF, however, disagrees with this view of the digital economy. While it concedes that digitalisation has penetrated many activities and almost the entire economy, it argues that it is more realistic to focus measurement efforts on a concrete range of economic activities at the core of digitalisation.¹⁹

3. *Flexible or Tiered Approach*: This approach to defining the digital economy classifies it into core and non-core components. Thus, the digital economy is comprised of all segments of the economy that make extensive use of digital technologies (i.e., for which existence depends on digital technologies), as opposed to sectors that make intensive use of digital technologies (i.e., only applying digital technology to enhance their productivity).²⁰ Bukht and Heeks also adopted this approach regarding the digital economy as the share of output derived solely or primarily from digital technologies with a business model based on digital goods or services.²¹

These definitions imply that the digital economy can be portrayed as the famed elephant described by three blind men. Each definition describes the digital economy from the author's primary area of focus or the trends that were prevalent at the time. As the world is only at the cusp of digitalisation, there exists an absence of widely accepted definitions for the emerging digital economy and several other related economic terms. Hence, many interpretations may be given to the same concept in different forums and the relevant literature and analyses. The rationale for this is the unconventionality and absence of sufficient understanding or clarity of the digital economy. It may also reflect the high pace of technological advancement. As the time required for adopting standard definitions is less often commensurate with the pace of technological change, it is essential to strike a balance between avoiding confined definitions that may inhibit progress and reaching a mutual understanding of relevant terms.²²

¹⁸ Oxford Economics, 'Digital Spillover: Measuring the True Impact of the Digital Economy' (2020) <https://www.huawei.com/minisite/gci/en/digital-spillover/files/gci_digital_spillover.pdf> accessed 15 Sept 2023.

¹⁹ IMF, 'Measuring the Digital Economy' <<https://www.imf.org/en/Publications/Policy-Papers/Issues/2018/04/03/022818-measuring-the-digital-economy>> accessed 15 Sept 2023.

²⁰ Ibid.

²¹ Bukht and Heeks (n 1).

²² UNCTAD, *Digital Economy Report 2021: Cross-border Data Flows and Development – For Whom the Data Flow* (United Nations Publications, 2021)

In this regard, the opinion of the United Nations Commission on Trade and Development (UNCTAD) proves prescient:

As the world is only at the early stage of digitalisation, the evolving digital economy and several other related economic terms lack widely accepted definitions. There may be many interpretations of the same term in the relevant literature and analyses, as well as in different forums. This is because of the novelty and the lack of sufficient understanding or clarity regarding this phenomenon. It may also reflect the high speed of technological progress. The time required for agreeing on standard definitions often lags behind the velocity of technological change. In this context, it is necessary to strike a balance between avoiding straitjacketing definitions, which may block progress, and reaching a common understanding of relevant concepts.²³

2.2 Concept and Theories of Digital Divide

The term ‘digital divide’ was first used in the mid-late 1990s and gained popularity only afterwards.²⁴ It describes the divide between individuals who can access modern information and communication technology and those without access.²⁵ The OCED defines ‘digital divide’ as a “gap between individuals, households, businesses, and geographic areas at different socio-economic levels with regard both to their opportunities to access ICTs and to their use of the internet for a wide variety of activities”.²⁶ This is to say that the digital divide transcends inequality of access to ICT between individuals; it extends to groups, which could include certain communities indicated by geographical distinctions. Digital divide is sometimes referred to as ‘Digital Inequality’. Four major theories of digital divide have emerged - the Adoption-Diffusion Theory, Van Dijk’s Theory, the United Theory of Acceptance and Use of Technology (UTAUT), and the Spatially Aware Technology Utilization Model (SATUM).

The Adoption-Diffusion Theory, which originated in the 1950s and ‘60s from studies on the adoption and diffusion of varied innovations, was popularized by an American communications theorist and sociologist, Everett Rogers, in 1962.²⁷ The diffusion of innovations theory is a hypothesis that outlines the

<https://unctad.org/system/files/official-document/der2021_en.pdf> accessed 15 Sept 2023.

²³ Ibid.

²⁴ J Prick and A Sarkar, ‘Theories of Digital Divide: Critical Comparisons’ (49th Hawaii International Conference on System Sciences, USA, 2016).

²⁵ C Steele, ‘What is the Digital Divide’ (22 Feb 2019) <<http://www.digitaldividecouncil.com/what-is-the-digital-divide/>> accessed 15 Sept 2023.

²⁶ Prick and Sarkar (n 24).

²⁷ CFI Team ‘Diffusion of Innovation: The Rate at which New Ideas and Technology Spread’ (CFI Team)

methods and process through which new technological advancements are spread throughout societies and cultures from the first stage – introduction - until it is finally fully adopted.²⁸ It identifies openness to risks and innovation as the reason why some people may have access to information technology when others do not.²⁹

Jan A Van Dijk developed Van Dijk's Theory of the digital divide.³⁰ It posits that inequalities of personal positions and backgrounds result in disparities in resources for the individual, which leads to inequalities of access and eventually to disparities in participation by the individual in society.³¹ The core tenets of his theory are - categorical inequalities in society produce an unequal distribution of resources; unequal distribution of resources causes unequal access to digital technologies; unequal access to digital technologies also depends on the characteristics of these technologies; unequal access to digital technologies brings about unequal participation in society; unequal participation in society reinforces categorical inequalities and unequal distributions of resources.³²

The United Theory of Acceptance and Use of Technology (UTAUT) proposes four core constructs in analysing the digital divide in any given society: performance expectancy, effort expectancy, social influence, and facilitating conditions. The UTAUT combines the four considerations to determine the extent of the digital divide/acceptance of any recently launched technology.³³ The Spatially Aware Technology Utilization Model (SATUM) accounts for the spatial effect of the digital divide. It takes into account the geographic forces, the extent of urbanization, and the levels of technology adoption. It seeks to determine how geographic proximity to regions, provinces, or communities impact levels of ICT adoption.

3. Nature, Causes, and Effects of Digital Divide in Nigeria

Differences in the developmental stage of different countries contribute to and account for various access levels of access to information and communication

<<https://corporatefinanceinstitute.com/resources/economics/diffusion-of-innovation/>> accessed 15 Sept 2023.

²⁸ C Halton, 'Diffusion of Innovations Theory' <<https://www.investopedia.com/terms/d/diffusion-of-innovations-theory.asp>> accessed 15 Sept 2023.

²⁹ CFI Team (n 27).

³⁰ Jan AGM Van Dijk, 'Digital Divide: Impact of Access' in Patrick Rossler, Cynthia A Hoffler and Liesbet von Zoonen (eds) *The International Encyclopedia of Media Effects* (John Wiley & Sons, Inc Published 2017).

³¹ Ibid.

³² Ibid.

³³ D Marikyan & S Papagiannidis, 'Unified Theory of Acceptance and Use of Technology: A Review' In S Papagiannidis (ed) *TheoryHub Book* (Open NCL, United Kingdom, 2023).

technology (ICT). Hence, the extent of digital divide is wider in developing and underdeveloped countries than in their developed counterparts. The barriers to access to information and technology are both physical and social. Nigeria, like most developing countries, has a significant gap in digital divide for various reasons. Several factors are responsible for the nation's digital divide.

A considerable level of knowledge, literacy, and competence in the use and adoption of ICT tools, solutions, and techniques is vital for citizens to properly engage and benefit in the now pervasive digital economy.³⁴ Census projection estimates that over 33.6 million (16.8 percent) Nigerians are youths (aged between 15 and 35) and 43.69 per cent of them were aged 0 to 14 in 2019.³⁵ On the face of it, this constitutes a veritable asset for the country and a great prospect for the growth of the digital economy in Nigeria, since young people are generally favourable early adopters of technology. Realizing that expectation will require that the youths should have appropriate skills for inclusive and productive participation.

Firstly, Nigeria has high levels of poverty.³⁶ 63% of Nigerians are classified as multi-dimensionally poor; that is, they are deprived of the three-dimensional elements of well-being: money, education, and basic infrastructure.³⁷ Due to their deprived state, a significant portion of the population sees ICT and the Internet as luxuries and unnecessary. Secondly, the digital divide is exacerbated by spatial considerations because of the disparity in access between urban-rural areas. Since the multidimensional poverty level in rural areas is as high as 73%, compared with 42% in urban areas, the level of the divide is more significant in rural areas³⁸. Furthermore, rural communities have limited levels of electricity supply, and because most ICT equipment requires electricity to function, they cannot function in these places.

³⁴ AM Oyelakin, 'Increased Digital Literacy Skills as a Catalyst for Driving Nigerian Digital Economy: An Overview' [2022] (7) (1) *Malaysian Journal of Applied Science* 52-57.

³⁵ J Daniels, 'Why We Should Drive It Home for the Nigerian Youth' Vanguard Newspapers (Nigeria, 16 January 2022) <https://www.vanguardngr.com/2022/01/why-we-should-drive-it-home-for-the-nigerian-youth/> accessed 22 April 2022.

³⁶ RS Dauda Poverty and Economic Growth in Nigeria: Issues and Policies, (2017) 21(1) *Journal of Poverty* 61-79.

³⁷ Nigerian Bureau of Statistics, 'Nigerian Multidimensional Poverty Index, 2022' <<https://www.nigerianstat.gov.ng/pdfuploads/NIGERIA%20MULTIDIMENSIONAL%20POVERTY%20INDEX%20SURVEY%20RESULTS%202022.pdf>> accessed 15 Sept 2023.

³⁸ C Mba, '61% Unconnected Rural Dwellers and Other Key Figures Nigeria Must Rewrite Towards Becoming an All-Inclusive Digital Economy' <<https://www.dataphyte.com/latest-reports/economy/61-unconnected-rural-dwellers-other-key-figures-nigeria-must-rewrite-towards-becoming-an-all-inclusive-digital-economy/>> accessed 15 Sept 2023.

Nigeria's low literacy rate is the third contributor to the nation's digital divide. Education is one of the tools to reduce digital gaps that exist. It exposes civilizations to information technology and the internet. Where the people are uneducated, digital disparities are wide. The Nigerian educational sector is beset with many challenges in the form of weak institutional coordination and capacity; poor funding; quality of teaching staff; and emphasis on theoretical rather than practical education.³⁹ Of a population of over 213 million people, an estimated 76 million adults are uneducated⁴⁰ and about 20 million children are out of school.⁴¹ In addition, a considerable level of knowledge, literacy, and competence in using and adopting ICT tools, solutions, and techniques is vital for the proper engagement of citizens in benefiting from the now pervasive digital economy.⁴² A World Bank Study identified the population's lack of digital skills as a significant barrier to the country's digital economy aspiration.⁴³

Interestingly, the consequences of digital divide are far-reaching in every society. It creates a new distinction basis in society. It robs individuals, groups, and even the government of the opportunity to develop technologically, causing the groups at the end of the divide to be left behind in the wave of advancement enveloping the global village.⁴⁴ The divide has had an all-negative impact on the Nigerian population, as it deepens because of the problems of access to, distribution of, and use of information technology. People only become poorer and the nation more underdeveloped. Technology has been described as the new oil in many economies, including the Nigerian economy. A lot of business, learning, and career opportunities are online. Trading, for instance, has been made more convenient because of the internet and technology through e-commerce. The world as we know it has become digitised. If the divide is not reduced, Nigerian society will only be pushed backwards in development, and the margins between the haves and the have-nots will be strengthened.

³⁹ AM Oyelakin, 'Increased Digital Literacy Skills as a Catalyst for Driving Nigerian Digital Economy: An Overview' [2022] (7) (1) *Malaysian Journal of Applied Science* 52-57.

⁴⁰ Tribune Online, '76 million Nigerian Adults are Illiterates- FG' (Nigerian Tribune, 7 September 2021).

⁴¹ M Alabi, 'Updated: Nigeria Now has 20 million Out-of-School Children' *Premium Times* (1 September 2021).

⁴² *Ibid*, n 39.

⁴³ Lixi Marc Jean Yves and others, 'Nigeria Digital Economy Report' (Washington, DC) World Bank Group <<http://documents.worldbank.org/curated/en/387871574812599817/Nigeria-Digital-Economy-Diagnostic-Report>> accessed 15 Sept 2023.

⁴⁴ C Steele, 'The Impacts of Digital Divide' (Digital Divide Council, 20 September 2018) <<http://www.digitaldividecouncil.com/digital-divide-the-pros-and-cons/>> accessed 15 Sept 2023.

4. Legal and Policy Frameworks for Bridging the Digital Divide in Nigeria

The efforts to build a thriving digital economy in Nigeria have led to the adoption of various legal and policy frameworks. These frameworks include several policies and initiatives aimed at expanding access to affordable, reliable, and internet connectivity. These frameworks include;

4.1 National Broadband Plan

In 2013, the Nigerian government developed a National Broadband Plan (NBP) that seeks to provide broadband access to all Nigerians.⁴⁵ The Plan outlines strategies to increase broadband penetration in underserved areas, improve digital infrastructure, and promote digital literacy. Since the Plan was introduced, there has been a significant increase in broadband penetration in Nigeria, with the number of active broadband subscriptions growing from 3.4 million in 2013 to over 153 million in 2021.⁴⁶ The NBP has also facilitated the deployment of broadband infrastructure in underserved areas through initiatives such as the Backbone Transmission Infrastructure Project and the Rural Broadband Initiative.⁴⁷ However, despite these achievements, there is still a significant digital divide in Nigeria, particularly in rural areas where internet access remains limited.⁴⁸ Additionally, low levels of digital literacy continue to limit the potential impact of increased broadband access in areas where broadband service has been extended to.⁴⁹ Therefore, while the NBP has been effective to some extent in bridging the digital divide in Nigeria, more work needs to be done to ensure that all Nigerians have equal access to digital technologies and can fully participate in the digital economy.

4.2 Nigerian Communications Act

The Nigerian Communications Act (NCA) established the Nigerian Communications Commission (NCC) and regulates the telecommunications

⁴⁵ Federal Ministry of Communications and Digital Economy 'National Broadband Plan' <https://www.ncc.gov.ng/technical-regulation/national-broadband-plan_2013-2018> accessed 15 Sept 2023.

⁴⁶ Nigerian Communications Commission 'Active Broadband Subscriptions' <<https://www.ncc.gov.ng/stakeholder/media-public/media-reports/active-broadband-subscriptions>> accessed 15 Sept 2023.

⁴⁷ Galaxy Backbone 'Backbone Transmission Infrastructure Project' <<https://www.galaxybackbone.com.ng/btisp/>> accessed 15 Sept 2023; Nigerian Communications Commission 'Rural Broadband Initiative' <<https://www.ncc.gov.ng/digitalinclusion/ruralbroadband-initiative>> accessed 15 Sept 2023.

⁴⁸ International Telecommunication Union 'Digital Access Index 2021' <<https://www.itu.int/en/ITU/Statistics/Documents/facts/IDA2021/IDA2021-w5.pdf>> accessed 15 Sept 2023.

⁴⁹ Digital Sense Africa 'Digital Literacy in Nigeria: Bridging the Divide' <<https://www.digitalsenseafrica.com.ng/2019/07/26/digital-literacy-in-nigeria-bridging-the-divide/>> accessed 15 Sept 2023.

industry in Nigeria.⁵⁰ The Act provides a framework for the development of the telecommunications sector, including measures to promote fair competition, ensure access to telecommunications services, and protect consumer rights. The NCA has been instrumental in bridging the digital divide in Nigeria, particularly in terms of increasing access to telecommunication services across the country.

Through the NCC, the Act has facilitated the expansion of telecommunication infrastructure across Nigeria, including in rural and underserved areas.⁵¹ Additionally, the Act has helped to promote healthy competition in the telecommunications sector, which has led to more affordable and accessible telecommunication services.⁵² However, while the Act has effectively increased access to telecommunication services, it has been criticised for not promoting digital literacy and technology adoption among Nigerians.⁵³ Therefore, while the Nigerian Communications Act has played a critical role in bridging the digital divide in Nigeria, there is still room for improvement to ensure that all Nigerians can fully participate in the digital economy.

4.3 Universal Service Provision Fund

The Universal Service Provision Fund (USPF) was established in 2006 to provide funding for deploying ICT infrastructure in underserved and unserved areas of Nigeria. The Nigerian Communications Commission manages the fund, financed through a 1% levy on the revenue of telecommunications service providers. The fund aims to promote universal access to telecommunications services in underserved and unserved areas of Nigeria. The USPF has been instrumental in bridging the digital divide in Nigeria by providing funding for the deployment of telecommunication infrastructure in underserved areas, including rural communities and regions affected by conflict.⁵⁴

Through its various initiatives, such as the Rural Broadband Initiative and the School Knowledge Centre program, the USPF has helped increase access to broadband internet and digital services for many previously underserved Nigerians.⁵⁵ However, despite these achievements, there are still significant challenges in bridging the digital divide in Nigeria, including limited access to

⁵⁰ **Nigerian Communications Act 2003.**

⁵¹ Ibid.

⁵² Ventures Africa ‘Nigerian Communications Act: Driving Growth and Innovation in the Nigerian Telecoms Industry’ <<https://venturesafrica.com/nigerian-communications-act-driving-growth-and-innovation-in-the-nigerian-telecoms-industry/>> accessed 15 Sept 2023.

⁵³ Ibid.

⁵⁴ TechNext ‘Universal Service Provision Fund: Ensuring Universal Access to Telecommunications Services’ <<https://technext.ng/2019/09/24/universal-service-provision-fund-ensuring-universal-access-to-telecommunications-services/>> accessed 15 Sept 2023.

⁵⁵ Universal Service Provision Fund ‘Rural Broadband Initiative’ <<https://www.uspf.gov.ng/rural-broadbandinitiative-rbi/>> accessed 15 Sept 2023.

electricity and low levels of digital literacy.⁵⁶ Therefore, while the USPF has made significant progress in promoting universal access to telecommunications services in Nigeria, there is still more work to do to ensure that all Nigerians have equal access to digital technologies and can fully participate in the digital economy.

4.4 National Identity Management Commission Act

The National Identity Management Commission (NIMC) Act was established in 2007 to create and manage a national identity database and issue National Identity Numbers (NIN) to citizens and legal residents in Nigeria.⁵⁷ The Act provides a legal framework for managing national identity data. Its goal is to provide a unique identity to every Nigerian and facilitate public and private services, including financial services, education, healthcare, and voting. However, the effectiveness of the NIMC Act in achieving this goal still needs to be improved. This framework needs the adequate infrastructure to facilitate its application. In addition, poor funding and corruption have hindered the successful implementation of the NIMC Act.⁵⁸ Moreover, the low level of awareness and education about the importance of obtaining NIN among the population and the difficulty in accessing registration centres have further slowed down the process. As a result, many Nigerians, especially those living in rural areas and low-income communities, still need access to digital services and are excluded from the benefits of the digital economy.

4.5 Nigeria ICT Policy

The Nigeria ICT Policy (2012) provides a framework for developing the ICT sector in Nigeria. The policy aims to promote universal access to ICT services, promote digital literacy and skills development, and support innovation and entrepreneurship in the ICT sector. The policy also seeks to address the gender digital divide by encouraging the participation of women in the ICT sector. Nigeria's ICT policy was first introduced in 2001 to address the digital divide in the country by increasing access to and adoption of ICT. Since then, the government has implemented various initiatives, such as the National Broadband Plan (2013-2018) and the establishment of the Nigerian Communications Commission (NCC) to regulate the ICT sector.

However, the effectiveness of these policies in bridging the digital divide in Nigeria has been a subject of debate. While the government's efforts have increased internet penetration and mobile phone usage, the digital divide

⁵⁶ Universal Service Provision Fund 'School Knowledge Centre' <<https://www.uspf.gov.ng/school-knowledge-centre-skf/>> accessed 15 Sept 2023.

⁵⁷ National Identity Management Commission Act 2007.

⁵⁸ B Abubakar and M Kaura, 'Examining the Implementation of the National Identity Management Act in Nigeria'

International Journal of Innovative Science and Research Technology (2020) 5 (4) 136-147.

persists, particularly in rural areas where access to infrastructure and electricity remains a challenge.⁵⁹ The government must also prioritize ICT infrastructure development to create a healthy environment for private sector participation to achieve more significant results.⁶⁰ Overall, while the Nigerian ICT policy has made some progress in closing the digital gap, there is still a need for more concerted efforts to achieve significant and sustainable results.

5. Recommendations and Conclusion

5.1 Recommendations

Further steps are needed to urgently address the digital divide and its impacts on the digital economy in Nigeria. The first step in this regard is addressing inadequate telecommunication and electrical infrastructure. The goal of full broadband penetration will be achieved through a multi-prong approach, including the Infrastructure Company (InfraCo) Project, a public-private partnership (PPP) under the Open Access Model. Part of the goal of the InfraCo is the resolution of 'Right-of-Way' (RoW) charges in the states, provision of incentives to encourage the increase of investment in broadband rollout, and enacting legislation to classify core digital infrastructure as Critical National Infrastructure. Although the country has improved significantly in its data availability and affordability, connection quality issues remain regarding reliability, quality, and speed of service.

Furthermore, there is a need to strengthen public trust in the use of digital technologies and participation in the digital economy by tackling the issue of cyber security, standards, frameworks, and guidelines that will make citizens more comfortable adopting and utilising digital technologies. In addition, the nation needs to allocate more resources to digital education, focusing on providing comprehensive training and resources to empower citizens to fully utilise the internet and its resources for economic and social advancement. Integrate digital literacy and skills into the national education curriculum at all levels, support training and capacity building among public sector employees and citizens, improve the delivery of government services, and lower the access barrier to digital tools.

⁵⁹ A Fadairo and A Ogunleye, Bridging the digital divide in Nigeria: An analysis of ICT infrastructure development'

[2020] *Telematics and Informatics* 101.

⁶⁰ M Osunade and C Ayo, 'An analysis of the impact of ICT policies on bridging the digital divide in Nigeria' *International Journal of Interactive Mobile Technologies* (2017) 11 (6) 122-132.

Digitalization has opened up several forms of content creation in the form of videos, blogs, internet forums, social networking sites, etc. Digital content creation has become a source of revenue, employment, and social welfare enhancement. Regulatory reforms and appropriate mechanisms are required to incentivise local digital content creation funding. Also, this should encourage the development of locally relevant content and applications in languages easily understood by the local community. Promoting these local language-based platforms to increase internet adoption and digital participation among diverse linguistic groups across Nigeria.

5.2 Conclusion

Nigeria has the fundamentals to become a significant player in the digital economy as one of the countries with the largest youth populations in the world and Africa's biggest economy. The opportunities and prospects offered to the country by the digital economy can only be achieved by putting in place essential elements that will enable the citizens to have access to quality digital services. With the growth of the digital economy, the inability to access information and communication technology and the internet places people at a disadvantage, leading to the classification of people based on their level of access and the divide in their digital access. The digital divide constitutes a clog on the wheels of Nigeria's digital economy development. Admittedly, efforts have been undertaken towards its abridgement, but greater efforts are needed. Therefore, the government must identify the areas that need greater focus for active participation in the global digital economy. The areas recommended in this paper are fundamental for bridging that divide by developing and deploying targeted regulatory and policy initiatives to promote these specific areas.