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Information and Communications Technology (ICT) and the Nigeria's Digital Economy, Regulations and Challenges

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Abstract
Information and Communication Technology (ICT) is becoming an essential part of the trade in managing the business flow in Nigeria. It stimulates the global market and overall shift in economic growth. This development is known as 'digitalization' and is now a veritable tool for trade globalization. This paper took a critical look at policies and regulatory frameworks of Information and Communications Technology and the challenges of the Nigeria's Digital Economy. Policies and regulations in the ICT sector significantly affect the overall digital economy output. The Federal Government should review and unify conflicting ICT policies and regulations to avoid duplication, inconsistencies and conflicts arising therein. Other challenging factors that hamper the development of the Nigeria's digital economy include, but not limited to: poverty, lack of required digital skills, social vices, inadequate infrastructure development, poor standard of living/low income and low education level. We have also identified some measures to ameliorate the identified challenges, which include: creation of jobs and digital skills acquisition and training by well-meaning individuals, government and private establishments, thus, reducing poverty and digital skills gap; enact laws and regulations that directly affect the digital economy and reduce crimes using the Internet; encourage local content and indigenous applications written in both English and local languages, while accommodating persons with low literacy level. If these solutions are religiously implemented, we make bold to conclude that the digital economy offers Nigeria's most hopeful path to shared prosperity.

Keywords: Digital Economy, Digital Skills Gap, Digitalization, Local Content, Shared Prosperity.

1.1 Introduction

According to Information Technology Association of America (ITAA) (2008), ***Information Technology*** is the study, design, development, implementation, support or management of computer-based **information systems**. It deals with the use of computers to **securely convert**, **store**, **protect**, **process**, **transmit**, **input-output** and **retrieve information**. They also described **Technology** as "purposeful intervention by design"; the way we apply scientific knowledge for practical purposes. It includes machines (like computers) but also techniques and processes (like the way we produce computer chips). Over the time, a lot of advancements in the field of information technology have generated a whole new concept, which in turn broadens our scope or understanding of the associative terms in information technology.

The Nigerian National Policy for Information Technology Document (2012) describes Information Technology as computers, ancillary equipment, software and firmware (Hardware) and similar procedures, services (including support services) and related resources; It also viewed Information

Technology as any equipment or interconnected system or subsystem of equipment, that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission or reception of data or information.

Rich Castagna (2021) defines Information technology (IT) as the use of any computers, storage, networking and other physical devices, infrastructure and processes to create,

process, store, secure and exchange all forms of electronic data. Castagna opined that IT is used in the context of business operations, as opposed to technology used for personal or entertainment purposes. The commercial use of IT encompasses both computer technology and telecommunications. He furthermore classified the work of the IT team into three major areas:

1. deployment and maintenance of business applications, services and infrastructure (servers, networks, storage);
2. monitoring, troubleshooting and optimization of the performance of applications, services and infrastructure; and
3. controlling the security and governance of applications, services and infrastructure

Information and Communication technology is used in most of the fields such as Finance, Construction, Medicine, Agriculture, Security, E-governance, E- Commerce, Transport, etc. With the developments in technology, computing infrastructure and the need to automate and reduce cycle times, computing infrastructure and platforms have made way for an effective digitalisation of the economy. According to World Bank Group, Nigeria Digital Economy Diagnostic Report (2019), Nigeria is regarded as Africa's largest ICT market with 82% of the continent's telecoms subscribers and 29% of internet usage. In Nigeria, ICT is at the lead in the bid to fight corruption, improve cyber security, explore economic diversification and enhance government productivity in Nigeria by contributing to monitoring and tracking information in real time, allowing better decision-making.

Digitalisation has permeated into our daily lives; it is the use of ICT and digital technologies to change a business model and provide new revenue and value-producing opportunities. Digital solutions have presented enormous opportunities for Nigeria to charter a new digital-driven development path. According to Cairncross (1997), digital technologies are altering the old deep forces that regulate industrial business architecture: transaction costs, how information is generated and shared, how production occurs, the product ecosystem and the management of risks, how applications interact. Digitalisation employs context driven applications to create smart environments. In Nlerum, P. A. and Ogheneovo, E.E (2020), context means all information coming from the environment that is used by the application to adapt its behavior. Industries such as media, banking, postal services, retail and telephony are being upended by new digital entrants employing context driven application. This process is fast moving and spreading to almost every industry. As such, even seemingly 'physical' industries such as tourism, food and transport are being transformed by the application of digital technology. This is the digital economy as nurtured by ICT. We shall explore ICT and digital economy concepts and way forward in later sections.

1.2 ICT Development in Nigeria, Policy and Regulatory framework.

Over the years, there has been significant increase in the awareness and use of information technologies (IT). Information and Communication Technology has entirely changed the way Countries and Nations manage business processes. Developing countries, and especially those in Africa (like Nigeria), that arrived late in the world of ICTs have been affected by technological changes. These multidimensional changes (technical, financial and economic, cultural, social and geo-political) have impacted upon almost all aspects of life: economic, education, communications, leisure and travels (Thioune, 2003).

It is a known fact that the capability of a developing country to flourish in global economy depends on the nations' objectives of ICT policies and their ability for proper implementation of such policies. Kimura F. (2020). According to Anie, 2011, an Information and Communication Technology (ICT) policy is an official statement which spells out the objectives, goals, principles, strategies etc. intended to guide and regulate the development, operation and application of ICT. ICT policies must take into account other policies such as education policies, trade and investment policies, foreign policy, monetary policy, transport policy, etc. However, earlier studies have shown that most of the developing countries especially Nigeria, are yet to embrace fully the application of ICT in socio-economic and political life of the people (Policy and digital master plan for South Africa, 2020).

Tega (2010) defined Policy as a set of principles and strategies which guide a course of action for the achievement of a given goal. The ICT Policy and Strategic Action Plan of Enugu State defined Policy as a set of principles or a broad course of action that guides the behaviour of governments, organizations, corporations and individuals. It bridges the gap between the visions of where we are and where we want to be and the plans that enable us to get there. For governments, policy is a tool to promote national or state vision and the basis for the legislation and regulation through which it is implemented. Policies may be developed at the organizational or institutional level or at the regional, national or international level and are embodied in a variety of policy instruments (legal, professional and cultural). To this end, organizations have mission statements from which strategic plans are developed. Policy concretizes, gives guidance and assures consistency with the achievement of strategic plans. Policy is the foundation upon which operations are built. Policies are intended to regulate the conduct of people in systems.

In the past years, there have been government regulations and policies that guide the conduct of persons, private establishments and government establishments/agencies when using digital solutions and infrastructures in business processes. This section appraises the legal and regulatory framework for regulating ICT (the backbone of digital economy) in Nigeria. It also presents an overview of the laws that pertain to the ICT sector in Nigeria and the institutional regulatory framework for enforcing those laws. Following is some of the policies and regulations.

1.2.1 Wireless Telegraphy Act

Originally, Telegraphs are electrical signals transmitted over a wire laid between stations for the purpose of conveying messages, visual images and sound. In a bid to regulate, manage and use communication systems and infrastructure, the Wireless Telegraphy Act (WTA) was legislated in 1961. This law came into existence before any other regulations guiding the Telecommunications Sector. This Act regulates individuals, private establishments and government in relation to the licensing, operations and points where communication infrastructures are to be

located and installed in Nigeria. Going by this law, it is necessary for any person to abide by the regulations of this Act, which requires the notification and issuance of license by the Commission (Nigerian Communication Commission) before the installation and use of telecommunication stations for the purposes of wireless telegraphy.

1.2.2 The Nigerian Communications Act

In 2003 the Nigerian Communications Act was enacted to provide for a proper regulatory framework for the entire communications industry. This Act gave birth to the Nigerian Communications Commission (NCC), which is an umbrella body that issues licenses that allow communication subsidiaries called service providers to operate freely, while adhering strictly to the regulations. Service providers without licenses are advised not to operate until they are licensed. In summary, the Act is to ensure favourable environment for telecommunication operators and encourage competition and provide for efficient and quality telecommunications services for operators across the country.

According to this Act, the primary objective of this Act is to establish and generate a proper regulatory guide for the Communication industry and other related matters. For more details of this Act, The National Communication Act (2003) document will be a proper guide. However, the policy objectives still have a long way to be fully harnessed owing to the poor state of research in IT and Communications and also issues relating to Government interest and the desire to fully implement policy objectives as stated in the Act.

1.2.3 The Nigerian Communications Commission

The Nigerian Communications Commission is an independent regulatory body that was birthed by the Nigerian Communications Act. It was created on 24th of November, 1992 under Decree 75 of Nigeria. The task of creating conducive and competitive atmosphere for Telecommunication operators is the sole responsibility of the Nigerian Communications Commission. It is also the duty of the NCC to ensure that services rendered by Telecommunication companies are dependable and efficient. Promotion and the protection of Consumer rights and privileges, including tariff regulation and unfair practices by the Telecommunication service providers are also part of the functions of the NCC.

1.2.4 The National Broadcasting Commission Act

On August 24, 1992, a Decree of the National Assembly was promulgated which gave rise to the National Broadcasting Commission. However, on May, 1999 this Decree was amended and adopted as an Act of the National Assembly. The purpose of the amendment was to extend the scope to accommodate some technicalities in radio, cable television and satellite broadcast that were initially not contemplated in the initial Act. This Act therefore sets standards and provides for individuals the platform for approvals and licences for cable, television and radio services; the overall aim is to regulate these services.

1.2.5 The National Information Technology Development Agency (NITDA) Act

NITDA stands for National Information Technology Development Agency. It was established by the NITDA Act of 2007. The National Information Technology Development Agency (NITDA) is committed to implementing the National Digital Economy Policy for Digital Nigeria. The National Information and Technology Development Agency is authorized by this Act, 2007 to generate a framework for planning, research, development, standardization, application, coordination, monitoring, evaluation and regulation of Information Technology practices in Nigeria by developing standards, guidelines and regulations for that purpose. In addition, the agency shall: (a) Provide guidelines to facilitate the establishment and maintenance of appropriate tools for information technology and systems application and development in Nigeria for public and private sectors, urban-rural development, the economy and the government; (b) Monitor closely the digital infrastructure space by developing guidelines for electronic governance and monitor the use of electronic data interchange and other forms of electronic communication transactions. (c) Develop guidelines for the networking of public and private sector establishment ;(d) Guide the Government on ways of encouraging the development of information technology in Nigeria including introducing appropriate information technology legislation from time to time, to improve national security and liveliness of the industry; etc.

In general, the basic functions of the Agency are in line with the five pillars of the Digital Economy; Regulating Growth, Digital Literacy and Skills, Solid Infrastructure, Service Infrastructure, Digital Services Development and Promotion, Software Infrastructure, Digital Society and Emerging Technologies & Indigenous Content Development and Adoption. It is hoped that NITDA will continue to play its leading role in the digital economy space in Nigeria.

1.2.6 National Cyber Security Policy and Strategy (2021) Bill

The Federal Government in a bid to safeguard the digital economy from cybercrimes, presented the Nigerian Cyber Crime bill in 2013, which was assented to. A review of this policy was made in June, 2014, the documents of which are those presented and modified in the National Cyber Security Policy and Strategy, 2021. This new policy is hinged on protecting national security, strengthening economic development and fighting corruption. The Cybersecurity policy also tries to strike a balance between our cyberspace and the pace of advancements in the IT world. Several seminars and workshops have enlightened the public to understand the risks in the digital space and how to reduce the vulnerability opportunities that adversaries can benefit from, thereby making the best out of the digital economy.

2.1 Digital Economy and the Nigerian Vision

The part of the Nigerian economy that is tied to digital products and solutions has been on the forefront of all sectors of the economy. Integrating digitalisation into all facets of national growth and development comes with great benefits ranging from ease of governance to financial gains across individuals, private establishments and government.

The European Commission defines the digital economy as an economy that “encompasses businesses that sell goods

and services via the internet, and digital platforms that connect spare capacity and demand". The World Economic Forum and the Group of Twenty (G20) define the digital economy as "a broad range of economic activities comprising all jobs in the digital sector as well as digital occupations in non-digital sectors". The Policy document of National Digital Economy Policy and Strategy (2020-2030) of Nigeria defines Digital Economy as *Any aspect of the economy that is based on or driven by digital technologies.* World Bank Group in the Nigeria Digital Economy Diagnostic Report (2019) defined Digital Economy as the part of economic output derived solely or primarily from digital technologies (ICT) with a business model based on digital goods or services.

The vision of the National Digital Economy Policy and Strategy (NDEPS) is "To transform Nigeria into a leading digital economy providing quality life and digital economies for all." With a supporting mission statement that reads "We build a nation where digital innovation and entrepreneurship are used to create value and prosperity for all". According to Kurbalija J and Höne K (2021) the digital economy is transversal, as it impacts on every sector of the economy, whereas, Information and Communication Technology (ICT) is the sectors of an economy deriving power from digital systems and structures, and also a major stakeholder that has significant role in the development of digital economy.

In this paper we define Digital Economy as the adoption of Computer and Communications Technology in the distribution and sales of goods and services. The digital economy has brought many new services which were inconceivable before, such as online home deliveries for grocery to dating apps etc. Nigeria has a mixed economic system which includes a variety of private freedom, combined with centralized economic planning and government regulation.

2.2 National Digital Economy Policy and Strategy (2020-2030)

The main vision of the National Digital Economy Policy is "To transform Nigeria into a leading digital economy providing quality life and digital economies for all". The Digital Economy Policy and Strategy document aims to provide a plan for using digital technology as a platform for stimulating growth in all sectors of the economy through the development of a digital economy for the country. To achieve this aim, it relies on the mission statement: "To build a nation where digital innovation and entrepreneurship are used to create value and prosperity for all". To this Vision and Mission, the President, Muhammadu Buhari, on 17th October, 2019 approved the re-designation of the Federal Ministry of Communications as Federal Ministry of Communications and Digital Economy (FMoCDE).

For proper implementation and scalability, this Digital Economy Policy and Strategy document is based on the FMoCDE's 8-pillars for the acceleration of the National Digital Economy for a Digital Nigeria. The 8 pillars are:

1. Developmental Regulation;
2. Digital Literacy & Skills;
3. Solid Infrastructure;
4. Service Infrastructure;
5. Digital Services Development & Promotion;
6. Soft Infrastructure;
7. Digital Society & Emerging Technologies; and
8. Indigenous Content Development & Adoption.

These pillars are also intended to remove barriers in trade and make trade environments as pervasive as possible, by implementing solid and soft digital infrastructures. (Nlerum, P.A. and Ogheneovo, E. E. 2020). According to them, Pervasive computing environments allow different devices and applications to interact, while competing with available computational resources. This way, environments will be context driven and provide for seamless application interaction.

2.3 Enablers of the Nigerian Digital Economy

In order to achieve the mission and vision of the National digital economy policy and strategy, the Nigerian Digital Diagnostic Report identified five (5) critical enablers (or pillars of digital economy), as pertinent to tapping from the vast digital opportunities. They include:

1. **Digital Infrastructure**
   Digital infrastructures are the physical resources that are necessary to enable the use of data, computerised devices, methods, systems and processes. They include, but not limited to Internet backbone, broadband, Mobile telecom and digital communication suites, Data centers and networks. The proliferation of broadband connectivity can serve as a driver for economic recovery and long-term growth of the private sector (National Telecommunications and Information Administration (2016)). These infrastructures run digital services and without digital services, infrastructure providers have little for their infrastructures to do. Digital infrastructures provide for connectivity across computers, mobile/static and network devices, through the provision and access to broadband. However, in Nigeria the limited access to broadband and mobile equipment (computers and mobile devices) has denied those in the rural areas the opportunity to be part of the digital ecosystem. According to Ndukwe (2008), many citizens and businesses in Nigeria have been excluded from the digital ecosystem as a result of limited access to broadband and non-availability of adequate devices (mobile devices and computers) to fully utilize the Internet. To improve upon the infrastructure needs of the Nigerian population and increase Internet and broadband access, government needs to: develop a new Broadband Plan, deepen broadband penetration from 35% to 75%, and support the deployment and expansion of optic fibre cable using the infrastructure company (InfraCo) Project under the Open Access Model etc.

2. **Digital Platforms**
   The Nigeria digital economy diagnostics report defined digital platforms as "multisided marketplaces with business models that enable producers and users to create value together by interacting with each other. Digital platforms ease commercial traffic by providing for virtual trading and meeting of participants (buyers and seller). Economic barriers are broken and seamless trading is established through digitalisation. Examples of successful digital platforms are:

- Social media platforms like Facebook, Twitter, Instagram, and LinkedIn.
- Knowledge platforms like StackOverflow, Quora, and Yahoo! Answers.
- Media sharing platforms like YouTube, Spotify, and Vimeo.
- Service-oriented platforms like Uber, Airbnb, and GrubHub.

3. Digital Financial Services.

Digital Financial Services (DFS) are digital financial technologies that permeate the under-banked or underserved population with expansion opportunities in areas of access and reach to mobile and digital banking platforms. It is a strategic opportunity to expand the access and reach of basic financial services to the un(der)banked population in Nigeria through innovative financial technologies and platforms. The digital transformation of financial services enables digital financial inclusion to even the most remote corners of the planet. **Geeks4Geeks:** defines digital financial services as 'a whole lot of financial services that are offered in digital channels like PoS, ATM, and cash deposit Machines, Web, NIP, and E-Bills, with the internet facility'. These services are delivered and accessed via the internet only. Key components of digital financial services include: Digital Transactional Platform, Retail Agent and Electronic devices such as mobile phones, tablet PC or laptops, which access the data wirelessly and seamlessly.

4. Digital Entrepreneurship

Simply put Digital entrepreneurship involves a business pattern that utilizes the functionalities of the internet in selling services or products online, without necessarily utilizing a physical space. Examples include online courses, e-commerce, blogs, YouTube channels, and technological solutions in general. Once a business model changes to digital entrepreneurship, there are some benefits that accompany this change; they include, reduction in the physical space, ease of transformation to digital entrepreneurship, low cost of manufacturing and storage of goods, ease of distribution of digital market place etc. It was identified by the Digital economy diagnostic report, that Since Nigeria is made up of large, young, and entrepreneurial population, digital entrepreneurship will potentially become an engine of economic transformation in Nigeria and set the country on a new developmental path.

5. Digital Skills

Digital skills are fundamentally the skills (learned through care, training and effort) needed to "use digital devices, communication applications, and networks to access and manage information," from basic online searching and emailing to specialist programming and development. Digital skills are needed to communicate properly with digital devices. These skills are learned through training and practice. Acquiring digital skills can be of many benefits, such as ICT job acquisition to being self-employed. The digital economy diagnostic report identified three categories of digital skills, which include: Basic digital skills for rudimentary ICT operations, Intermediate digital skills for the general labour force and innovative digital skills for ICT professionals.

The following table depicts a survey of the performance of the digital economy enablers in Nigeria together with supporting parameters. Table 1 reveals in percentages the effects of these enablers' vis a vis the palpability on the environment and populace.

Table 1: Extent of Digital Economy Technologies (DETs) and their Impact on Growth and National Development in Nigeria, 2022.

S/NO	Response	Frequency	(100%)
1.	Digital Infrastructural Development	60	60
2.	Indigenous Platforms	30	30
3.	Non-Indigenous Platforms	70	70
4.	Participatory Digital Financial Services	70	70
5.	Digital Entrepreneurship	50	50
6.	Basic Digital Skills	80	80
7.	Intermediate Digital Skills	55	55
8.	Innovative Digital Skills	25	25
9.	Upsurge in job Opportunities	85	85
10	Substantial Increase in Revenue	90	90
11	Crime Reduction	65	65
12	Cyber Space Protection	80	80

The Federal Government has made significant strides in the infrastructure housing the digital economy in Nigeria. Efforts can be evaluated to the tune of 60% in relation to this. However, more needs to be one in the expansion of digital infrastructures (network, telecommunications and backbone infrastructures) into remote areas to enable its concomitant benefits to rural areas. On the part of indigenous platforms available in the digital space, much has not been done in the creation and development of household platforms. The efforts in this area account for a paltry 30% of the available platforms in the digital space. Special training and exposure to available platform development tools will aid in the speedy development of indigenous platforms in Nigeria. At present, non-Indigenous platforms are driving the Nigerian Economy with a 70% rating. This means that most businesses are running on non-indigenous applications. In the not-too-distant future, home-grown applications and platforms will flood the digital space, owing to Government's intervention in arrears of training and research. By Participatory Digital Financial Services, we mean the digital banked population; that is the population that utilises digital platforms to perform financial transactions and eliminate physical banking activities. The under banked population has been

reduced significantly and are mostly found in the rural areas. The population of people that participate in digital financial services as at 2022 was found to be 70%, which is a significant figure.

Digital entrepreneurship is at average of 50% as at today. There is need to improve upon online business processes by extending and expanding digital infrastructures to rural areas. This way, more persons would connect their businesses online. Basic, Intermediate and Innovative digital skills are at 80, 55 and 25% respectively. Basic Digital Skills was ranked 80%. This is due to the fact that there has been a proliferation of computers and training centres across the country, which has led to the acquisition of basic digital skills. Intermediate digital skills, is at 55%, while Innovative Digital Skills is at a low value of 25%. Nigeria needs to do more on technology hubs that will drive innovative digital skills. More effort is needed in this regard. Private and commercial establishments need to join hands with Federal Government to ensure remarkable improvements in this area.

There have been major benefits regarding to the development of the digital economy as evident in table 1: upsurge in job opportunities (85%), substantial increase in revenue (90%) and significant reduction in crimes in the country (65%) and in the cyber space (80%).

2.4 Challenges of Digital Economy in Nigeria and Ways Forward

Digital economy has since dwelt amongst us and permeated into the fabrics of our daily lives and business processes. However, some business fabrics are yet to fully enjoy its benefits owing to some obvious challenges including the digital divide. In Nigeria, the digital opportunity index value is very low in comparison to other countries. According to Van Dijk (2006), digital divide is simply the troubling gap between those who use computer and the internet and those who do not. In a broader term, it is inequitable access to information and communication technology such as the computers, telephones, and other internet technologies. Following are some identified challenges that have sustained the digital divide with respect to digital economy and way(s) to ameliorate the challenge.

1. **Numerous and Inconsistent ICT Regulations**
   Digital economy is driven by the ICT sector and whatever happens therein affects operations in the digital economy. The inconsistency in ICT policies and regulations from different government agencies has put forward many rules and regulations that discourage investment in the ICT sector; multiple regulatory bodies, long delays in the processing of permits; multiple taxation at federal, state, and local government level. This directly affects the much-needed network and communications infrastructure upon which the digital economy is driven. Several states including Lagos and Edo have begun to implement policies and ICT projects that may help to attract ICT investments and create an enabling business climate for their regions. There should be strong and consistent ICT regulatory framework that cuts across federal, state and local government levels that will help drive seamless digital economy.

2. **Digital Divide**
   A major challenge in Nigeria's digital economy is the digital divide; a construct used to describe the gap between those that can access and afford digital and mobile devices with high-speed Internet and those that cannot. Wilson (2006) defined digital divide as "an inequality in access, distribution, and use of Information and Communication Technologies between two or more populations". The inequality that exits between users and non-users is said to be vertical and that which exists among information and Technology users is said to be Horizontal, otherwise known as 'Participation Inequality'. These divides are a major problem in relation to digital economy as it creates significant inequality in the ownership and use of digital devices. In some rural areas in Nigeria, Internet access is either, limited, unavailable, or exorbitant for those who could be equipped. Even with a reliable internet connection, access to certain digital spaces can remain a challenge. Rural dwellers find it difficult to access quality internet signals due to poor infrastructure. This is because of the costly nature of the systems and technologies that relay broadband internet making it 'wasteful' to establish in rural areas. Fortunately, large-scale economical solutions that are appropriate for rural environments have been developed, such as the use of satellite broadband technologies, earth-orbiting balloons and drones.

3. **Low level of Education**
   Education has a lot to do in the Nigeria's Digital Economy. Digital economy requires some level of literacy to be able to explore the digital space. In Nigeria, there is considerable level of illiteracy in the urban and more in the rural areas. This deters interest of some population in participating in the digital space. All digital platforms use English on their desktops and menus. Some level of education is needed to be able to use and explore digital devices, as most rural dwellers lack the much-needed level of education to understand the content of what they go through while using digital devices. This impediment expands the digital divide in the area of literacy level. To encourage internet adoption in such places, local content and programs need to be developed in local languages that local populace can comprehend. In addition to this, privacy, trust, and data security issues that frighten many potential users need to be addressed by formulating policy and regulatory frameworks that ensure online websites protect their users' data and online activity.

4. **Poverty**
   Poverty is one of the major factors affecting digital economy in Nigeria. Owning and utilizing the functionalities of a digital device require money. This divide is one of the major challenges of digital economy. Being poor ranges from not having some basic needs, such as food, clothing and shelter, unable to meet social and economic obligations, lack of gainful employment skills, assets and self-esteem and has limited access to social, economic infrastructure, such as education, health, potable water etc. Poor people are found both urban and rural areas. However, according to Oye 2006, the occurrence of poverty is

more dominant in the rural areas than in urban areas. Government needs to do more in job creation, provide the necessary environment to boost businesses and create employment; provide loans with single digit interest rates, offer financing to help lower income earners afford new technology and give tariff subsidies to encourage them to buy these digital tools. Private establishments are not left in alleviating poverty, as they can also create friendly business environments; engage individuals by training them in basic digital skills, thereby creating employment.

5. Digital Skills Gap

Digital skills gap in Nigeria is a major challenge of the Nigeria's digital economy. There is a high demand for digital skills in consonant with emerging digital technologies. Training and hands-on tasks are needed to acquire digital skills. Programming, network administration and management, computer application development and use, database development and management, computer maintenance etc. need significant level of training to secure knowledge in these areas. Nigeria needs home grown skills, trained and developed individuals to man the digital space. Public and private establishments have an obligation to work together to help young people secure key business and IT skills that can help them in turn to cultivate long-term success.

The challenges listed above are not only peculiar to developing countries. Developed countries also suffer to some extent these challenges. Clearly, if these challenges, ranging from poor and inconsistent ICT regulations, inadequate infrastructure development, poor standard of living/low income, low educational standards to inadequate digital skills acquisition are addressed, the gap created by the digital divide will be reduced to the barest minimum, if not totally eliminated.

3.1 Conclusion

Development of information society is key to achieving a balanced economic and social development, as well as higher standards of living in all business activities. For a business set up to thrive in Nigeria or elsewhere, it is vital for the Federal Government to create collaborative and consistent regulations and policies across board, which will engender a level playing ground for all participants in the digital space. Information technology creates prospects for increased efficiency and flexibility of business processes and partnership in the group. Digital solutions have become a major part of our lives, presenting enormous opportunities for Nigeria to charter a new digital-driven development path. Countries such as China, India, Malaysia, Kenya, Egypt, Mauritius and many others have shown that digital economy development is an essential national growth strategy, and that the rewards are large.

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