

CHALLENGES OF NIGERIA'S DIGITAL ECONOMY: WAY FORWARD

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ABSTRACT

The digital economy is becoming a more important part of the global economy. The digital economy is worth \$11.5 trillion globally, comparable to 15.5 percent of global Gross Domestic Product (GDP), and has risen two and a half times faster than global GDP over the past 15 years. The importance of the digital economy to a nation's GDP cannot be exaggerated. For all its potential, the digital economy is yet a rough diamond. The paper argues that the government must act as a regulator in order for the country to fully profit from the digital potential available. To be an effective regulator, the government must endeavour to remain ahead of the curve, comprehend the nuances of this type of business, and recognise that the digital economy cannot be governed in the same way as a traditional industry. The government's involvement as a regulator may extend to areas such as intellectual property, taxation, data security, and cyber security. The study applied a conceptual, descriptive and analytical approach, relying on extant literature on the benefits and challenges in the digital economy, focusing on the participation of government to maximize the sectors' potential. Data were collected from statutes and case laws, relevant books, journal articles, materials from periodicals in these fields and materials from the internet, all data obtained was subjected to content analysis.

Keywords: Digital economy, Nigeria, Regulatory framework, GDP, Intellectual property, Startup

INTRODUCTION

The digital economy continues to change not just the way we do business, but also the ways we live every day. The term 'digital economy' was first coined by Don Tapscott in his 1996 book, 'The Digital Economy: Promise and Peril in the Age of Networked

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Intelligence,² and like every other innovation of man, it comes with its own set of challenges.

Economic activity in the digital sphere results from billions of daily connections between persons, businesses, data, and devices and is facilitated by the interconnectedness of people, organisations, and machines.³ The digital economy is defined as the part of the economic output derived solely or primarily from digital technologies with a business model based on digital goods and services.⁴ The idea of digital economy revolves around the utilisation of digital tools and processes in the conduct of business. The Oxford Economic Report 2016, valued the global digital economy at 11.5 trillion dollars an amount representing 15 percent of the global economy.⁵ The World Economic Forum in 2016 forecasted that the world Gross Domestic Product (GDP) will be digitised by 2022 and continue to grow exponentially over the coming decades.⁶

In 2020, Kuda, a start-up fintech company operating a mobile-first challenger app announced that it had raised 10 million Dollars – the biggest seed round ever in Africa.⁷ By August of 2021, the company again closed a 55 million Dollars series B funding at a valuation of 500 million dollars.⁸ To put this into perspective, at a valuation of 500 million dollars, the two-year-old fintech start-up is the 7th most profitable bank in Nigeria – more valuable than the tier 2 banks [Sterling Bank, Fidelity Bank, and First City Monument Bank] put together.⁹ This all conveys one clear message – irrespective of

² Don Tapscott, 'The Digital Economy: Promise and Peril in the Age of Networked Intelligence', (McGraw Hill, 1996)

³ 'What is Digital Economy? Unicorns, Transformation and the Internet of things' (Deloitte, n. d.) available at <https://www2.deloitte.com/mt/en/pages/technology/mt-what-is-digital-economy.html> Accessed on 2 June 2022.

⁴ Ernst & Young, Nigeria, Growth and Employment Project (GEM): Digital Economy Industry Value Chain. (2018)

⁵ Federal Ministry of Communications and Digital Economy, National Digital Economy Policy and Strategy (2020 – 2030), (2019) 11

⁶ *Ibid*, 15

⁷ Ingrid Lunder, 'Nigeria's Kuda raises \$10 million to be the mobile-first challenger bank in Africa' (Tech Crunch, 10 November 2020) available at <https://techcrunch.com/2020/11/10/nigerias-kuda-raises-10m-to-be-the-mobile-first-challenger-bank-for-africa/> Accessed on 6 August 2022.

⁸ Mary Izuka. 'Kuda Bank raises \$55 million at \$500 million valuation' (Premium Times, 2 June 2021) available at <https://premiumtimesng.com/business/financial-inclusion/477112-kuda-bank-raises-55-million-at-500-million-valuation.html> Accessed on 16 August 2022.

⁹ Ajibola Akamu, 'At \$500 million valuation, Kuda becomes Nigeria's 7th most valuable bank' (Nmetrics, 4 August 2021) available at <https://www.google.com/amp/s/nmetrics.com/2021/08/04/at-500-million-valuation-kuda-bank-becomes-nigerias-7th-most-valuable-bank/%3famp> Accessed 6 August 2022.

how one looks at it, the explosion of the digital economy is happening and all concerned must be prepared.

The Digital Economy represents a new way of doing business, a new way of life. At the height of the COVID-19 pandemic, most companies were compelled by governments (motivated by the risk and panic induced by the pandemic) to shut down their physical offices. For the first time, many companies explored the option of conducting business over the virtual space. Meetings that usually would have required physical presence were now conducted over applications like Zoom and Google Meet; individuals and businesses alike depended on online payment methods while households gradually embraced e-commerce platforms. This is the new normal and it is doubtful that we would witness the modes of doing business as we knew them. The digital economy has come to stay.

It must be noted that businesses forming part of the digital economy cannot be subject to government control in the same manner as traditional businesses. The Nigerian government has in place a plethora of regulations governing the digital space, notable among them are:

- i. Cybercrime Act, 2015¹⁰
- ii. Nigeria Cloud Computing Policy¹¹
- iii. Framework and Guidelines for Use of Social Media Platforms in Public Institutions¹²
- iv. Framework and Guidelines for Public Internet Access (PIA), 2019¹³
- v. Nigeria Data Protection Regulation, 2019¹⁴

¹⁰ 'Cybercrime (Prohibition, Prevention, Etc.) Act' (CERT) available at https://www.cert.gov.ng/ngcert/resources/CyberCrime__Prohibition_Prevention_etc__Act__2015.pdf Accessed on 4 July 2022.

¹¹ 'Nigeria Cloud Computing Policy' (NITDA) available at https://nitda.gov.ng/wp-content/uploads/2020/11/NCCPolicy_New1.pdf Accessed on 4 July 2022.

¹² 'Framework and Guidelines for Use of Social Media Platforms in Public Institutions' (NITDA) available at <https://rmp.nitda.gov.ng/pdf/FrameworkAndGuidelinesForTheUseOfSocialMediaPlatformsInPublicInstitutions.pdf> Accessed on 8 July 2022.

¹³ 'Framework and Guidelines for Public Internet Access' (NITDA) available at [FrameworkAndGuidelinesForPublicInternetAccessPIA1.pdf](https://nitda.gov.ng/FrameworkAndGuidelinesForPublicInternetAccessPIA1.pdf) (nitda.gov.ng) Accessed on 2 July 2022.

¹⁴ 'Nigeria Data Protection Regulations' (NITDA) available at <https://ndpr.nitda.gov.ng/Content/Doc/NigeriaDataProtectionRegulation.pdf> Accessed on 8 July 2022.

vi. Telecommunications Networks Interconnection Regulation¹⁵

Despite the negative connotation attached to it, especially in Nigeria, regulation is important if the set goals of the government concerning any sector are to be achieved. The problem arises when in a bid to regulate, the government stifles the enterprise. That notwithstanding, regulation is important to ensure that all players have a level playing field and that the lay of the land is enforced to enhance competition and protect the consumer from the negatives. Government regulation of the digital economy cuts across data protection, anti-counterfeiting, taxation, competition and anti-trust, and cybersecurity.

Notwithstanding the glaring advantages associated with the digital economy, not only in the way we conduct business but the impact on overall economic growth, it is not without its challenges. This fairly nascent way of doing business involves questions of privacy, fraud, anachronistic trade practices, etc. In Nigeria, information communication technology (ICT) has supported the fight against corruption by raising accountability and transparency through online services, transparency or open data portals, crowdsource and online corruption reporting, service automation and digitalization, through government policies, such as Treasury Single Account (TSA), Integrated Personnel and Payroll Information System (IPPIS), Government Information Financial Management Information System (GIFMIS) and Bank Verification Number (BVN), among others, were good success stories of ICT adoption to combat corruption. It was noted that the implementation of TSA and IPPIS/BVN was saving the country billions of naira every month, and had facilitated the elimination of ghost workers in various Ministries, Departments and Agencies (MDAs).¹⁶

This paper will venture into the extent of the digital economy in Nigeria and the role government regulation must play in actualising the full capabilities of the digital economy. It also singles out challenges to the digital economy from the regulatory space while identifying whatever risks may exist as a result of the rapid digitisation of business. However, this paper will be incomplete without salient recommendations on how the

¹⁵ 'Telecommunications Networks Interconnection Regulations' (NCC) available at <https://www.ncc.gov.ng/docman-main/legal-regulatory/regulations/329-regulations-for-telecommunications-networks-interconnection-2/file> Accessed on 2 June 2022.

¹⁶ Nkechi Isaac (2021) Digital Technologies Aiding Nigeria's Anti-Corruption Crusade <https://scienigeria.com/digital-technologies-aiding-nigerias-anti-corruption-crusade-pantami/> Accessed 6 July 2023.

regulatory landscape can be optimised to get the best out of the new and ever-growing digital economy.

CONCEPTUAL REVIEW

Owing to the nascent nature of this subject, Nigerian literature is not fully developed hence the dearth of Nigerian literature on the subject. However, a consideration of foreign materials, opinions, reports, conference papers, and texts, reveals a great deal of what the digital economy entails. The earliest definition of the term was made in 1996, by Don Tapscott. He emphasised the relationship between the new economy, new business, and new technology while highlighting how they made themselves better.¹⁷ He regarded the digital economy as the interaction between humans and other humans and humans and technology, combined with intelligence, knowledge, and creativity in ways that brought about wealth and development.¹⁸ A few years from that, Margherio¹⁹ identified what he termed, 'the four drivers of the digital economy, these were, building out the internet, electronic commerce among businesses, digital delivery of goods and services, and retail sale of tangible goods. These drivers represent the very essence of the digital economy.

The Oxford Dictionary²⁰ attempts a simple definition of the concept as follows:

"An economy which functions primarily by means of digital technology, especially electronic transactions made using the internet." Ernst & Young,²¹ defined the digital economy as "The part of the economic output derived solely or primarily from digital technologies with a business model based on digital goods and services." This definition recognises the all-encompassing nature of the digital economy to include numerous components, a platform economy, a gig economy, data analytics, Artificial Intelligence, Machine Learning, etc.

¹⁷ Don Tapscott, 'The Digital Economy: The Promise and Peril in the Age of Networked Intelligence' (New York: McGraw-Hill 1996)

¹⁸ Ibid

¹⁹ Lynn Margherio, 'The emerging digital economy' (Department of Commerce, Washington D. C 1999) available at <https://govinfo.library.unt.edu/e-commerce/EDereprt.pdf> Accessed 2 August 2022.

²⁰ Oxford Dictionary (Oxford University Press 2017) available at http://www.esa.doc.gov/sites/default/files/emergingdig_0.pdf accessed 4 August 2022.

²¹ Ernst & Young, Nigeria, Growth and Employment Project (GEM): Digital Economy Industry Value Chain. (2018)

The British House of Commons,²² defines the digital economy to cover not only the digital access to goods and services but also the use of digital technology to help traditional business.²³ This definition was based on the need to regulate and support the industry in order to get the best of it and protect the consumer. It also recognises the potential of the digital economy to have a ripple effect that positively affects the traditional business models; it will boost economic growth through increased productivity while cutting down the costs previously incurred by capital and labour.²⁴ Likewise, the National Digital Economy Policy and Strategy²⁵ defines the digital economy to mean any aspect of the economy based on or driven by digital technologies.

Christine describes the digital economy more wholly where she states as follows:

Digital Economy refers to any number of sectors or ways of living that happen primarily in virtual spaces and through face to face economy. Some of it is the very large technology companies, some of it is buying things online and not at a store, some of it is using computers to move your money around instead of exchanging pieces of paper.²⁶

In the Digital Economy Policy Document, the Federal Government of Nigeria, committed itself to eight pillars, the first of which is Developmental Regulation.²⁷ This pillar is targeted at effective regulation of the Information Communication Technology and Digital Sector in ways that support the digital business environment. In furtherance of this, the government stated its willingness to identify regulations stifling digital economy

²² House of Commons Business, Innovation and Skills Committee, London, *The Digital Economy* (2016) available at <https://publications.parliament.uk/pa/cm201617/cmselect/cmbis/87/87.pdf> accessed on 7 August 2022.

²³ This definition may apply to situations where vendors or service providers utilise internet or other digital technology to facilitate business e.g., the use of social media, mobile applications, etc.

²⁴ Rumana Bukht and Richard Heeks, 'Defining, Conceptualising and measuring the Digital Economy' Economics and Social Research Council Development Informatics Working Paper Series Paper No. 68 (2017)

²⁵ Anna Bayfdakova, 'Thriving under pressure: Why crypto is booming in Nigeria despite the banking ban' (Coindesk, 6 July 2021) <https://www.coindesk.com/crypto-booming-in-nigeria-despite-banking-ban> Accessed on 4 August 2022.

²⁶ Rebecca Christine, 'What is the Digital Economy?' (CGTN, 8 August 2021) available at <https://news.cgtn.com/news/2021-08-08/what-is-driving-the-digital-economy--12yMTqzgQSI/index.html> accessed on 12 August 2022.

²⁷ Lynn Margherio, 'The emerging digital economy' (Department of Commerce, Washington D. C 1999) available at <https://govinfo.library.unt.edu/e-commerce/EDereprt.pdf> Accessed 4 August 2022

development.²⁸ However, as has been the case with Nigerian regulations, while talk is cheap, implementation is a different ball game.

Despite advancements made to the digital sector which place it far ahead of government institutions, the government must continue to keep pace with technology to effectively play its role.²⁹

REGULATORY ANALYSIS OF NIGERIA'S DIGITAL ECONOMY

Nigeria is Africa's biggest economy and home to over 200 million people. With a large market size and a teeming population, Nigeria is primed to be the biggest digital economy in Africa, with a GDP of \$514 billion.³⁰ Also, with over 60 percent of this population represented by the youth armed with increasing adoption of internet usage, Nigeria is an African dream for every investor in the digital economy space. This presents a largely untapped market. Recently, there has been a large swathe of foreign investments in Nigeria's digital space; while fintech has accounted for a large share of these investments, other sectors such as EdTech, logistic services, health technology, agricultural technology, also stake a good claim to the share of foreign investments attracted into the country's digital space.

Approximately 200 fintech companies carry on business in Nigeria. Between 2014 and 2019, Nigeria's fintech raised more than \$600 million in funding, attracting 25 percent (\$122 million) of the \$491.6 million raised by African tech start-ups in 2019 alone – second only to Kenya, which attracted \$149 million.³¹ It is estimated that the Information and Communications Technology (ICT) sector contributes as much as 14 percent to

²⁸ House of Commons Business, Innovation and Skills Committee, London, *The Digital Economy* (2016) available at <https://publications.parliament.uk/pa/cm201617/cmselect/cmbis/87/87.pdf> accessed on 7 August 2022

²⁹ Micheal Tomasky, Jack Meserve, Sophia Crabbe-Field, 'Regulating the digital economy' (2014) 34 *Democracy: A Journal of Ideas*. Available at <https://democracyjournal.org/magazine/34/regulating-the-digital-economy/> accessed on 8 August 2022.

³⁰ 'Report For Selected Countries and Subjects' (IMF) available at <https://www.imf.org/en/Publications/WEO/weo-database/2021/April/weo-report/> Assessed on 7 June 2022.

³¹ Topsy Kola-Oyeneyin et al, 'Harnessing Nigeria's fintech potential' (McKinsey & Company, 23 September 2020) available at <https://mckinsey.com/2020/09/23/harnessing-nigeria-s-fintech-potential/> Assessed on 7 August 2022.

Nigeria's GDP.³² For an extractive economy largely dependent on the export of oil for its survival and exports, the percentage of this sector to the country's GDP is a miracle that cannot be overlooked.

The government of Nigeria appreciates the importance of this sector in its drive to diversify the economy of the country from its long over-reliance on oil. Many of the country's leading government officials and media houses have touted the sector as the country's new oil if managed properly. To maintain the nation's course to becoming the continent's biggest digital economy, the government of Nigeria has drawn up policies³³ and regulations to guide and protect the nascent sector from practices that might harm the sector, erode public confidence in the sector, or even deny government's revenue and royalties from the sector. These regulations are also geared at making the sector an attractive option for foreign investors and investments. The regulations create a well-structured and balanced system that caters to the interests of every player in the sector, from the founder and investors to the final users of the service offered in the sector.

An argument has been made that the sector is over-regulated by the government. Proponents of this argument contend that such over-regulation may stifle investments in the sector, mainly by harming investor confidence in the viability of the Nigerian digital space.³⁴

Significant Economic Presence Order

The government of Nigeria has paid no heed to the arguments against regulation; rather, it has continued to marshal out policies and regulations to check the sector and keep it within its sight. One of the many regulations introduced by the federal government of Nigeria to control the digital economy is the Significant Economic Presence (SEP) Order of 2020. On Friday, 29 May 2020, the federal government of Nigeria, published the Companies Income Tax (Significant Economic Presence) Order,

³² 'Nigeria-Country Commercial Guide' (Department of Commerce, United States of America, 14 July 2020) available at <https://trade.gov/2020/09/14/nigeria-country-commercial-guide/> Assessed on 27 June 2022.

³³ 'National Digital Economy Policy and Strategy' (Federal Ministry of Communications and Digital Economy) available at <https://www.ncc.gov.ng/docman-main/industry-statistics/policies-reports/883-national-digital-economy-policy-and-strategy/file> Assessed on 7 June 2022.

³⁴ Abubakar Idris, 'Nigeria's regulatory clampdown is rattling startups' (Rest of World, 20 August 2021) available at <https://restofworld.org/2021/nigerias-regulatory-clampdown-is-rattling-startups/> Assessed on 17 June 2022.

2020 in the Official Gazette.³⁵ The Order, signed by the Honourable Minister of Finance, Budget, and National Planning, Mrs. Zainab Ahmed, under her powers under the Companies Income Tax Act,³⁶ commenced on 3 February 2020. The Finance Act, 2019 introduced the concept of significant economic presence to capture the commercial activities of foreign digital companies in Nigeria to local tax, upon meeting certain thresholds. The Order provides clarification on what would constitute a significant economic presence for foreign digital companies doing business or providing services to customers in Nigeria. Under the Order, a factor of significant economic presence (SEP) in Nigeria is if a foreign digital company derives ₦25-million annual gross turnover or its equivalent in other currencies from its digital activities in Nigeria.³⁷ The implication is that foreign digital companies, Facebook, Netflix, Microsoft, without a fixed base or physical presence in Nigeria but deriving revenue worth ₦25 million or more from customers in Nigeria, will be subjected to companies' income tax in Nigeria, as though that company is registered or has a fixed base in Nigeria. While it is still unclear how the government of Nigeria plans to enforce this tax, one thing is clear, the government sees the digital economy as a viable alternative to oil revenue and plans to ramp up its taxation collection efforts in the digital economy.

CHALLENGES OF DIGITAL ECONOMY IN NIGERIA

Despite the gains and boom currently seen in the digital economy in Nigeria, there are still structural problems bedeviling the sector. These problems range from institutional to problems within the players in the sector. In 2016, out of 189 countries, Nigeria ranked 169th in the World Bank's Ease of Doing Business Report. These problems create a very big dent in the country's image that dissuades foreign investment in Nigeria's digital economy and start-ups.³⁸

³⁵ 'FGN Issues CIT (Significant Economic Presence) Order' (kpmg, 20 June 2020) available at <https://home.kpmg/2020/06/20/fgn-issues-cit-significant-economic-presence-order/> assessed on 17 August 2022.

³⁶ Section 13 (4) of the Companies Income Tax Act (as amended), Cap C21, Laws Federal Republic of Nigeria (LFN), 2004.

³⁷ 'Companies Income Tax (Significant Economic Presence) Order 2020' (Federal Inland Revenue Service) available at <https://www.firs.gov.ng/wp-content/uploads/2021/07/significant-economic-presence-order-2020.pdf> Assessed on 7 July 2022.

³⁸ '5 Major Challenges of Doing Business in Nigeria (2019)' (invoice, n.d) available at <https://invoice.ng/5-major-challenges-of-doing-business-in-nigeria-2019/> accessed on 10 August 2022.

It is estimated that 80 percent of new businesses and start-ups in Nigeria fail within the first three years. The causes of these failures are as numerable as the many languages in Nigeria. However, some are resounding and common to the failure of businesses in Nigeria. They are also common to businesses in the digital economy in Nigeria.³⁹

Access to Capital and Credit

One of the most common challenges that businesses in the digital economy in Nigeria face is the issue of access to capital and credit. Capital is the amount of money that a business needs to spend on various business activities, in other to start business operations or expand operations of the business. Lack of financial capital is the single most significant challenge that businesses face in Nigeria. This is also not uncommon to businesses in the digital economy in Nigeria. Even with the conceptualisation and implementation of financial programs meant to support businesses in Nigeria, the government has always been in a struggling position to ensure that financial capital is made easily accessible to entrepreneurs. In most businesses, owners and founders turn to personal savings, business loans, families and friends, equity ceding, or government grants to get financial capital for their business.⁴⁰

Findings by Endeavor and Stears Data show that 84 percent of start-ups have reported disruptions in their funding efforts, with 79 percent of start-ups having less than a six-month buffer, and only 6 percent have a cash runway of 13 – 25 months.⁴¹

Aside from the significant drop in available funding for start-ups in Nigeria, local businesses in the digital economy also suffer financially due to a significant drop in sales and overall revenue. This is partly the cause of the pandemic-induced recession that has besieged the country.⁴² Nigeria has the highest volume of start-ups – over 750. South Africa comes second, but while South African start-ups raised \$241 million in 2020, Nigerian start-ups raised \$64.1 million. However, 2021 has witnessed an increase in this figure.⁴³

³⁹ Ibid

⁴⁰ Ibid

⁴¹ Ishani Chetty, 'Report indicates 70% of Nigerian startups face funding challenges' (Venture Burn, 9 September 2020) available at <https://ventureburn.com/2020/09/09/report-indictaes-70%-of-nigerian-startups-face-funding-challenges/> accessed on 10 August 2022.

⁴² Ibid

⁴³ Tolu Olasoji, 'Nigeria has the most startups in Africa but falls short on other critical metrics' (QUARTZ AFRICA, 25 May 2021) available at <https://qz.com/2021/05/25/nigeria-has-the-most-startups-in-africa-but-falls-short-on-other-critical-metrics/> accessed on 10 August 2022.

The country was missing altogether in the top 10 rankings for categories that are critical to helping a start-up thrive beyond its founding, including cost-effectiveness and the level of country-wide tech talent.⁴⁴

According to a report, Nigerian start-ups lost 74.4 percent of venture capital funding in 2020. It also said that out of 97 countries whose start-ups accessed venture capital funding in 2020, Nigeria triumphed only Argentina (91.2 percent) and Lithuania (87.4 percent) as start-up funding destinations, while Ghana (842 percent), and Kenya (770 percent) were among the most attractive countries for investment in the world.⁴⁵

As regards funding, there is also the problem of the constant devaluation of the Naira. Foreign investors fund Nigerian start-ups in dollars and not Naira. A company-funded with \$1 million in 2015 with a loan structured across a four period, with the devaluation of the Naira, the value of the loan that will be repaid by the business to the foreign investor will far exceed what was lent to the business.⁴⁶

Infrastructure

Apart from the issue of funding as a challenge for the digital economy in Nigeria, there is also the problem of lack of infrastructure. According to the International Monetary Fund (IMF), Nigeria's infrastructure stock remains far below the 70 percent international benchmark.⁴⁷ This is an infrastructural deficit of 70 percent compared to international standards. Infrastructure deficit is the situation whereby existing social facilities do not satisfactorily meet the demands of a country. The negative effect is that the deficit discourages innovation and entrepreneurship that drives the socio-economic change of a country. The leading cause of the infrastructure deficit is government neglect of investment in the public and social amenities of a country.

Glaring evidence of this shortage of infrastructure in Nigeria is the issue of low power supply. Everyone needs power. Local businesses in Nigeria's digital economy are not an exception. When businesses in the digital economy spend large sums on alternative

⁴⁴ Ibid

⁴⁵ Tobi Aworinde, 'Nigeria suffers 74% loss in startup funding as venture capitalists favour Ghana, Kenya, others' (PUNCH, 4 April 2021) available at <https://punch.ng/2021/04/04/nigeria-suffers-74%-loss-in-startup-funding-as-venture-capitalists-favour-ghana-kenya-others/> accessed on 10 August 2022.

⁴⁶ Ibid

⁴⁷ MarkAnthony Ezeoha, 'Why Do Nigerian Startups Companies Struggle?' (LinkedIn, 8 April 2021) available at <https://linkedin.com/pulse/why-do-nigerian-start-up-companies-struggle-markanthony-ezeoha/> accessed on 16 August 2022.

power sources, they suffer operational consequences. As of 2019, power generation in Nigeria stood at about 4,000 megawatts.⁴⁸ This is far below the 15,000 megawatts required for a population of over 170 million people.⁴⁹ Where 170 million people jostle for only 4,000 megawatts, instead of an average of 15,000, the result is poor power supply and even no power supply at all for some areas.

Access to power expands the number and variety of business and job opportunities available. Electricity means that small businesses, such as barbers, hairdressing salons, Laundromats, welders, etc., rely on energy to function. Energy also leads to the creation of new markets, businesses, and job openings, which provide more opportunities for individuals to earn income. A 2015 report of the Good Governance Initiative (GGI), a non-governmental organisation advocating uninterrupted power supply in the country, says Nigerians spend ~~N~~₦3.5 trillion on fuelling their generators annually.⁵⁰ A very important way that this problem affects businesses in the Nigerian digital economy is the drastic reduction of the purchasing power of Nigerians to buy the products or use the services offered by start-ups in Nigeria. Since the purchasing power of Nigerians is already reduced by alternative power supply feeding deep into their pockets, the incentive to use the products of start-ups becomes low. It is estimated that 42% of start-ups in Nigeria fail due to a lack of market demand and the low purchasing power of willing consumers.⁵¹

The cost businesses suffer to acquire an alternative power supply is also a clog in their wheel of growth and survival. For example, it has been reported that MTN Nigeria, spends about 70 percent of its operating expenditures on generator fuel, with average monthly consumption above 10 million litres.⁵² While the business of MTN Nigeria is peculiar, power-intensive and smaller start-ups in the Nigerian digital economy is not expected to spend this much on alternative power supply, however, the cost of power on their operational expenses also eats deep into their pockets and steal funds that should have been injected into other things necessary for growth and expansion of these start-ups.

⁴⁸ Ibid

⁴⁹ Ibid

⁵⁰ Jonathan Emmanuel, 'How poor power supply is hindering growth of Nigerian SMEs' (The Cable, 5 September 2018) available at <https://thecable.ng/2018/09/05/how-poor-power-supply-is-hindering-growth-of-nigerian-smes/> accessed on 8 August 2022.

⁵¹ Ibid

⁵² Ibid

Broadband Penetration

The level of broadband penetration in a region or country determines the strength and speed of the internet in that region or country. In Nigeria, statistics show that there are about 50 million or more internet and mobile users.⁵³ Nigeria has the highest number of internet and mobile service users in the continent that is Africa and ranks amongst the top 20 in the world.⁵⁴ Having a population of over 170 million people, the rate of internet penetration in Nigeria is as low as 41 percent.⁵⁵ This is drastically low compared to the number of the country's population. The majority of the population in Nigeria resides in remote areas with little or no access to the internet. Broadband internet access in Nigeria is limited due to the lack of adequate communication infrastructure. The inadequacy of domestic backbone networks is a major underlying factor limiting the growth of broadband access. The fibre optic backbone infrastructure is not interconnected and is mainly concentrated in urban areas and a few rural areas.⁵⁶ There is no provision for the long-distance national backbone to transmit the capacities provided by the undersea cables to last-mile end-users at home, offices, schools, etc.

Businesses in the digital economy rely on the internet to sell its product. The internet is its primary base for connecting with its users and consumers of its services. Poor internet connection in Nigeria militates against the efforts of digital businesses to efficiently connect with their users and consumers. It also creates gaps between digital businesses and those that reside in rural areas. This poor internet is most pronounced in rural areas. As a result, most people that live in rural areas are not aware of the total cut-off from the knowledge of services that these digital businesses offer. This grossly affects the growth of digital businesses in Nigeria, as it is estimated that a large part of Nigerians resides in rural areas – about 48.04 percent according to a World Bank report.⁵⁷

It is further noted that for progress to occur, knowledge must be created, shared, and used. The introduction of information and communication technology (ICT) is a requirement for creating a knowledge society. In terms of access to ICT, however, there are differences among nations, regions, and populations. Socioeconomic indicators for

⁵³ Ahmed M Haruna et al, (March, 2020) 'Challenges of Broadband Penetration in Africa (Nigeria)' (International Journal of Information, Engineering & Technology) pp 37.

⁵⁴ Ibid

⁵⁵ Ibid

⁵⁶ Ibid

⁵⁷ 'Nigeria – Rural Population' (TRADING ECONOMICS, n.d) available at <https://tradingeconomics.com/nigeria-rural-population/> accessed on 2 August 2022.

Korea, Malaysia, Singapore, the Netherlands, and Germany are used to demonstrate how the knowledge gap between developed and developing countries, as well as within individual countries, is growing as a result of the global digital divide. It is argued that in order to create a knowledge society, local knowledge must be used in conjunction with global knowledge to lower the gap between the industrialized nations.⁵⁸

Government Regulation

Another major problem faced by the digital economy in Nigeria is government regulations. As disclosed earlier, the government plays a major role in the decision of how business gets done in Nigeria and globally. No government or economic system leaves all decisions about doing business to market forces. These regulations are created to ensure a formal structure in the business environment to support its growth and neutralise sharp practices that might be detrimental to investors, business owners, and consumers.

However, negative government regulation or over-regulation can strangle growth in a business sector. The same is true with the digital economy. Poor or oppressive regulation can ruin the commercial potential of businesses thus leading to failure of Start-ups, loss of investments, job losses, and general economic decline.

Harsh regulatory policies also deter Nigeria's best start-ups from incorporating in Nigeria. This is one of the attempts by Nigerian start-ups to escape harsh regulatory policies in Nigeria. When one defines start-up location as a place of incorporation, Nigeria falls out of the top four African Venture Capital funding locations – the most adversely impacted country in Africa.⁵⁹

In 2021, government actors have stopped banks from processing transactions associated with cryptocurrency exchanges and issued a cease and desist to investment start-ups offering access to foreign securities. Both actions have negatively impacted start-ups working in those spaces.⁶⁰

⁵⁸ Hans-Dieter Evers (2010) *The Knowledge Gap and the Digital Divide*
https://www.researchgate.net/publication/259175306_The_Knowledge_Gap_and_the_Digital_Divide
accessed 6 July 2023.

⁵⁹ 'GovTech In Nigeria: From Regulatory Maze to Models of Good Practice' (Tech Cabal, 27 May 2021)
available at <https://techcabal.com/2021/05/27/govtech-in-nigeria-from-regulatory-maze-to-models-of-good-practice/> accessed on 2 August 2022.

⁶⁰ Ibid

Some of the effects of harsh government regulatory policies in the digital economy in Nigeria include:

- Failure of Start-ups: Start-up failure is a common occurrence in the tech ecosystem as research shows that nine out of ten start-ups fail.⁶¹ However, Nigerian start-ups have had peculiar complaints of failure due partly to political instability and harsh regulations. According to a survey conducted by Ernst & Young, 24% of the fintech start-ups interviewed quoted regulatory outlook/landscape and the unfavourable regulatory environment to be amongst the top challenges they face as a business. Compliance with regulation was identified as the most challenging policy area in the current business environment.⁶²
- Migration of Start-ups: The uncertain nature of Nigeria's regulatory policies also pushes start-ups to gradually moving base to tech-friendly ecosystems like Ghana, South Africa, and Kenya and even start-ups in Nigeria have relocated between States due to regulatory concerns.⁶³

In 2020, SafeBoda, an east African motorbike hailing start-up announced its expansion to Nigeria, with plans to launch in Lagos, however, following the 2020 Lagos State Government ban on motorbike operations on major roads in the state, it switched to Ibadan, Oyo State.⁶⁴

Shortly after its \$120 million Series B funding, OPay, a Nigerian motorbike hailing start-up was forced to stop its core business of bike hailing following the 2020 ban on motorbike operations on major roads across Lagos State. It is reported that GoKada, a Nigerian motorbike hailing start-up, laid off nearly 70 percent of its workforce to accommodate the loss of revenue caused by the Lagos motorbike ban.⁶⁵

⁶¹ Sean Bryant, 'How Many Startups Fail and Why?' (Investopedia, 9 November 2020) available at <https://www.investopedia.com/articles/personal-finance/040915/how-many-startups-fail-and-why.asp> Assessed on 17 July 2022.

⁶² Dayo Okusami et al., 'Regulating Startups To Death: The Curious Case Of The Nigerian Regulators' (Templars Law, 8 April 2021) available at <https://www.templars-law.com/wp-content/uploads/2021/05/REGULATING-STARTUPS-TO-DEATH.pdf> Assessed 2 August 2022.

⁶³ Ibid

⁶⁴ Olumuyiwa Olowogboyega, 'SafeBoda bypasses Nigeria's commercial capital in its market foray' (techcabal, 4 March 2020) available at <https://techcabal.com/2020/03/04/safeboda-launches-in-nigeria/> Assessed on 7 July 2022.

⁶⁵ Ibid

On 12 April 2021, Twitter announced the opening of its operations in Africa with the active building of a team in Ghana. When answering the question, “Why Ghana?” Twitter’s official statement read, “As a champion for democracy, Ghana is a supporter of free speech, online freedom, and the Open Internet, of which Twitter is also an advocate. Furthermore, Ghana’s recent appointment to host the Secretariat of the African Continental Free Trade Area aligns with our overarching goal to establish a presence in the region that will support our...”⁶⁶

One week after the Twitter announcement, it was reported that Amazon will locate its African Headquarters in Cape Town, South Africa, further to which it will invest up to \$280 million and create over 5,000 direct jobs and 19,000 indirect jobs.⁶⁷

Like everything that has to do with politics in Nigeria, reactions from Nigerians on the massive investment of big tech businesses in the domain of Nigeria’s business rivals have been mixed. But one thing is clear, the political instability, uncertain and harsh regulatory policies guiding the digital business in Nigeria is a resounding reason for the flight of these tech businesses from Nigeria.

Poverty

Nigeria currently holds the title of the poverty capital of the world. The National Bureau of Statistics reported in 2020 that 40 percent or 83 million Nigerians live in poverty.⁶⁸ Although Nigeria’s poverty profile for 2021 has not been released, it is estimated that the number of poor people will increase to 90 million, or 45 percent of the population, in 2022.⁶⁹ If the World Bank’s income poverty threshold of \$3.20 per day is employed as the yardstick, Nigeria’s poverty rate is 71 percent. Compared to lower rates for some oil-producing developing countries like Brazil (9.1 percent), Mexico (6.5 percent), Ecuador (9.7 percent), and Iran (3.1 percent), Nigeria’s poverty situation is alarming.⁷⁰ The National Bureau of Statistics data suggests that the number of poor Nigerians exceeds the total population of South Africa, Namibia, Botswana, Lesotho, Mauritius, and Eswatini combined.⁷¹

⁶⁶ Ibid

⁶⁷ Ibid

⁶⁸ Stephen Onyeiwu, ‘Nigeria’s poverty profile is grim. It’s time to move beyond handouts’ (THE CONVERSATION, 27 June 2021) available at <https://theconversation.com/2021/06/27/nigeria-s-poverty-profile-is-grim/> accessed on 2 August 2022.

⁶⁹ Ibid

⁷⁰ Ibid

⁷¹ Ibid

The figures above show the grim condition of poverty in Nigeria. Start-ups in the Nigerian digital economy also feel the brunt of the scale of poverty in Nigeria. Because of the poverty rate in Nigeria, start-ups in the ecosystem go to great lengths to shoot up demands for their products. Some start-ups even fail due to the low patronage of their products or services. Sometimes, it is seen that the supply of start-ups offering a product is even higher than the demand for those products. The lack of market for a product has been estimated to be the second-highest reason for startup failures in Nigeria. Low demand for the products also leads to fierce competition between start-ups offering the product.

The digital economy in Nigeria although nascent is faced with a barrage of challenges. These challenges if left to flourish will hinder the effectiveness of the digital economy. The need for appropriate action in these spheres cannot be overemphasised to prop up the digital economy to its full functionality.

CONCLUSION

There is no gainsaying that Nigeria's future as a regional giant in the digital economy is promising. Current numbers do not lie and the wealth of investments springing within the country's technology ecosystem is a testament to the bright future of Nigeria's digital economy.

The fintech industry in Nigeria, the leading industry in Nigeria's digital economy, has continued to evolve as more companies leverage technology to transform the mode of operation in the financial industry. The National Bureau of Statistics indicates that some 87 million transactions worth \$5 billion were completed through mobile platforms in 2018, up 82 percent from the previous year.⁷² The growth of the local fintech industry has been supported by the increased use of smartphones by Nigerians, this has changed consumer behaviour, making convenience and accessibility a priority. Nigeria has the largest mobile market in Africa with more than 162 million mobile subscribers in the country. This represents a more than 84 percent market penetration rate. It is reported that smartphone users in Nigeria account for 13 percent of all mobile subscriptions in the country.⁷³

⁷² 'Nigeria Fintech Investments' (AsokoInsight, 19 June 2019) available at <https://asokoinsight.com/2019/06/19/nigeria-fintech-investments/> accessed on 2 August 2022.

⁷³ Ibid

The growing acceptance of fintech's solution, ease, and accessibility in the country has made it an attractive investment option for investors. Nigerian fintech has witnessed an increased deal activity over recent years, with 11 deals worth \$113.99 million in 2018 compared to one deal valued at \$700,000 in 2010.⁷⁴ It is estimated that Nigeria's fintech landscape consists of around 250 fintech enterprises. Between 2014 and 2019, Nigeria's fintech scene raised more than \$600 million in funding, attracting 25 percent (\$122 million) of the \$491.6 million raised by African tech start-ups in 2019 alone, which was second highest after Kenya at \$149 million.⁷⁵ Nigeria's fintech revenue is expected to reach \$543 million in 2022, a growth from \$153.1 million in 2017.⁷⁶

In 2020, amidst the global pandemic, it is estimated that Nigerian fintech raised \$439 million in 2020.⁷⁷ This is equivalent to 20% of the amount raised by all African tech start-ups.⁷⁸ However, findings reveal that foreign investors are more involved in Nigeria's fintech space than local investors, with a higher percentage (57 percent) of fintech funding coming from overseas.⁷⁹ In the first half of 2021, African start-ups raised \$1.19 billion in funding, this figure is more than they had raised in the first half of 2019 and the first half of 2020 combined.⁸⁰ 80 percent of the funding was raised by start-ups headquartered in Nigeria, Kenya, South Africa, and Ghana. Findings reveal that South Africa and Nigeria attracted more than half of all the funding raised in Africa in the first half of 2021 (28 percent and 27 percent respectively, more than \$300 million each).⁸¹ Some of the notable funding rounds were closed by Kuda, Flutterwave, Termii, Kwik, Bankly, and Appzone.

It is also found that consumption of fintech services within the Nigerian ecosystem continues to grow and evolve at pace, with numerous fintech companies positioning themselves by offering credible buyer-to-buyer and buyer-to-consumer options for their

⁷⁴ Ibid

⁷⁵ Richie Santos, 'An Overview of Nigeria and The Potential For Fintech' (THE FINTECH TIMES, 22 May 2021) available at <https://thefintechtimes.com/2021/05/22/an-overview-of-nigeria-and-the-potential-for-fintech/> accessed on 2 August 2022.

⁷⁶ Ibid

⁷⁷ 'Nigerian FinTechs Raised \$439m in 2020' (Proshare, 04 May 2021) available at [https://proshare.com/2021/05/04/nigerian-fintechs-raised-\\$439m-in-2020/](https://proshare.com/2021/05/04/nigerian-fintechs-raised-$439m-in-2020/) accessed on 12 August 2022.

⁷⁸ Ibid

⁷⁹ Ibid

⁸⁰ 'Fintech H1 2021 Review- Recent Regulatory and Legal Developments in Nigeria' (Proshare, 01 August 2021) available at <https://proshare.com/2021/08/01/fintech-h1-2021-review-recent-regulatory-and-legal-developments-in-nigeria/> accessed on 12 August 2022.

⁸¹ Ibid

services and products; the use of fintech services has continued to rise as traditional banks increasingly partner with fintech to cover key customer segments.

It is not only the Nigerian fintech space that is currently witnessing growth in the country's digital economy. One facet of the Nigerian digital economy that is also experiencing a boom is the logistics and supply chain sector.

The logistics and supply chain sector are one of the fastest-growing industries in Nigeria's digital economy. As of 2018, the value of Nigeria's logistics sector was estimated to be ₦250 billion (\$696 million), a rise of ₦50 billion (\$140 million) from 2017 figures.⁸²

The sector has also continued to attract funding from investors. In 2019, Nigerian freight logistics start-up Kobo360 raised \$20 million in a Series A round, led by Goldman Sachs and \$10 million in working capital financing from Nigerian commercial banks. Other Nigerian logistics companies have also continued to add their quota to the digital economy in Nigeria.⁸³

Findings also show that the value of health technology in the Nigerian digital economy has seen tremendous increase and growth. According to TechPoint Africa's Nigerian Start-up Funding Report 2020, Nigerian health technology start-ups witnessed increased funding activity, coming second only to financial services start-ups in terms of funding size and the number of deals made in 2020.⁸⁴ For this period, start-ups in health technology raised \$32.5 million across seven deals, 404 percent higher than the entire disclosed record (\$6.3 million) for 2019.⁸⁵ This accounted for 26.8 percent of the total funding raised by Nigerian start-ups in 2020.⁸⁶ Major players in this sector include 54gene, Helium Health, Flying Doctors, and Life Bank.

E-commerce also witnessed a resurgence in 2020 following the lockdowns and emphasis on less physical contact with humans. In 2020, funding for online retail

⁸² 'Nigeria-Country Commercial Guide' (International Trade Administration, 14 September 2020) available at <https://trade.gov/2020/09/14/nigeria-country-commercial-guide/> accessed on 12 August 2022.

⁸³ Jake Bright, 'Nigerian logistics startup Kobo360 raises \$30 million backed by Goldman Sachs' (techcrunch, 14 August 2019) available at [https://techcrunch.com/2019/08/14/nigerian-logistics-startup-kobo360-raises-\\$30-million-backed-by-goldman-sachs/](https://techcrunch.com/2019/08/14/nigerian-logistics-startup-kobo360-raises-$30-million-backed-by-goldman-sachs/) accessed on 10 August 2022.

⁸⁴ Emmanuel Paul, 'Nigerian healthtech startup funding grew 404%, eCommerce almost hit 5900% in 2020' (techpoint.africa, 22 February 2021) available at <https://techpoint.africa/2021/02/22/nigerian-healthtech-startup-funding-grew-404%-ecommerce-almost-hit-5900%-in-2020/> accessed on 20 August 2022.

⁸⁵ Ibid

⁸⁶ Ibid

companies grew by 5,892 percent. This accounted for 11.6 percent of the total amount raised by Nigerian tech start-ups in 2020.⁸⁷

Agricultural technology (Agritech) and Education technology (EdTech) are also two sectors in the Nigerian digital economy that is witnessing increased business activities and positive growth. Agritech companies like Thrive Agric, Farmcrowdy, and AgroMall are some of the major drivers of this sector. EdTech in Nigeria continues to experience positive growths. It is reported that 28 percent of EdTech companies in Africa are located in Nigeria. In terms of Venture Capital (VC) funding, Nigerian EdTech start-ups have raised \$3.46 million in funding in 2021 alone.⁸⁸ Venture Capital firms like Kepple, TLCom Capital, and Itanna are the most active VC firms in the Nigerian EdTech space.

However, while the totality of the Nigerian digital economy is currently witnessing an unprecedented boom in the sector, it is not all boom and rosy for the sector. Findings have shown that the sector is bedevilled with several challenges that companies in this sector battle with or many-a-time kill off the company's existence. Chief amongst these challenges are harsh regulatory policies and the business environment.

The Central Bank of Nigeria (CBN), as the chief regulator for financial services in Nigeria, is known to have incessantly drawn blood against fintech companies in Nigeria through its regulatory policies. Some of these fintech companies have stopped the operation of their business in Nigeria, some have closed their bank accounts, while others have been forced to change their business model. Research and interviews conducted show that tech start-ups in Nigeria view uncertain and harsh regulatory policies in Nigeria as one of their biggest nightmares.⁸⁹

RECOMMENDATIONS

a. Government Regulations and Policies

Some government regulations and policies have been shown to stifle the growth of the digital economy in Nigeria. First, the bureaucratic processes that are required to procure

⁸⁷ Ibid

⁸⁸ 'Nigerian EdTech: 50 Startups Market Map' (The Baobab Network, n.d) available at <https://insights.thebaobanetwork.com/nigerian-edtech-50-startups-market-map/> accessed on 10 August 2022.

⁸⁹ Abubakar Idris, 'Nigeria's regulatory clampdown is rattling startups' (Rest of World, 2 August 2021) available at <https://restofworld.org/2021/nigerias-regulatory-clampdown-is-rattling-startups/> Assessed on 7 July 2022

government licenses, registration, and approval legally required to run a digital business in Nigeria are increasingly becoming harmful to start-ups with little or no backing. Government must begin to ease the requirements for licenses and registration for digital businesses in the country to encourage more activity and business innovation in the sector.

The levies and fines put in place to check digital businesses in Nigeria are becoming a threat to the growth of the sector. The recent provisions of the NITDA bill and the uproar it caused⁹⁰ in the information technology industry is evidence that the rising levies and fines in the industry have become nightmares that needs to be checked else it turns into a monster that feeds on the positive growth currently recorded in the sector. The government and its agencies responsible for the regulation of digital businesses in Nigeria must limit their view of the tech industry as a cash cow that must be milked dry as aggressively as possible. Rather, the industry must be seen as the future of the country, and policies that will cater to its growth should be created. Excessive fines and levies strangle the freedom to create in an industry. It also eats deep into the finances of a business. It is submitted that the government must find creative ways to check the industry rather than employ autocratic means that will only enrich a few in government while repelling investments and growth in the sector.

The Central Bank of Nigeria (CBN) has a big role to play in the growth of the sector through regulations and policies. The CBN must draw a clear roadmap for the growth of the sector with its regulations and policies. It must desist from acting as just a lord over the industry, but as a fair umpire who is dedicated to supporting the growth of the industry through stable, creative, and fair policies. While some of the policies and actions of the CBN have contributed to the growth of the industry, many others have been erratic and confused with the system.⁹¹ The CBN must show stability in its policies and also subscribe to utmost respect for the rule of law. This will bring about clarity and investor confidence in the sector. To propagate and consolidate growth, especially in the fintech sector, it is submitted that the CBN must begin to be creative with its policies and sanctions on erring tech companies.

⁹⁰ Tage Kene-Okafor, 'A leaked bill for Nigerian startups reveals a theme of licenses, fees, fines and sentences' (techcrunch, 17 August 2021) available at <https://techcrunch.com/2021/08/17/a-leaked-bill-for-nigerian-startups-reveals-a-theme-of-licenses-fees-fines-and-sentences/> Assessed on 7 July 2022.

⁹¹ 'Letters to Banks on Crypto' (CBN) available at <https://www.cbn.gov.ng/Out/2021/CCD/Letter%20on%20Crypto.pdf> Accessed on 14 September 2022.

b. Taxation of the Digital Economy

The Finance Act of 2019 introduced taxation of the digital economy in Nigeria. With the advent of the Act, foreign digital companies which hitherto were not subject to taxation in Nigeria were introduced into the tax net.⁹² This is a step in the right direction especially as the country looks to diversify its source of funding, however, the sector should not be subjected to multiple taxations as is common practice in Nigeria. Multiple taxation and levies will only succeed in stunting the growth of the sector. Tax cuts, reliefs, and privileges of pioneer status to companies in the sector are better alternatives to support its growth and rise. This will enable the sector to focus on expanding and adding to the country's GDP and continue its push to be Africa's digital giant.

c. Macroeconomic Conditions

Like other businesses in Nigeria, harsh macroeconomic conditions like unstable and multiple exchange rates and inflation also affect the cost of doing digital business in the country. Unstable and multiple exchange rates dissuade foreign investments in the country. This is because foreign investors are wary of the safety of their foreign exchange in the country. In the long run, this affects the value of foreign investments in local digital companies. Inflation also affects the value of investments in the country. From the devaluation of the Naira to high costs of operation expenses, inflation greatly hampers the growth of the digital economy in Nigeria. The government must try to curb inflation in the country to support the growth of local industries in the country.

The government must find solutions to the problem of unstable and multiple exchange rates in the country. Already, the CBN has moved to harmonise multiple exchange rates in the country into one dependable rate.⁹³ However, the move to do this seems slow. To harmonise multiple rates, the CBN must stop its artificial peg of the Naira and allow market forces and conditions to determine the value of the Naira.

d. Ease-of-doing-business in Nigeria

The government must also create policies that will ease the burden of doing business in Nigeria. In a recent survey conducted on the ease of doing business, Nigeria ranked

⁹² Dipo Komolafe et. al., 'The Impact Of The Finance Act On Digital Taxation In Nigeria' (Mondaq, 21 May 2020) available at <https://www.mondaq.com/nigeria/tax-authorities/903148/the-impact-of-the-finance-act-on-digital-taxation-in-nigeria> Accessed on 14 July 2022.

⁹³ Geoff Iyatse et. al., 'IMF asks CBN to harmonise FX rates for market clearance' (Guardian, 18 June 2021) available at <https://guardian.ng/business-services/imf-asks-cbn-to-harmonise-fx-rates-for-market-clearance/> Accessed on 14 July 2022.

131st out of 190 countries globally.⁹⁴ In Africa, Nigeria is ranked the eighth country on the ease-of-doing business in the continent. To attract more investments into the digital economy in Nigeria, the retinue of protocol demanded registration of business in Nigeria must be eased. To facilitate ease and comfort in the registration of business in Nigeria, the process should be fully digitised. Rwanda already leads the way and demonstrates how this process can be achieved with the right will and technology. It is reported that it takes one-two business day to register a company in Rwanda.⁹⁵ To further show the length of the difference between Rwanda and Nigeria in the ease-of-doing-business, a recent World Bank Group's annual report on the ease-of-doing business ranked Rwanda the easiest place to do business in East and Central Africa, the second in Africa, and the 56th globally.⁹⁶ Nigeria sure has a lot to learn from Rwanda.

e. Infrastructural Deficit

To aid the growth of the digital economy in Nigeria, the government must also fix the infrastructural decay in the country. Power supply, road infrastructure, internet coverage, and speed, etc. must be addressed to facilitate growth in Nigeria's digital economy. In June 2021, President Muhammadu Buhari announced the establishment of a company, Infrastructure Corporation of Nigeria Limited (InfraCorp), with initial funding of ₦1 trillion. The funding is projected to grow to ₦15 trillion.⁹⁷ InfraCorp, according to the official government's press release, is a privately managed infrastructure and industrial vehicle that will harness opportunities for Nigeria's infrastructure development by originating, structuring, executing, and managing end-to-end bankable projects in Nigeria. InfraCorp will be wholly dedicated to the development of infrastructure in Nigeria. This is a step in the right direction. More investments in the infrastructural development of the country should be encouraged and created by the government.

⁹⁴ Simona Varrella, 'Ease of doing business in Nigeria 2011-2019' (Statista, 7 April 2021) available at <https://statista.com/2021/04/07/ease-of-doing-business-in-nigeria-2011-2019/> accessed on 20 August 2022.

⁹⁵ 'How To Start a Business – Rwanda' (Africa2Trust) available at <https://www.africa2trust.com/how-to-start-a-business/?l=1&c=14> Accessed on 14 August 2022.

⁹⁶ Simona Varella, n 92

⁹⁷ Chike Olisah, 'Buhari announces establishment of N15 trillion Infracorp Plc for Infrastructural development' (Nairametrics, 12 June 2021) available at <https://nairametrics.com/2021/06/12/buhari-announces-establishment-of-n15-trillion-infracorp-plc-for-infrastructural-development/> Assessed on 7 September 2022.

f. Access to credit and capital

The difficulty in assessing credit facilities and capital for business growth and expansion is a problem confronting companies in the Nigerian digital space. Most business ideas fail to blossom into a living business because of the issue of the problem of access to capital.⁹⁸ The tech industry also faces this problem. Although, access to funding and investment has steadily increased in Nigeria's tech ecosystem over the years,⁹⁹ however, the government can do more by providing credit facilities to founders with scalable business ideas. The government should strive to build a system where credit can be easily made available to tech businesses with solutions to basic problems. This will give the digital economy incentives to grow geometrically since it will not only be receiving funding from private investors but also the government with favourable terms and conditions. The boom witnessed in America's tech industry is a testament to the country's early investments in tech businesses and solutions. The technology industry in the United States has since gone on to be a major driver of the country's GDP and economy.

g. Brain Drain

Like every other sector and industry in Nigeria, the technology industry is witnessing brain drain and talent flight to other countries.¹⁰⁰ This is largely due to the poor working conditions in the country. To nip this trend in the bud, the government must begin to enact legislation that will cater to the needs of tech employees in the country. The country's labour laws should be updated to incorporate and reflect current realities peculiar in the tech industry. The government must also fix its infrastructural problem to dissuade its brightest talents from leaving its shores to other countries, in search of a better standard of living.

The Federal government of Nigeria, in a bid to curb brain drain and dissuade her brightest talents from leaving its shores to other countries, directed entrepreneurship development programs to be combined into the curricular of educational

⁹⁸ Sean Bryant, 'How Many Startups Fail and Why?' (Investopedia, 9 November 2020) available at <https://www.investopedia.com/articles/personal-finance/040915/how-many-startups-fail-and-why.asp> Assessed on 7 August 2021.

⁹⁹ Yinka Awosanya, 'Report: Nigerian startups raised \$219 m in Q1 2021, higher than the figures of the last three Q1s combined' (techpoint.africa, May 4 2021) available at <https://techpoint.africa/2021/05/04/nigerian-startups-funding-report-q1-2021/> Accessed on 4 July 2022.

¹⁰⁰ Sultan Quadri 'Burnout, mental fatigue and talent drain are a threat to Nigerian startups' (Quartz Africa, 28 July 2021) available at <https://qz.com/africa/2039270/burnout-mental-fatigue-and-talent-drain-are-a-threat-to-nigerian-startups/> Accessed on 4 August 2022.

establishments, such as the Nigerian University Commission (NUC), National Board for Technical Education (NBTE), and the National Youths Service Corps (NYSC) program, this is in a bid to make graduate self-employed and self-reliant. This is the continued efforts of government at all level and microfinance institutions to provide capital to start-ups to execute their business proposals. University of Lagos Nigeria established the Entrepreneurship and Skills Development Centre (ESDC), which has trained and encouraged a lot of undergraduate students on entrepreneurship and have provided, seed money for start –ups. The Centre also embarked on ‘train the trainer’ programme for the lectures to promote the Facultpreneur, this is to encourage entrepreneurship units in each Faculty in the University.¹⁰¹

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¹⁰¹ Oluwasemilore, Ifeoma Ann. (2021) Intellectual Property: Protection, Legal Framework, and National Policies for Enterprise and Job Creation for the Youths in Africa. *Journal of African Employment Entrepreneurship and Skills Development (JAEESD)*. ISSN: 28053524.

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