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I. Introduction

The digital economy refers to economic activities involving the use of information technology in the creation, marketing or consumption of goods and services. This covers all economic activities that involve online interaction between businesses, people, devices, data, and processes. The digital economy has also been defined as "the entirety of economic activities from persons and institutions that use Internet Protocol (IP)-enabled communications and networks irrespective of industry (Heath & Micallef, 2021).

Nigeria's digital economy revenues rose from US$5.09 billion in 2019 to US$7.13 billion and US$9.97 billion in 2020 and 2021, respectively. It is projected that these revenues will reach US$18.30 billion by 2026. In terms of investment in start-ups on the African continent, Nigeria is number one, ahead of South Africa, Egypt, Kenya, and Ghana. A McKinsey study published in 2017 predicted that the digital economy in Nigeria would contribute 3.0 million new jobs and add US$88.00 billion to the economy over a decade. All of these show the remarkable importance of the digital economy in Africa and in particular, Nigeria.

However, for a thriving and inclusive digital economy, African countries such as Nigeria need to build the critical foundations of the digital economy (World Bank Group, 2019). These foundations are interdependent and require public and private sector solutions.

In Nigeria, the National Information Technology Development Agency's (NITDA) Digital Economy Development Department aims to help the Federal Government meet its targets set by its National Digital Economy Policy and Strategy (NITDA, 2022). This is driven by efforts to boost digital literacy, digital commerce promotion, technology adoption, and industry collaboration to

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transform digital business models and markets across all sectors and industries while providing an enabling environment for exchanges of digital services and digital goods. The essential foundations for the Digital Economy are skills, infrastructure, platforms, financial services, and entrepreneurship.

Innovation is the lifeblood of any digital economy, and it is the constant emergence of innovation that ensures the competitiveness and sustenance of the sector. This is because, unlike most other industries, in the digital economy, competition is almost always against global players. The fact that a product or service is digital means that consumers have access to alternatives without the limitations of geography, hence, to remain relevant, Nigerian companies must strive to be globally competitive.

II. The Building Blocks of Digital Innovation

II.1 Digital Skills and Infrastructure

Digital skills and literacy are the bedrock upon which innovation is built in any ecosystem. Economies need a digitally savvy workforce to build solid digital economies and competitive markets. Digital skills and business skills to develop or run a start-up or business, constitute technical skills. Higher digital literacy encourages more people to embrace and use digital products and services. They are important for the emergence of an ecosystem. Ecosystems must have the ability to grow and retain talents or import them from other areas. Digital skills form a pool of capabilities, and it is in the exchange of ideas by these skilled individuals, and the ability to execute those ideas that digital innovation is born. It is therefore important to examine the formal education structures in the society and ask if they are geared towards producing digital skills in the learners. The alternative to such a systematic approach is for those with interest to seek out the knowledge themselves. While this produces some results, countries that take this systematic approach always emerge with an advantage.

Layered on top of digital literacy, the next building block of digital innovation is the presence of important digital infrastructure. These include high speed internet, innovation hubs with power and computing tools, as well as key platforms to facilitate the exchange of information and ideas within these spaces. In addition, it must provide access to affordable devices for the operators in the digital economy. As seen in examples in Silicon Valley in the United States and Bangalore in India, this concentration of digital infrastructure in proximity to concentrations of digital skills is crucial to the

emergence of a vibrant digital economy. Nigeria has had its home-grown example. The spark that lit the significant emergence of digital innovation in Nigeria, and which has made Nigeria the largest destination in Africa for foreign investments into the digital economy was in the Yaba area of Lagos with the collaboration between the Federal Ministry of Communications and Technology, the Lagos State Government, private telecommunications providers and technology incubators, led by Co-Creation Hub. It is digital infrastructure that provides the means for people, businesses, and governments to come online and connect to local and global digital services, thereby connecting them to the global digital economy. In addition, digital infrastructure democratises access to acquiring the digital literacy needed for digital innovation, creating a virtuous cycle where one reinforces the other. It is therefore necessary to take stock of how Nigeria fares in digital infrastructure.

In 2018, Nigeria had a low rate of fixed broadband penetration of 0.04 per cent – lower than the African average of 0.6 per cent. Both averages were well below the World average, of 13.6 per cent (The International Telecommunication Union, ITU, 2018). While this is dire, it is also important to make a distinction between the penetration of the physical broadband infrastructure on ground, and its availability for use to the ecosystem. There is a gap between broadband being available on paper or even fibre in the ground and the ecosystem's ability to use it effectively. A four-step measure of these dimensions – Availability, Awareness, Accessibility and Affordability – to rate the state of broadband infrastructure in each ecosystem can be adopted (SBM Intelligence/PricewaterhouseCoopers, 2019).

Nigeria's approach has been to leapfrog these infrastructure limitations in creative ways, leveraging what is present. Internet penetration in the country is at 49.0 per cent in 2021 and is forecast to reach 59.9 per cent by 2026 (Adeyemo, 2020). Many of the new users are connecting to the internet on their mobile devices, as smartphone adoption grows rapidly in the country. This has enabled innovation to reach these new digital entrants and guided those who are building for Nigeria to always adapt their digital innovation to reach their market with these constraints in mind. Having to solve these infrastructure problems at the company or individual level of course raises the cost of delivery in the digital economy in Nigeria, impacting competitiveness. This is one of the key areas in which finding scaled solutions driven by public-private-partnerships will unleash creativity and innovation in ways that will have exponential value. It is on this scaled infrastructure that the important platforms can then be built.

Platforms are important to enabling digital innovation. Digital platforms provide a wide range of industries with products and services accessible through digital channels such as mobile devices, computers, and the Internet. Digital platforms enable producers and users to create value through interactions. They enable small players to reach large audiences, test out ideas and iterate quickly, all at a manageable cost. Governments operate digital platforms to provide citizen-centric government services and share information. Retail companies also operate digital platforms to offer an increasing number of products and services (Adeyemo, 2020).

II.2 Linkages - A Crucial Success Factor

Linkages are critical in digital ecosystems. These linkages are connections via regular contacts, mutual interests, and feedback loops to influence each other. The network of ideas and interests necessary to deliver innovation come from such linkages (World Bank, 2019). The first of such linkages that lead to digital innovation is amongst the ecosystem players – the innovation hubs, the founders, the funders, and the talent: the intra-ecosystem linkages.

The second type of linkage is one with existing non-digitised industries in the ecosystem. In a country like Nigeria, where the bulk of the economy exists outside the digital space, it is crucial to explore innovations that links them to the digital space. An example is the thriving of e-commerce by simply bringing digital platforms to traditional businesses such as restaurants to expand their reach, with only a minimal alteration to the restaurant's operations. Digital innovation entering these spaces creates an avenue to bring the digital economy to life with new, growth-oriented ventures and the transformation of existing businesses, which contribute to net employment growth and help enhance the competitiveness and productivity of the economy (Adeyemo, 2020). Those that facilitate these linkages play an important role in the digital innovation ecosystem. Everyone gets value when this works well.

Nigeria's digital infrastructure is inefficient and costly. The more significant digital industry itself is limited by poorly trained workers, the more financial difficulties, and sub-par governance would be created.

II.3 Regional Efforts

The United Nations Conference on Trade and Development (UNCTAD) in its 2021 Technology and Innovation Report talked about the depth in the level

of effort required by most African countries to take advantage of the opportunities that are available, and urged developing nations to prepare by pursuing Science Technology Engineering and Mathematics (STEM) and Innovation policies suitable to their structural, social, and economic situations.

Nigeria has made good strides in technological advancement over the first three industrial revolutions and should do whatever is necessary to profit optimally from the Fourth Industrial Revolution phase. Mindful of this, the African Union (AU) Commission has laid out[12] a comprehensive Digital Transformation Strategy for Africa that it hopes to implement in partnership with the World Bank, the United Nations Economic Commission for Africa (UNECA), African Union Development Agency – New Partnership for Africa's Development (AUDA-NEPAD), Regional Economic Communities (RECs) , Smart Africa, African Development Bank (AfDB), Africa Telecommunications Union, Africa Capacity Building Foundation, and the International Telecommunication Union.

This Digital Transformation Strategy for Africa aims to help create a Digital Single Market (DSM) that would help with African integration efforts, and this is being supported by other projects like the Policy and Regulatory Initiative for Digital Africa (PRIDA), the Programme for Infrastructure Development in Africa (PIDA), the African Continental Free Trade Area (AfCFTA), the African Union Financial Institutions (AUFIs), the Single African Air Transport Market (SAATM); and the Free Movement of Persons (FMP) (Research ICT Africa, 2021). The aim is to achieve an inclusive and integrated digital society and economy in Africa that enhances Africa's quality of life, boosts local economies and the quality of life of Africa's citizens, and helps Africa position itself as a major player in the global economy.

By 2030, it is expected that all Africans will have easy, affordable, and secure access to internet speeds of at least six mb/s regardless of where they are on the continent at prices that don't exceed ¢1 per MB and via African-made smart devices that don't cost more than US$100.00. This is expected to complement the plans to provide online digital skills and literacy development programmes for hundreds of millions of Africans, so they are equipped to partake profitably in the digital economy space.

The Digital Transformation Strategy for Africa also takes note of the impact of inadequate financing on the availability of digital infrastructure. It plans to alleviate this by establishing a digital sovereignty fund to provide financing for projects that would close the digital infrastructure gap and make broadband

services available, affordable, and safely accessible for all Africans.

The African Union also plans on effecting a harmonisation of legislations, regulations and policies that make for clarity and enhanced interaction across borders. There are also efforts to create enabling legislative and policy frameworks that support the emergence of productive digital trade and digital payments systems to improve the supply of digital work and help Africans and African institutions fare better in the worldwide digital economy.

III. How does Disruption Emerge?

This question has been approached from multiple perceptions in the past. It is often difficult to predict how, when, or where disruptive technologies will emerge, except with the benefit of hindsight. However, for the purposes of this paper, Professor Ricardo Hausmann of the Harvard Kennedy School of Economics framework can be adopted to understand the Nigerian context.

Along the pillars of skills/human capital, infrastructure, policy, and funding, the current capacity of Nigeria can be viewed as distinct alphabets, with each representing a distinct capability. Therefore, the existing ways of doing things represent how these alphabets are combined to make words. Frequently, policies are put in place by the government and the existing players in the economy to codify their way of doing things. One home-grown way that disruption emerges is to reimagine new ways of combining these letters – the existing capabilities, to make new words. This innovation generally extracts more productivity from what exists, showing new ways to use them. An example of this can be seen, in the emergence of firms like Interswitch in the early 2000s and PiggyVest in more recent times.

A second way involves importing capabilities from outside the country - adding totally new letters to the alphabet mix that enables the creation of new words. Because of funding, education, infrastructure and know-how limitations, a lot of disruption is often birthed in Nigeria.

In both cases, digital channels bridge the gaps for birthing these capabilities' transference and spark these disruptive innovations. However, as has been shown, while digital channels are important, they cannot replace domestic clusters that facilitate in-person interactions that innovation hubs create. Some examples of such hubs are Bangalore in India, Silicon Valley in the United States, and CC-Hub did in Lagos, Nigeria.

IV. Disruptive Technologies in Nigeria

Disruptive technologies are innovations that radically change how businesses, consumers, and industries operate because of the significantly superior value mark-up associated with them. These innovations may involve brand new technologies, finding new uses for existing technologies or creating new business models that combine processes and technologies in new ways.

Some of the disruptive innovations that have emerged since the turn of the millennium include the following:

- Social Media - These technologies moved people from being simply consumers of what is on the internet, to creators of the content on the internet. It increased the reach of many individuals and disrupted many traditional businesses including news media, television, entertainment, publishing, among others. It has also opened a new way for people to sell their goods and services or monetise their talents digitally to a global audience. Many small business owners make most of their sales via these platforms. These platforms have also propelled many young Nigerians into global prominence and have been useful in mass dissemination of information for example during the COVID-19 pandemic. There have been multiple iterations of social media including the earlier entrants like Facebook, later ones like WhatsApp, Twitter, and Instagram, and more recently Snapchat and TikTok. Many of these platforms have the unique position of not having to be domiciled in Nigeria, but have Nigerian users, and bring their disruptive innovations to bear in the Nigerian market;

- Video and Music Streaming - These technologies leveraged the increased penetration of better-quality internet to deliver video and music content directly to devices, disrupting media consumption forever. Free platforms such as YouTube as well as subscription platforms like Netflix and Amazon Prime for film, and Spotify and iTunes are in this category. They have created an avenue for Nigerian creatives to find new expression, new audiences and to improve the quality of their outputs to meet the standards of these streaming platforms. They also bring in crucial foreign exchange revenues. It is no wonder that Nigeria's first Grammy Award winners have emerged on the back of these innovations;

- e-Commerce - Some of the biggest companies globally such as Amazon and Alibaba fall into this category. They leveraged technology to

aggregate sellers and allow buyers to buy products from the comfort of their homes on the internet. Some of the biggest successes from Nigeria which have gone on to be listed on global exchanges are also here, such as Jumia;

- As-a-service platforms - Under this categorisation, we have included the innovation that allows people to have access to products or services without having to own the assets or employ the people that provide these products or services full time. This innovation was pioneered by Uber in ride-hailing, disrupting the transportation industry. It has since spread to areas like accommodation with Airbnb, homecare with Eden Life and more. The creative industry is one which is significantly leveraging services platforms to play in the digital economy today with influencers and the likes making use of platforms such as Disha to host their contents and advertise their services;

- Blockchain and Digital Currencies - While the temptation for many when discussing blockchain is to limit the innovation to crypto currencies, blockchain is far more than that. Globally, it has disrupted supply chains, transaction processing, vendor, and distributor management and just about any industry that requires transparency in viewing transactions by multiple parties to make decisions. In Nigeria for example, there have been projects by large corporations like Dangote to manage their whole distribution value chain leveraging blockchain technology;

- Cloud computing - Prior to this disruption, companies had to set up and manage large data centres themselves, creating a large entry barrier. Globally, the emergence of innovation in cloud computing with companies like Microsoft Azure and Amazon's AWS has made it easy for companies to subscribe to servers on the cloud for minimal costs. Nigerian firms like Computer Warehouse and MTN have also localised this innovation, enabling Nigerian digital innovation to thrive on Nigerian cloud computing providers; and

- Other innovations include Artificial Intelligence and Virtual Reality, Drones, 3D Printing and Automation.

While many of these innovations started from outside Nigeria, they arrived on our shores very quickly. When companies decided to expand into Africa, Nigeria typically offers the first option for this, with the potential size of the market and relatively high digital penetration within the region. In addition, Nigerians also bring these innovations and adapt for the market, spawning

new disruptions in the market. For example, while payment card schemes were reluctant to come into Nigeria, Interswitch quickly adapted and created Verve for the Nigerian market, disrupting the payment market in the country.

Key foresight has also positioned Nigeria ahead of the curve in terms of certain markets. For example, instant money transfer that rides on the Central Bank of Nigeria's NIBBS Instant Payment (NIP) is far ahead of its counterparts in some developed economies, enabling further innovation with financial inclusion models like the point-of-sales (POS) agents in the economy.

The lesson here is that disruptive innovation compounds, with previous innovations becoming the foundation upon which many more innovations spring forth.

IV. How has Nigeria Responded to Disruptive Technologies?

Nigeria's response to the disruption caused by new technology can be broadly broken down into two buckets: the public response and the private-sector response. It is also impacted by whether it is one of the home-grown disruptions from the rearrangement of existing capabilities within the country or if they are disruptions that involve the importation of capabilities from abroad.

IV.1 Social Media

Nigeria's response to social media has been that of widespread adoption by the public. Applications such as Twitter have disrupted the flow of information, especially news. The use of the internet to disseminate the news in Nigeria started around 2003 (Jibo & Okoosi-Simbine, 2003). The most frequently used source of information to broadcast news had traditionally been radio, with the print media as the second most used source, especially in urban areas. This flow of information, especially the street corner "free readers club," has been completely disrupted by the advent of the internet.

In addition, social media has empowered many entrepreneurs to market their goods and services to a large audience at a low cost. Facilitated by the presence of the NIP, transactions are routinely closed via social media and payment via transfers. This has made social media in Nigeria a huge marketplace. One challenge this has created is one of trust - because the payment method is not integrated into the social media where the

transactions happen, there are incidents where sellers have failed to deliver to buyers after payment. Further digital innovation has attempted to solve this problem, with the emergence of escrow services to facilitate these exchanges. Supporting such innovation that builds trust in the space as opposed to banning the trade is the regulatory response that is recommended.

Social media began to make inroads into the news cycle first via Nairaland, which came on stream in 2005 and was overtaken by Facebook, which became the biggest source of information for Nigerians online around 2014. Twitter also plays a major role in disseminating news and has completely democratised the way news is spread by amplifying previously marginalised voices that would never have gotten past the traditional gatekeepers (Bociurkiw, 2012). With this power, has come the challenge of verifying the news on the platforms, and the phenomenon of "fake news". Nigeria's government has responded with attempts to pass social media regulation, and in one instance, banned Twitter until it had ensured proper frameworks were in place to ensure proper usage in the country.

The global nature of social media also ensures that Nigerian content can quickly become global phenomena. This is evident especially with Nigerian music, with songs released by Nigerian artists leveraging TikTok and Instagram to gain global popularity.

There is however a recognition of the impact of social media offline, and events like the Social Media Week offer platforms to bring these together. More engagement is needed to propagate the positives that social media potentially brings.

Video streaming technologies have completely upended the way multimedia is consumed all over the world. While the industrialised world quickly adopted video tech, bandwidth problems caused by inadequate infrastructure slowed the adoption of streaming in Nigeria until the COVID-19 pandemic. Platforms such as IrokoTv, which was launched in 2011, started by focusing on curating Nollywood content for Nigerians in the diaspora.

Netflix, an American tech-based online distribution platform, expanded its services into Nigeria in 2016, but did not gain traction until the COVID-19 pandemic and quickly moved to establish Netflix Naija in 2020 (Durosomo, 2020). This has completely upset the cinema culture in the country as in a country where most people are squeezed for cash, a single visit to a cinema

would cost no less than ₦3,500.00. In contrast, with a monthly subscription of ₦1,200.00, the user can access various movies on Netflix. With the advent of the opening of payments from Nigeria for such global platforms in another wave of digital innovation spearheaded by the likes of Flutterwave, it became easy for Nigerians to pay for these streaming services. This disruption has influenced the cinema-going culture in the country as malls are increasingly thin of moviegoers (Adeoti, 2022).

Even more disruption is coming as one of Netflix's biggest global competitors, Amazon Prime, has opened shop in Nigeria. It is expected that more streamers will continue to come, such as HBO, Disney Plus and others. Many of these platforms have enabled Nigerian creators to increase their earning power, paying foreign exchange for content produced in Nigeria. Nigerian content such as Blood Sisters and Anikulapo even entered the global top ten, displaying to the world the potential of Nigeria. This is bound to bring more global investment into the Nigerian creative industry, all facilitated by digital innovation.

Perhaps the biggest current disruptive technology is blockchain technology - which cryptocurrency runs on. The advent of cryptocurrencies impinge upon the State's control of the medium of exchange. Depending on how governments approach the issue, financial services face serious disruption or transformation because of cryptocurrencies. There are at least four critical things that fiat money does: it facilitates trade; it acts as a store of value; it acts as loans; and it acts as collateral for loans, all of which make the modern world possible and underpins global finance. Moving value from the control of central governments to the blockchain, which is not centrally controlled, could have a significant impact on the ability of central banks and monetary authorities to set monetary policies and maintain financial stability in a country.

Blockchain applications go beyond bitcoin and other cryptocurrencies. We are seeing blockchain being adapted in real-world scenarios to create more transparency and fairness while also saving businesses time and money across various sectors. Blockchain applications have been seen to develop smart contracts to improve supply chain visibility (International Business Machines Corporation, 2022), clearing and settlement systems and improved Know-Your-Customer (KYC) systems (Padmanabhan & Sivaramakrishnan, 2016).

The impact of cryptocurrency as a means of exchange of value and secure means of funds can be studied from its usage by both Russia and Ukraine

during the ongoing war as the Ukrainians have used cryptocurrencies to get support for their efforts far quicker than governments were able to provide aid. In contrast, the Russians had initially used cryptocurrencies to ring-fence themselves from the effects of sanctions and embargoes placed on their economy (Flitter & Yaffe-Bellany, 2022).

Governments all around the world are now examining how to embrace the wave of change with respect to blockchain and digital currencies. Venezuela issued its cryptocurrency in 2018 (Reiff, 2019), El Salvador uses the most famous cryptocurrency, Bitcoin, as an official currency (Tidy, 2021). Other governments have chosen to regulate cryptocurrency. The US, for example, now has a working group that is investigating how to regulate cryptocurrencies to ensure the responsible development of digital assets within the State. Some other governments, such as Australia, have allowed banks to mint digital assets tied to the value of their local currency. In March 2022, the Australian bank, ANZ, became the first bank to create a stablecoin to be used in real transactions.

Many central banks have started working towards introducing Central Bank Digital Currencies (CBDCs). While China (Crawley, 2022) and Canada (Victor, 2022) have extended their trials, Nigeria launched its CBDC, the eNaira in 2021(George, 2021). CBDCs, unlike decentralised digital currencies, have regulators at the centre of all transactions but still, use the speed and efficiency of blockchain technology.

V. Issues and Opportunities with Disruptive Technologies in Nigeria

If Nigeria is to grow its digital economy and profit optimally from the 4th Industrial Revolution, it should choose suitable policies to help with education, vocational training, and industry growth. This is very expedient given the low enrolment and completion in both primary and secondary schools in Nigeria. For example, a report from the African Centre for Economic Transformation (ACET) shows that less than 30.0 per cent of African adults finished primary school (Brown, 2020). One out of every five children that are out of school is in Nigeria. Meanwhile, the rate of primary school completion in industrialised countries is about 100.0 per cent. The lower secondary school enrolment rate is 30.0 per cent, and only 35.0 per cent of those enrolled-age children graduate. This failure to provide quality primary and secondary education to most Nigerian children leads to low numeric and linguistic proficiency levels and low interest in academic or professional paths associated with science, technology, engineering, and mathematics (STEM).

With these inadequacies, things could further downturn for a continent where only three million formal sector jobs are available yearly for the 10-12 million sub-Saharan Africans that enter the job market.

It is important to note that disruptive technologies could impact production costs in a way that would enable developed countries to move outsourced manufacturing back home in response to great progress in automation and 3D printing, which is a key risk. The primary reason the global players that drive those disruptions initially seem to ignore Nigeria and Africa as a market is because of some of the various reasons already discussed (low purchasing power and poor infrastructure).

The second phase then becomes the Nigerians finding ways to either partner or compete with those global players who come with more experience, connection, and money. They sometimes form strategic partnerships, as Paystack did with Stripe (Lunden, 2020). In some cases, they continue to compete, as Multichoice has chosen to do with Netflix and Amazon (Ajifowoke, 2020).

These works presuppose that all the digital disruptions come from abroad. Fortunately, we have had our home-grown disruptions - for example, those led by PiggyVest and CowryWise to drive automated savings amongst very young people. These have opened new spaces and created new realities, competing with traditional players in those sectors and in some cases, making acquisitions from these traditional players (Jackson, 2021).

VI. Concluding Remarks

Digital innovation and disruptive technologies must be seen as key engines to the growth of the Nigerian economy, and the achievement of the diversification from oil dependency. It is one of the areas where the entry barriers are significantly lower for a developing country like Nigeria, and with the right mix of policy, partnerships between the public and private sector and strategic positioning, Nigeria can become a leading exporter of innovation into the global economy.

As young Nigerians have shown over the last decade, the vibrant creativity that has birthed and grown the digital economy is a thing of pride for the nation. As Nigeria looks into the future, supporting these efforts by strategic investments in digital literacy, infrastructure and creating key linkages are crucial.

It is important to support the process of creating Nigeria-versions of the disruptive technology to solve Nigerian problems and then motivate Nigerian companies to replicate such in other countries. Another alternative is to position them to attract the right partnerships and investments to establish them. Supporting the export of such home-grown innovations would first create export discipline, as the Nigerian companies leaving our shores will have to compete with innovations from other countries and improve their offerings. The only winner(s) are the Nigerian consumers, as improved products can only serve to stay relevant to changing consumer needs over time. This will have the knock-on effect of improving the Nigerian economy as more Nigerian innovators being able to compete externally provides an avenue for more foreign exchange revenue flowing into the country and more taxable income for the treasury.

Support in terms of funding and friendly policies should be given to disruptors to access venture capital investments and foster corporate and international partnerships. It is recommended that the Nigerian government should continue to develop public policies that promote foreign direct investment and increase the country's ease of doing business. Enabling policies such as relaxed revenue collections by regulators will help many tech companies in their early growth stage.

Support in the growth of more digital disruptions within Nigeria, such as CowryWise, Flutterwave, PiggyVest, and Reach. PiggyVest is a great example of how disruption changes culture positively. Nigerians have traditionally not been able to save, and studies have shown that Nigerians have a poor saving culture (Imegi & Okanta, 2015) and do not keep much of their money after spending on food (SBM Intelligence, 2019). These platforms have shown that they are well adapted to the needs of Nigerians. That has helped people do something that builds financial discipline. Some help people make investments they otherwise would not have made. For renters especially, these apps have helped their users reach a level of financial security that, if replicated and scaled across the country, would provide a lot by way of stability.

The relevance of investing in human capital, infrastructure, and policymaking to facilitate better adoption of disruptions from abroad or home-grown ones cannot be understated. As it has been pointed out, adequate internet coverage is another limitation the local digital economy faces. Support in the expansion of technologies such as 5G which aims to significantly improve access to fast and cheap internet across the country. High speed and stable

internet are key catalyst for the success of digital ecosystems, and broadband service must be available at a quantity, quality and price that makes them accessible.

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