Digitalising Public Administration for Sustainable Development

The Nigerian Experience

A. G. Umar Kari
Sociology Department, University of Abuja
umar.kari@uniabuja.edu.ng

Ismail H. Mshelia
Sociology Department, University of Abuja
mshelia.ismail@uniabuja.edu.ng

Abstract

Since their independence from colonial rules in the late 1950s and early 1960s, most countries in African continent have been sleepwalking in developmental realm due to a myriad of human security threats including internal conflicts, military dictatorships, public sector corruption and generational poverty among others. Consequently, the continent, in sharp contrast to others, failed to achieve some of the eight Millennium Development Goals (MDGs) set by the comity of nations at the turn of the 21st century. As all the African states pledged unwavering commitment to achieving other sets of global goals—the Sustainable Development Goals (SDGs) set in 2015, —concerns over their actual capacity to achieve them by the target year (2030) are being raised. This is because they not only epitomise most of the challenges being confronted but also lag far behind in the global race for digitalisation, precipitated by 21st century digital revolution and widely regarded as an essential driver in governments efforts towards achieving national objectives. Using desk review of secondary data, this paper examines the instrumentality of digital technologies to the achievement of sustainable development in Africa, with specific reference to Nigeria. The SDGs serve as the basis for the analysis while system theory, emancipatory realism and Digital Era Governance model among other scholarly and expert perspectives provide reasoned lines of explanation. The paper concludes that digital technology is an indispensable mechanism to the achievement of sustainable development. It recommends that while curbing corruption and insecurity are considered Nigeria's developmental priority, digital technologies should be used to accelerate their achievement and other lofty ideals.

Key Words: Digital, technology, public administration, development, SDG, Nigeria, Africa

Introduction

At the turn of the 21st century, hunger, poverty, diseases and conflicts are among the threats to human security that necessitated the setting up of global Millennium Development Goals (MDGs). Most of these challenges are most prevalent in African continent. Though the digital revolution of the 21st century has paved way for paradigm shift to digital governance

model and facilitated the achievement of the MDGs in several countries, African continent has failed in that regard. It was, for example, the only continent that failed to halve poverty by the target year (2015). It was against this backdrop that in 2015, members of the United Nations (UN) set other sets of global goals—the Sustainable Development Goals (SDGs)—with more ambitious objectives.

Halfway to 2030, the target year for the SDGs, there is no indication the African countries have actual capacity to achieve them, notwithstanding the unwavering commitment they pledged to the course and some progress made. They remain the least developed countries in the world, despite being home to 30% of the world's natural resources such as fossil fuel and minerals (Irrum, 2023). In the 2022 Human Development index of the United Nations Development Programme (UNDP), all but four of the 31 countries with 'low development' are African, and none of the 66 with 'very high development' is African. This is not helped by the endemic public sector corruption and leadership failure that birthed and continuously compound the unending internal conflicts, diseases, poverty and other developmental challenges prevalent in many of the African states.

Given that digital technology has permeated all aspects of human endeavour in the 21st century, this paper explores the instrumentality of digital public administration to combating these challenges towards achieving sustainable development in Africa. The specific country of reference in the discourse is Nigeria—the most populous and largest economy in the African continent. It has over 200 million inhabitants and US$1,645 Gross Domestic Product (GDP) per capita (UN System in Nigeria, 2017; World Population Review, 2023). The country's developmental failure, despite having such enormous human and material resources makes it a quintessence of the African continent. Though it is on course for digital public administration with numerous digital initiatives being implemented, it is also being pegged back by the aforementioned developmental challenges. Consequently, it is—like Africa as a continent—far off track for the SDGs as subsequently analysed.

The Sustainable Development Goals (SDGs)

The concept of sustainability emphasised the notion of cross-generational equity (Mensah & Enu-Kwesi, 2018). Sustainable development is thus a development paradigm that advocates preserving the earth's ecosystems for future generations while improving the living standards of the people in the present generation (Browning & Rigolon, 2019). It rests on three conceptual pillars—economic, social and environmental sustainability—geared towards economic growth, social equality and environmental protection (Mensah, 2019; Taylor, 2016). In this vein, the SDGs are, as shown in figure 1, "a shared blueprint for peace and prosperity, for people and the planet, now and into the future" (Halderen et al., 2019, p. 1).

There are a total of 17 SDGs as follows: No poverty; Zero hunger; Good health and well-being; Quality education; Gender equality; Clean water and sanitation; Affordable and clean energy; Decent work and economic growth; Industry, innovation and infrastructure; Reduced inequalities; Sustainable cities and communities; Responsible consumption and production; Climate action; Life below water; Life on land; Peace, justice and strong institutions; and Partnership for the Goals. In order to monitor progress towards their achievement, a cumulative 169 targets and 244 indicators are set. And, as it was with the SDGs, stakeholders—like the UN's Broadband Commission for Sustainable Development—have emphasised the relevance of digital technologies to this course.

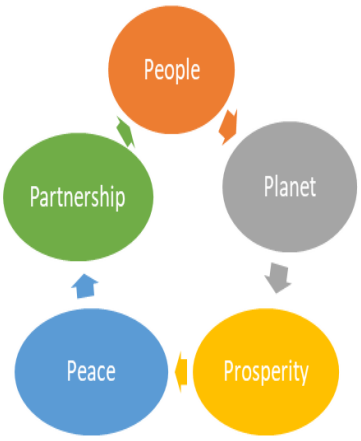

Figure 1: The Dimensions of Sustainable Development (Five Ps).
Source: Adapted from United Nations, cited in Ansari et al. (2021, p. 3).

Methodology

The paper utilises desk review of secondary data. The documents reviewed were selected on grounds of quality, relevance to the subject matter—digital technology and Sustainable development—and recentness. Accordingly, only peer reviewed publications and reports of governmental, reputable non-governmental and international organisations on the subject matter were selected and reviewed. And except for necessary reference to the past, only documents published between 2015 and 2023 were selected, given that the SDGs took off in 2015 and the digital landscape is a fast evolving one.

Theoretical Linkage of SDGs and Digitalization

System theory, Essentially Digital Governance (EDGE) model and emancipatory realism provide basis for logically integrated relationship among the five Ps on which the SDGs traversed. The system theory, rooted in the works of Emile Durkheim and other scholars, postulated that the effective functioning of any social system in the earth planet relies on partnerships among its various components. Easton (1953) had described such in a political system as a conglomeration of inputs and outputs. While inputs come from the people in the form of agitation for adequate security and essential services towards prosperity and peace, they precipitate such outputs from public administrators, who necessarily develop effective partnerships with relevant stakeholders and effectively utilise resources in the planet.

Genuine efforts towards maximum output is referred to as "emancipatory politics" by Ken Booth and Richard Wyn Jones—the proponents of "emancipatory realism" or 'critical security theory. The realisation of such is emancipation, which implies meeting people's needs while tackling practical challenges like poverty and other threats to human freedom, peace and prosperity (Booth, 2005). In this vein, Booth referred to emancipatory realism as:

> both a theoretical commitment and a political orientation. As a theoretical commitment, it embraces a set of ideas engaging in a critical and permanent exploration of the ontology, epistemology, and praxis of security, community, and emancipations in world politics. As a political orientation, it is informed by the aim of enhancing security through

> emancipatory politics and networks of community at all levels, including the potential community of communities—common humanity (p. 268).

Consequent upon digital revolution in the 21st century, digital public administration emerged to facilitate the supply of outputs towards emancipation as expounded by Dunleavy & Margetts (2015) who put forward the Essentially Digital model of Governance (EDGE). This facilitates the achievement of sustainable development as depicted in figure 2.

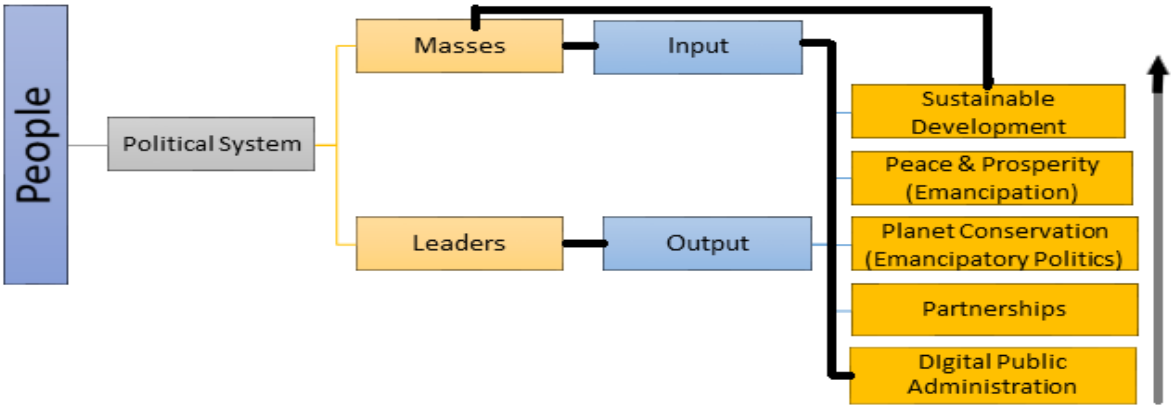

Figure 2: Social system, Digital Public Administration and Sustainable Development

Source: The author

The EDGE is, according to Dunleavy & Margetts, "a model of governance to navigate this changed world, a model of bureaucracy where finally digital technologies take centre stage in government organization (p.2)." Digital governance rest fundamentally on partnership or networks of community at all the levels of a political system. Accordingly, it constitutes "digital public technologies (DPTs)—meaning digital assets that create a level playing field for broad access or use by virtue of being publicly owned, publicly regulated, or open source" (Ingram et al. 2022, P. 6). They cut across the three broad layers of digital ecosystem revealed in Table 1.

Table 1: The Layers of Digital Ecosystem

Layer	Components
Physical Infrastructure	Broadband Mobile connections Devices Electricity Data centers
Platform (Infrastructure)	Registries for the unique ID of people/buildings/vehicles etc. Payments infrastructure Knowledge infrastructure Data exchange infrastructure Mapping infrastructure
Apps-level Products	Farmer information solutions e-commerce Telehealth Much, much more

Source: Adapted from Organization for Economic Cooperation and Development (OECD, 2021, p.).

Ingram et al. have identified the crucial roles of the foregoing layers in accelerating the SDGs—being one of the global frameworks for emancipatory politics. For example, they assert that "in fighting diseases, mapping technology can interface with health information systems and even citizen-level mobile data reporting to track outbreaks in real time (SDG 3.3, 3.8, 3.d), as Sri Lanka did in the early days of the COVID-19 pandemic" (p. 18). On the other hand, the SDGs 9 aim to accelerate digital inclusion. Target 9.1, for example, aim to "develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all."

Shortfall of the SDGs in Nigeria

Halfway to 2030, most developing countries, including Nigeria, are severely off track for the 17 SDGs. In the UN's 2022 world's SDG index, Nigeria is globally ranked 139th of the 163 countries ranked (Sachs et al. 2022). It is thus much closer to the worst than the best performing country in Africa and the world. With 54.2 score on a scale of 1 (worst) to 100 (best), the country is just 15 points better than South Sudan, the163rd (with 39.0 score); and 31 points off Finland, the 1st (with 86.3 score). The best performing country in Africa (Algeria) is globally ranked 64th with 71.5 score, 17 points better than Nigeria.

In the 2020 Voluntary National Review (VNR) of the SDGs, the former president of Nigeria (Muhammadu Buhari), who oversaw the first half of the SDGs implementation (2015 – 2023) had confessed that "progress on the SDGs is mixed. While modest progress has been achieved across the goals and indicators, challenges remain in the achievement of many of the goals" (p. v). Though he had attributed this to the impact of Covid-19 pandemic, the country has since inception been faced with numerous challenges militating against any quest for development. These include insecurity (human and national), exclusion (educational, digital and financial), and instability (political, economic and social). And these have been nourished by endemic public sector corruption that has since the country's independence in 1960, grows "enormously in variety, magnitude and brazenness" (Achebe, 1983, p. 41).

In fact, the country was ranked world's most corrupt in the 1995, 1996, 1997 and 2000 Corruption Perception Index (CPI) of Transparency International. According to the Nigerian anti-graft agency, the Economic and Financial Crimes Commission (EFCC), an estimated $20 trillion has been stolen from the country's public treasury between 1960 and 2005 (Ajayi & Ifegbayi, 2015). And as president Buhari decried in his inaugural speech, "no society can achieve anything near its full potential if it allows corruption to become the full-blown cancer it has become in Nigeria" (Akinwale, 2017, para. 12). It was upon this realisation that he set economic development, security and anticorruption as the cardinal objectives of his administration. However, as figure 3 reveals, his anticorruption crusade did not yield the desired result.

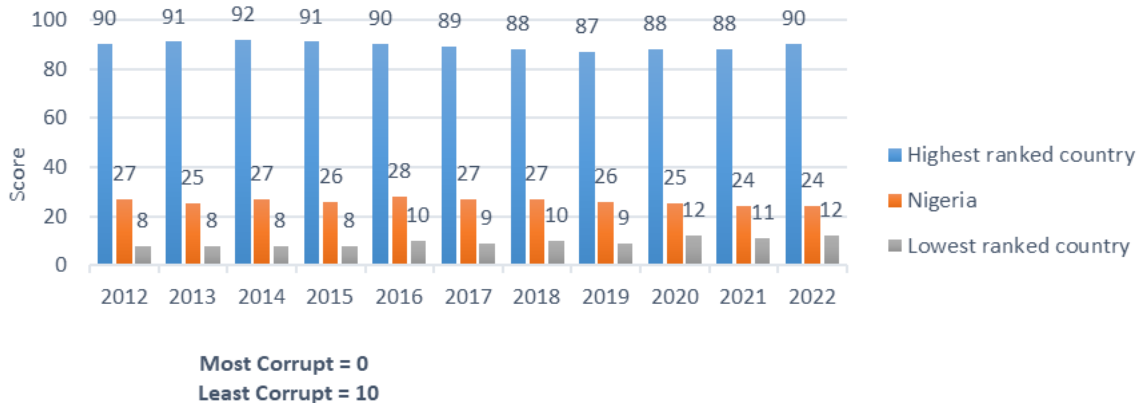

Figure 3: Nigeria's Relative Position in Corruption Perception Index (2012 – 2022)

Source: Adapted from Egwu and Mshelia (2023), based on data from the 'Corruption Perception Index' of Transparency International—https://www.transparency.org/en/cpi/.

The apparent lack of success in the anticorruption crusade of the Buhari regime, the nearly 50% oil price decline in 2014/15, and the rising incidents of insecurity—crimes, terrorism, banditry and insurgency among others—have plunged the country into macroeconomic crisis before the Covid-19 pandemic exacerbated it. This made the prospect of achieving the 17 SDGs elusive, resulting in the country's development priorities narrowed down to the following SDGs as revealed in the 2020 VNR.

1. Poverty (SDG-1) and an inclusive economy (SDG-8);
2. Health and well-being (SDG-3);
3. Education (SDG-4) and gender equality (SDG-5);
4. Enabling environment of peace and security (SDG-16)
5. Partnerships (SDG-17).

Nigeria's Developmental Challenges, Digital Governance initiatives and SDGs acceleration

In 2019, the government launched Nigeria e-Government Master Plan 2020. This, as the country's information minister reportedly said, is to "utilise ICT to drive transparency in governance and improve the quality and cost effectiveness of public service delivery in Nigeria" (Okoro, 2019, para. 7). Prior to this, however, numerous digital initiatives have been implemented by the government for same purpose. In addition,

> relevant institutional frameworks, such as the Nigeria Integrated Sustainable Development Goals (iSDG) Model and the re-alignment of the National Statistical System (NSS) with the requirements of the SDGs have been put in place to guide effective implementation of the SDGs in Nigeria (VNR, 2020, p. v).

Navigating through the aforementioned development priorities of the Nigerian government, the following sub-sections will examine the country's developmental challenges and various digital initiatives towards digital governance and Sustainable Development.

5.1 Poverty (SDG-1) and an inclusive economy (SDG-8)

In the third year (2018) of the SDGs journey, Nigeria overtook India to account for the largest number of people living in extreme poverty, with 87 million people living on less than US$1.90 per day (Adebayo, 2018). To this figure, World Bank (2019) projected more than 30 million increase by 2030, which would account for about 25% of the world's extremely poor people. Having realised the indispensability of digital technology to achieving economic diversification and building an inclusive economy towards reversing this unfortunate trend, the Federal Ministry of Communications and Digital Economy (FMCDE, 2019) launched a comprehensive framework for digitalising the economy—the National Digital Economy Policy and Strategy (NDEPS). It is anchored on seven fundamental pillars across the layers of the digital ecosystem. The last of pillar particularly aims to "map the development of the digital economy to the attainment of 7 of the SDGs (SDGs 1, 3, 4, 8, 9, 10 and 11) that are most relevant to the digital economy" (p. 35).

And in 2020, the government launched the Nigeria Digital Agriculture Strategy (NDAS) to "improve the efficiency of the Nigeria agriculture sector through the use of digital technologies both in the rural and urban area" (National Information Technology Development Agency (NITDA, 2020, p. v). It was built upon Agricultural Promotion Policy (APP) and Economic Growth and Recovery Plan (EGRP) launched in 2015 and 2017 respectively, as strategic response to the 2014/15 oil price decline and economic recession. As shown in Figure 4, its implementation framework is holistic, such that the prospect of digital Agric solutions being used in Nigeria (such as Zenvus, Hello Tractor, and Agricore) will be enhanced. The government aimed "to link its industrial policy to a digital-led strategy for growth", with the Smart Nigeria Digital Economy project as implementation framework (VNR, 2020, p. 21). The ultimate aim is reducing overreliance on oil and economic diversification through agriculture—which, despite contributing about 70% of the country's workforce, generates just over 20% of its GDP (NDAS, 2020).

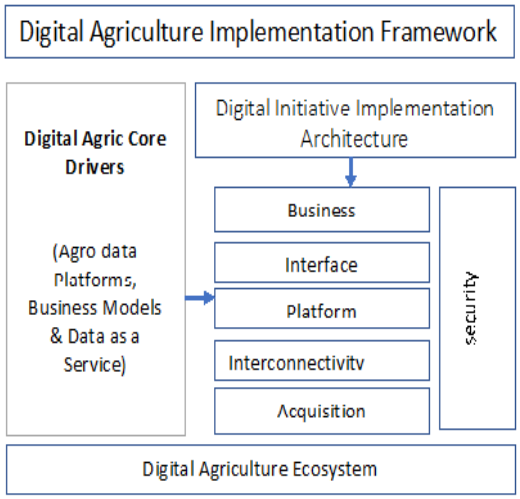

Figure 4: The Nigerian Digital Agriculture Implementation Framework

Source: NITDA (2020, p. 25).

To strengthen e-administration for effective e-service delivery, other digital initiatives like the Treasury Single Account (TSA) and the Integrated Payroll and Personnel Information System (IPPIS) were introduced and implemented. President Buhari was quoted as saying

these have enabled the government "to save cost and fight corruption" (FMCDE, 2019, p. 9). What prepared the ground for these, however, was the bank reform of 2004 which paved way for consolidation, uniform account number, e-banking, agent banking, and the biometric database of all bank customers in the country—the Bank Verification Number (BVN) launched in 2014.

The BVN, coupled with the digital National Identification Number (NIN) of a new computerized national identity card (also launched in 2014), enhanced financial inclusion in the country with each having over 54 and 80 million enrolments respectively (Nigeria Inter Bank Settlement System, NIBSS, 2022a; National Identity Management Commission, NIMC 2022). As Thales (n.d.) opined, the latter signals "the broadest financial inclusion program on the continent" which "offer millions of Nigerians—most of whom have never had access to a banking service—the security, convenience, and reliability of electronic payments with 13 applications". Also, the e-banking service continuously enhance drive towards cashless economy. For example, the total volume of electronic transactions through the NIBSS Instant Payment platform (NIP) had reached 319.9 million in 2021 (January – November), while 492.2 million of such transactions were recorded in 2022 (January – November), implying 53.8% increase over the previous year's volume (NIBSS, 2022b). The total value of the 2022 transactions was an impressive N345 trillion, the highest ever recorded as figure 5 reveals.

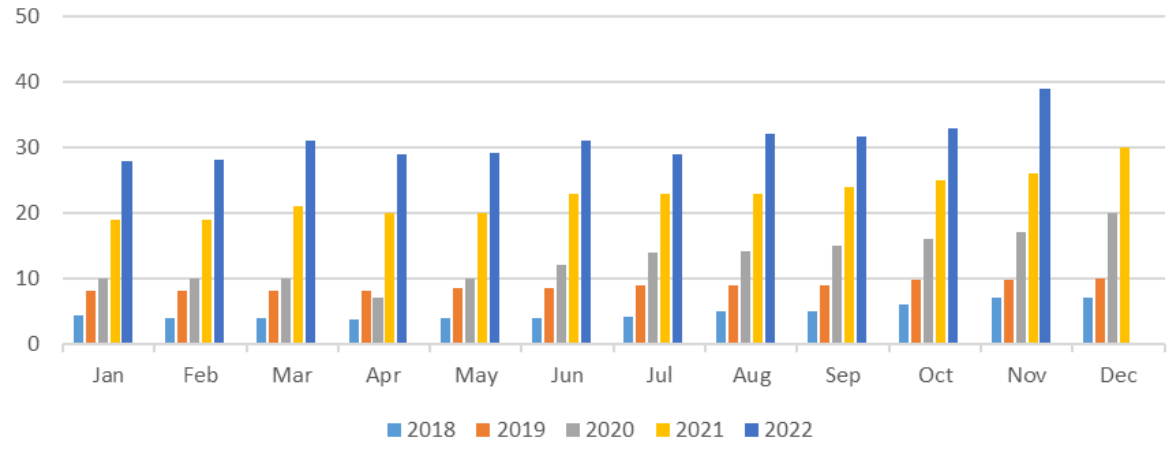

Figure 5: Values of NIP Transactions (NGN Billions)

Source: Adapted from NIBSS (2022b).

Furthermore, the e-banking service played a key role in reducing poverty through the agent banking scheme and National Social Investment Programme (NSIP) launched in 2016. While the agent banking service created more millions of jobs, over 22.5 million people, majority of whom are women, have reportedly been economically empowered through the components of the NSIP—Conditional Cash Transfers; Home-Grown School Feeding Programme; GEEP, and N-Power (VNR, 2020, p. 52). According to the NDEPS document, the whole ICT sector contributed 13.85% to the country's GDP (p. 9).

However, the country is nowhere near achieving SDG 1. A recent survey of the National Bureau of Statistics (NBC) found that 133 million (63%) of the Nigerian people are multi-dimensionally poor (Ichedi, 2022). This is being exacerbated by wanton unemployment and inflation the rates of which hit 33% and 20.77% respectively (Nigerian News Direct, 2022).

5.2 Health and well-being (SDG-3);

In 2018, evidences abound, with regards to a continuous deterioration of Nigerians' health conditions. One of such was the very high maternal mortality rate which stood at 512 per 100,000 having dropped from 276 in 2016, and the under-five mortality rate which increased from 128 deaths per 1000 in 2017 to 132 in 2018 (VNR, 2020, p. 32 – 35). Though the government has been implementing various healthcare programmes—including the National Health Insurance Scheme (NHIS), National Immunization Coverage Scheme (NICS), Midwives Service Scheme (MSS), and Nigerian Pay for Performance Scheme (P4P), the healthcare challenges have remained. However, only about 5% of the people are covered under the NHIS as the rest, including an estimated 3.4 million people living with HIV—the world's second highest HIV burden—have limited access to health services (UN System in Nigeria, 2017, p. 13). This necessitated the development of the second National Strategic Health Development Plan (NSHDP) as a framework to guide the implementation of SDG 3 (Federal Government of Nigeria, n. d.).

However, in the face of the Covid-19 pandemic which escalated Nigeria's deteriorating health services as the 2020 VNR reiterated, the country's gross inadequacy for health service experts also got exposed. The doctor to population ratio registered as of 2018 was 1:2753 or 36:100,000. This implies the country is over 400,000 doctors short of the WHO recommended ratio of 1:600. Similarly, there was then 88: 100,000 nurse-population ratio and 58.9: 100,000 midwives-population ratio. This underscores the need to improve healthcare service coverage through digital technologies for the country to achieve Universal Health Coverage (UHC, target 3.8) among other targets of SDG 3.

The major pillars of the UHC are health care equity and financial protection for all. To this end, "the global health community has recognized the value of digital technology as a transformational tool to accelerate progress in improving global health outcomes" owing to its speed and reach (National Academies of Sciences, Engineering, and Medicine, 2018, p. 1). This prospect has since birthed digital health which encompasses all the activities at the intersection of health and ICT geared towards the effective delivery of health information and services (p. 2). Few components of this are telehealth and telemedicine. As Babatunde et al. (2021) reiterated, "incorporating appropriate technologies in form of mobile health into healthcare services has the potential of increasing healthcare services coverage and impacts" (p.1). In the words of WHO (2021), "digital health should be an integral part of health priorities and benefit people in a way that is ethical, safe, secure, reliable, equitable and sustainable" (p. 8).

In Nigeria, there have been some digital initiatives in the provision of health care services, notwithstanding their inadequacies. For example, in 2010, the National Agency for Food Drug Administration and Control (NAFDAC) introduced an mHealth initiative—the Mobile Authentication Service (MAS)—in an effort to curb the sale and consumption of fake medicine. The MAS scheme enables buyers to instantly verify the genuineness of medicine using scratch code and SMS (NAFDAC, 2017).

Digital technology also played a key role in the federal government's fight against polio which culminated in WHO's declaration of the country as polio free in 2020. In the course of the universal vaccination effort, Geographic Information System (GIS) technology introduced by eHealth Africa was particularly "implemented as a solution to locate missed settlements, improve vaccination coverage, and guide ward Focal Persons on appropriate micro planning" leading to the identification of about 3 million children in over 5000 missed settlements

across the 32 states it was used (FMC Jalingo, 2020). FMC Jalingo added that an SMS-based software—Auto-visual AFP Detection and Reporting (AVADAR)—was used in 11 states to engage over 6000 stakeholders for active surveillance.

Furthermore, Akintunde et al., (2019) opined that telemedicine has been used at different points in time to provide healthcare services to the patients of Ebola and hypertension among other diseases in Nigeria. However, while "the COVID-19 pandemic accelerated the use of telemedicine and uncovered its opportunities in providing prompt clinical care, education, and healthcare at a low cost and extensive coverage", it is still being underutilised in Nigeria, thus remaining at infancy stage with no legal framework (Egbewande et al., 2023, p. 2).

5.3 Education (SDG-4) and Gender Equality (SDG-5);

With regards to SDG 2 also, the first half of the SDGs journey is not without a course for worry to the Nigerian government. The number of out-of-school children in the country has grown to approximately 20 million according to UNESCO Global Education Monitoring Report (2022). This represents over 8% of the global total of 244 million, and about a double increase in Nigeria in less than a decade. Also, dropout rate was high with the average years of school attendance among Nigerian children being 6.5 years, against the expected 10 years. The quality of education being offered has also been disappointing as the learning outcome of pupils in literacy, numeracy and basic life skills averagely range from 30 – 52% scores (Abul, et al. 2017; Federal Ministry of Education 2018).

This trend is appalling, given it is more than two decades since the launching of the Universal Basic Education (UBE) Programme in 1999, which sought to address the challenges of accessibility, equity, quality and affordability of basic education by 2015. Having been strengthened by the UBE Act of 2004, it makes basic education free and compulsory for all Nigerian children, thereby providing a framework for the implementation of MDG 2 and addressing the issues of education for disadvantaged children like the girl-child and internally displaced children. Failure to achieve that and the renewed commitment to the SDGs necessitated the formulation of National Inclusive Education Policy (NIEP) in 2017, in order to address the policy gap relating to the enrolment of children with disabilities.

And the government did not take for granted the indispensability of digital technologies if the tides of out of school children and the low quality of education were to be stemmed. In 2019, the government launched the National Policy on Information and Communication Technologies in Education (NPICTIE) and the National Implementation Guidelines for ICT in Education (NIGICTIE). The former:

> "identifies the critical role of ICT towards the attainment of the National Vision within the context of the Constitution of the Federal Republic of Nigeria, the National Policy on Education, Ministerial Strategic Plan: Education for Change and Sustainable Development Goals (Federal Ministry of Education, FME, 2019, p. v).

And on the back of the foregoing, the government launched the Nigeria Education Sector Covid-19 Response Strategy to mitigate the stagnation of learning caused by the closure of all schools in the country, which affected close to 46 million learners Dele-Ajayi and Taddese (2020, p. 18). The FME oversaw the development of Learn at Home Programme (LHP) through radio, Television and mobile classrooms (Federal Ministry of Education, 2020). However, as Dele-Ajayi and Taddese further examined, the autonomy of state governments

on education means various state governments have to develop their own digital initiatives—some which were identified.

Though the implementation of SDG 4 in Nigeria is limited to the basic education (primary and junior secondary Schools), the utilisation of digital technologies in the country's education sector transcends secondary schools. For example, in 2014, the Joint Admission and Matriculation Board (JAMB) had upgraded the pen-on-paper University Matriculation Examination (UME) for prospective undergraduates to a computer based United Tertiary Matriculation Examination (UTME). There is the Nigerian Universities Electronic Teaching and Learning (NUETAL) platform established in 12 Universities across the country (FME, 2019, p. 5). And universities each at their own pace partnered with different organisations to develop digital platforms for knowledge delivery, evaluation and payment with the Covid-19 pandemic accelerating the prospect.

Gender imbalance in the education sector, especially the basic education level is among the roots of gender inequality across different sectors in Nigeria. In pursuance of the SDG 4 among others, the country has deployed the Gender Equality Package (GEP) developed by UNICEF in its Learning Passport (LP) Platform. While the LP is "an online, mobile, and offline platform that enables continuous access to quality education", the GEP is an initiative that ensures the LP platform is "gender-responsive and girl-focused" as it "covers five themes: gender equality, STEM, economic empowerment and entrepreneurship, GBV prevention, and comprehensive sexuality education" (UNICEF, 2021, p. 3).

With such digitally enabled educational empowerment of the girl child, gender inequality in different sectors will be significantly reduced in the nearest future. At the moment, however, Nigerian quest for SDG 5 is off track due to women's significant exclusion in several developmental indicators. For example, the financial exclusion in the country stands at 36% for women against 24% for men (Central Bank of Nigeria & Enhancing Financial Innovation & Access, 2019). And as several economic empowerment programmes leverage on digital database such as the BVN and NIN, only 35 out of the 80 million of those who enrolled in the NIN scheme are women (NIMC, 2022).

Indeed, a survey found that in low-income countries, women constitute 44% of those without their country's national ID or similar foundational document against 28% for men (World Bank, 2021, p. 21). This is not helping the wide gender gap in the world. The Global Gender Gap Report (2023) revealed that globally, just 68.4% distance towards parity is closed, and at the current rate, it would take many decades to achieve parity in many sectors (World Economic Forum, 2023). In Nigeria, there has been continuous disapproval against women seeking leadership positions and unfavourable electoral rules leading to wide gender gap in the political spectrum (Umar & Kari 2018).

The problem of using digital technologies to enhance substantive gender equality is the gender imbalance in the technological world. The statistics of mobile internet users in 2019 has only 38% adult females compared to 54% adult males (GSMA, 2020). The Nigeria Demographic and Health Survey 2018 found that mobile phone ownership stood at 55% for women and 81% for men (National Population Commission & ICF, 2019, p. 382). As UNICEF (2021) revealed, globally, women are 7% less likely than men to own mobile phone; and in low-and middle-income countries, they are 15% less likely to use mobile internet (p. 1).

5.4 Enabling environment of peace and security (SDG-16)

The first eight years of the SDGs journey have apparently been the most threatening to Nigerian statehood since its 30 months civil war. This is caused by spiralling crimes, ethno-religious conflicts, resurgence of armed rebellion in the Niger Delta, armed banditry in the northwest, insurgency in the southeast and terrorism in the northeast. These have earned the country an unenviable rank in Global Terrorism Index (Institute for Economics and Peace, 2021).

The age long secessionist agitation in the south east that led to the civil war assumed similar dimension. The now proscribed terrorist group, the Independent People of Biafra (IPOB) renewed confrontation with government forces leading to the death of many people and the burning of many police stations among other consequences (Home Office, 2022). In the oil rich Niger Delta, the Niger Delta Avengers among other new violent groups emerged to renew hostility with federal government forces. The Boko Haram terrorists ravaging the country since 2009 transcended the northeast, reportedly taking over 500 communities in Niger state (north central) in 2021 (Ahmad, 2021). According to UN System in Nigeria (2017, p. 17), the 2016 Humanitarian Needs Overview (HNO) put the number of people affected by the insurgency at 14.8 million. In the same vein, between January and July 2019 only, there were about 330 attacks by armed bandits which resulted in over 1,460 deaths (Abdullahi, 2019).

The government has considered digital technology an indispensable mechanism in its efforts to tackle insecurity towards achieving national objectives and the SDGs. Therefore, the government deemed it imperative to make the country a fertile ground for digital governance by implementing the numerous digital initiatives geared towards fighting poverty and illiteracy among other harbingers of insecurity. While digital exclusion in the country negated this effort and aided insecurity, there has continuously been efforts to reverse that. There was, for instance, a significant increase in the number of active GSM users in the country as the number of active lines reached 208.6 million in July 2022 (Adepetun, 2022). There was also a significant telecom access gaps reduction from 207 clusters in 2013 to 97 in 2022—representing 53% reduction (Premium Times, 2023). Furthermore, internet user penetration in the country has increased from 26% in 2018 to 38% in 2022 with 108 million internet users (Sasu, 2022).

Beyond facilitating the country's quest for digital governance, these provide an effective pathway for combating the security challenges prevalent in the country as expounded by Mshelia and Kari (2023). According to them, the government must navigate through the three core types of relationships that solidify e-governance as depicted in figure 6.

As digital technology provides an avenue (like social media) for direct interaction between the leaders and the led, it facilitates good governance responsive to the needs of the people. The leaders leverage on digital technology to facilitate administration among various levels and agencies of government (including security agencies), as well as other stakeholders towards effective service delivery (including security services). And as depicted in figure 7, digitally oriented government services empower the people economically and otherwise, thus providing an enabling environment of peace and security (SDG-16). Following the footpath of Lagos state, Nigerian public administrators need to ensure this by developing smart cities—a municipality in which inhabitants are digitally connected to qualitative social welfare services and the public administrators (TWI, n.d).

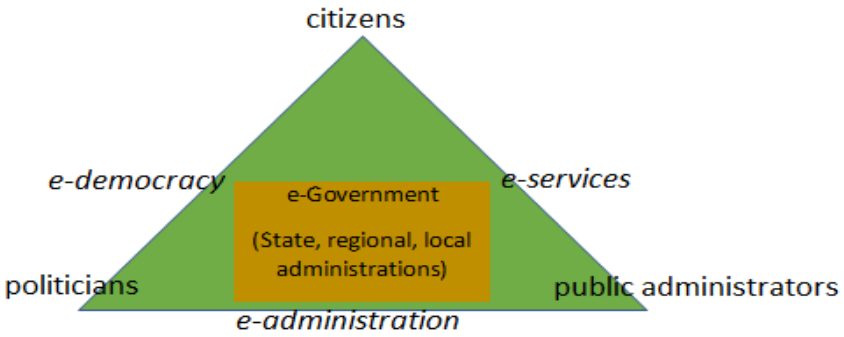

Figure 6: Three relationships in e-government

Source: Adapted from Wihlborg (2005) cited in Bernhard (2014, p.20-21).

Figure 7: The impact of e-governance on security

Source: Adapted from Mshelia and Kari (2023, p. 12).

5.5 Partnerships (SDG-17)

The numerous developmental challenges faced in Nigeria means the government must collaborate with different stakeholders locally and internationally to be able to steady the ship towards the first 16 SDGs all of which connote concrete areas of action and tangible investments. Fortunately, SDG 17 is set upon such realisation. It is thus a facilitator for the 16, making its evaluation more methodologically challenging with many analysts avoiding such (Potluka, 2020, p. 138). Aiming to "strengthen the means of implementation and revitalize the global partnership for sustainable development", it covers finance, technology, capacity-building, trade, and systemic issues (von Schnurbein, 2020, pp. 2 – 5). And with 19 targets—12 of which mention "developing countries" or "Global South"—and 25 monitoring indicators, it seeks to ensure African nations faced with developmental challenges are, as partners, helped through the five focus areas while implementing the 16 SDGs. As von Schnurbein opined:

> one of the major differences between the MDGs and the SGDs is the universal nature of the latter without differentiation and the full inclusion of all areas of society, including state, market, and civil society. From a theoretical perspective, the MDGs' failure can be explained by a wrong, albeit unilateral, perception of partnership (p. 1).

In the UN's Partnerships for SDGs online platform where, even before the Covid-19 pandemic, more than 5000 partnership commitments are registered, 134 indicated implementations in Nigeria with focus on different SDGs (Enechi & Pattberg, 2020, p. 33). These include SDGs 5 (39 commitments), 4 (33 commitments), 3 (32 commitments) and 1 (31 commitments). In their survey on them, Enechi & Pattberg found that 45% and 55% of them are nationally and globally focused respectively, cutting across 43% NGOs, 26% business stakeholders, 19% nation-state agencies, 5% academics and 7% sub-national stakeholders.

As technology forms an integral part of the SDG 17, target 17.8 particularly targets ICT, and according to the UN SDG Progress Report (2023, p. 24), there is positive development in partnerships relating to access to technology. The increased number of internet and mobile phone users in Nigeria gives credence to this. The ministry of communication and digital technology, Nigerian Communications Commission (NCC), and the National Information Technology Development Agency (NITDA) are at the centre of Nigeria's partnerships leveraging on digital technologies nationally and internationally. The cardinal objectives of the Buhari administration (economic development, security and anti -corruption) provide the areas of focus.

For example, in October 2022, the country was recognised by the Open Government Partnership for pioneering Beneficial Ownership Registry to fight corruption (OGP, 2022). Similarly, the aforementioned agencies recently partnered with telecommunication companies to link all active GSM lines in the country to the NIN with a view to fighting insecurity. Regarding economic development, the country has, in addition to numerous local partnerships, been a major actor in Multi Stakeholder Partnerships (MSP) involving big businesses and non-governmental organisations. It thus benefited from official development assistance (ODA), other official flows (OOFs), private flows and foreign direct investment (FDI) among others.

One of these is the partnership with the UN System in Nigeria (2018 – 2022) which required US$ 4.2 billion. It was the UN's collective support and response to the developmental initiatives of the Nigerian Government, with implementable interventions in development challenges (i.e misgovernance and insecurity), human needs, and the targets of the SDGs among other declarations (p. ix). Nigeria is also one of the countries added to the second phase of Feed the Future—United States government's global hunger and food security initiative (Howard & Simmons, 2019). It has, in fact, been among the major beneficiaries of huge financial flows from EU to developing countries the total volume of which amounted to EUR 111.3 billion in 2021 (Eurostat, 2023). However, as UN (2023) observe:

> geopolitical tensions and the rise of nationalism in some parts of the world have made it more difficult to achieve international cooperation and coordination. Many developing countries (including Nigeria) are battling record inflation, rising interest rates and looming debt burdens, competing priorities, and limited fiscal space. A major surge in concerted action is needed to ensure developing countries have access to the financing and technologies needed to accelerate SDG implementation (p. 24)

Conclusion

Nigeria's quest for the SDGs is off track. So much that their achievements now seem elusive. The country's numerous developmental plans across various sectors remain a little more than idealistic frameworks for the SDGs, notwithstanding some noticeable progress. The

country's public administrators have over the years not lived up to their expectations hence the failure of the MDG and other lofty ideals. In the words of Joseph (2019), "no one will describe Nigeria, in large part, as a well-governed country, or contend that the way in which many public institutions are administered—which is essentially what governance means—contributes positively to its development" (para. 1).

In order to achieve any meaningful developmental progress in the country, public sector corruption must first of all be curbed. Then the numerous security challenges that continuously threaten the country's sovereignty. As the former UN Secretary-General, Kofi Annan, is quoted as saying, "Africa must reject the ways of the past, and commit itself to building a future of democratic governance subject to the rule of law" (Cilliers 2004, p. 1). And leveraging on digital technologies towards digitalising the country's public administration is indispensable to the achievement of these and other lofty ideals. Therefore, the Nigerian government should:

1. Develop smart cities to strengthen e-governance, e-administration and e-services. This will enhance political, economic and social stability by narrowing exclusion and mitigating the insecurity challenges militating against the country's quest for sustainable development.
2. Establish special corruption tribunal to facilitate anti-corruption crusade. Though the prospect of effective e-governance, e-administration and e-services in well-developed smart cities will mitigate corruption, swift trial of those found guilty will virtually eliminate it.

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