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Artificial Intelligence Technology and The Challenge of Sustainable National Development in Nigeria

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ABSTRACT

This paper examines the obvious critical national development problems in Nigeria and strategies to be adopted to ensure livelihood sustainability in her space-economy, including its citizens that have complex, diverse cultural backgrounds. The major problems are high insecurity rate, mass poverty, unemployment, corruption and poor access to basic infrastructural facilities due to inefficient exploitation and utilization of the natural resources leading to environmental devastation and economic underdevelopment of the minority ethnic groups in the country. The problems are also traced to lack of transparency and accountability in governance, dominated by three major ethnic groups in the country leading to political instability and increasing state of insecurity occasioned by militant organizations across Nigeria. Hence, the need arises to design and adopt modern security strategies like the artificial intelligence technology that is applied in advanced countries during covid-19 pandemic than mere lockdown in Nigeria. This technology is used to combat insecurity and save people's lives headlong to enhance socio-economic stability and sustainable national development in the country. Therefore, the paper recommends the electronic voting system, organization of national conference, adequate provision of basic amenities, cultural reform, review of

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all existing laws regulating oil and gas development, immediate fixing of the refineries and other income-generating facilities, economic diversification, build and strengthen institutional structures and improve capacity-building strategy using modern artificial intelligence technologies for adequate security network services in Nigeria.

Introduction

Nigeria is by composition an artificial creation of the British amalgamation of the Northern and Southern Protectorates in 1914 with people having diversed cultural backgrounds, several ethnic nationalities and religious differences (Utulu, 2013). This multi-ethnic, multi-lingual and multi-religious African State has about 220 ethno-linguistic groups speaking not less than 300 languages (Poronakie et al, 2022, Obasi, 2009). This reveals the extent of the complexities and nature of cultural diversities in the face of varying political climate and its citizens' socio-economic characteristics being compelled to unite and co-exist in one country called Nigeria.

One would need to appreciate the fact that out of these 250 dynamic ethnic groups in the country; only are recognized as major with dignity (e.g., Hausa, Yoruba and Igbo) when significant issues of national interest demand immediate resolutions headlong. The remaining 247 groups are thus classified as minority particularly those in the Niger Delta Region that have the natural resources (oil and gas) which sustained Nigeria's economy. Confirming this submission, Oyegun (2007) said "this ecological zone (Niger Delta) is the location of the oil and gas sector of the economy and the hub of commerce and industry of the country". In fact, if the need arises to consider any body from the minority ethnic groups for any key position in governance, it is always rooted through the recommendation by any of the three major ethnic groups in the country. For instance, Dr. Goodluck Ebele Johnathan became the president of Nigeria in 2015 following the sudden demise of President Yar'Adua and for the fact that Ex-President Olusegun Obasanjo (a Yoruba ethnic nationality) supported him. There is also evidence of structural regional imbalance in governance with the northerners tenaciously holding onto power and dominating all the major Ministerial positions by virtue of their numerical strength in the polity while contributing little or nothing to the national income. Again, almost all the oil blocks in the Niger Delta Region are owned and controlled by the northerners at the experience of their host and brutally traumatized communities.

In fact, the development challenges of Nigeria hovers around bad leadership, high rate of insecurity, poor infrastructural development and wide-spread corruption in high places such that an average Nigerian citizen is treated as a criminal abroad e.g., the jail of Senator Ekwereninadu and his wife. Hence, the challenges of sustainable development of this country increases with the total failure of successive administrations which Bell-Gam (1990) referred to it by saying that Nigeria's present financial problems may be said to be the errors of the past. He added further that in the drama of haphazard development, small ethnic groups who lack political doubt lose out particularly with greater consequences if their homelands are far away from the capitals. These experiences are made worst by President Buhari's regime and currently, the Tinubu's administration who introduced consecutively the cashless economic policy and sudden fuel subsidy removal respectively to heightened Nigerians' sufferings. Writing on the

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state of the Niger Delta Region, the UNDP (2006) reported that "corruption, mismanagement, rampant human rights abuses, human insecurity and the vulnerabilities of most of the population heightened frustration and alienation from all levels of government and other authority structures".

Beside oil and gas, and generally judging by international standard; Nigeria is abundantly blessed with human and material resources that have high economic potentials and values. (Adeyemo, 2008). In essence, resources such as crude petroleum and its associated natural gas including other products (e.g., iron-ore, tin-ore, coal, limestone, marble, solar energy, land and water, forest resources, wild-life and huge population figure) are all found in Nigeria. These great human and material resources have not been judiciously explored, exploited, mobilized and fully harnessed to enhance livelihood sustainability (Chukwuyenum, 2022). There is a general consensus that development leads to positive change and transformation in terms of increased capacity of the citizens over material assets, intellectual resources and ideology; and obtains physical necessities of life (e.g., food, clothing and shelter), employment, equality, adequate participation in governance, quality education, gender equality, sustainable development and peace (Igbuzor, 2005).

The reality in Nigeria today is that all is not well as many people and families are so poor that they cannot meet their development needs and targets. The World Bank (2000) has persistently argued that the sustainable development goals can be met if only there exists good leadership and political will combined with good economic policies/ideas which are translated into nationally owned and nationally driven development strategies guided by modern environmentally friendly technologies, good economic and transparent accountable governance (Poronakie and Nwala, 2020). While inaugurating members of the energy council for the reform of the energy sector to enhance sustainable environmental and economic development in Nigeria, President Yar'Adua in Adeyeno (2008) acknowledged the poor exploitation and under-utilization of the natural endowments in this country when he said;

> *Our country has had for too long a very narrow focus in the management and utilization of the hydrocarbon resources. The enormous potentials of our oil and gas industry for generating economic growth, the provision of mass employment and for providing a strong foundation for the transformation of our industrial and agricultural sectors have never really been prioritized (Adeyemo, 2008: p 16).*

The problems associated with sustainable national development patterns and factors in Nigeria are complex because almost every part of the country has its own peculiar development problems. Thus, peculiarity notwithstanding, a number of basic development issues of national significance are identified by Arokoyu (2015:3).

1. Bridging the gap in social development between the South and North on one hand and among the states and local government areas in the country as manifested in availability of educational, health, transportation and other social services.
2. Balancing the opportunities for development in each state of the federation through the development of infrastructural facilities in the different parts of the country.
3. Development of resources frontier regions e.g., the vast area with known agricultural potentials but requiring substantial capital investment to make them productive e.g the Niger Delta, Manbila, Obudu Plateau areas to ensure more productive farming, fishing and livestock operations.
4. Stimulating lagging regions and enhancement of the growth of developing areas.
5. Dispersal of industrial development with emphasis on backward linkages rather than mere concentration and irrational location in few areas.
6. Balance development of urban and rural areas so as to reduce inequality between the major urban centres and the rural areas. The problems of increasing inequality between the major urban areas

and rural settlements have had many adverse effects on the pattern of development in the country. These effects include;

i. Excessive growth of a few urban areas beyond a critical size in which the diseconomies produced by congestion exceed the external economies resulting from urban concentration.
ii. Over-concentration of socio-economic activities in the core areas to the detriment of the periphery's latent potentialities which remain untapped and curtails the expansion possibilities of the entire national economy.
iii. Marginalization of the large proportion of the population of the periphery particularly its rural population with respect to the national economy. This implies a restricted domestic market which may prove to be a serious obstacle to the country's subsequent economic development.
iv. Marked interregional imbalance in the levels of economic and social welfare and chances for personal advancement which are not only unfair but also inequitable.
v. Growing tension between the peripheral regions and the core areas resulting from the great disparity in living standards and in the development prospects.
vi. Isolation of remote and sparsely populated border areas far from the centre of national development foci which may eventually weaken the country's territorial cohesion.

As a matter of fact, the youths derived of quality education, gainful employment opportunities due to lack entrepreneurial skills, modern healthcare delivery system and adequate infrastructural development have today considered the formulation of criminal gangs thereby indulged themselves in all forms of unlawful activities e.g., social and political instability, armed robbery attacks, kidnappings, killings, crude oil theft or artisanal refining of crude petroleum resources and currently the wide-spread yahoo online business that had defrauded billions of dollars from people's accounts just to escape from poverty, deprivation and inaccessibility to basic welfare facilities and services. Therefore, describing accessibility as a critical factor of national development, Adeyemo in Dienne (2017) said;

> *The key concept we shall use is that of access to a nation-wide system of production, distribution and consumption. Small farmers and businessmen need access to the means of production, the financial system, the market and technical knowledge. Workers need access to remunerative employment and to suitable goods and services on which to spend their incomes. All these groups need access to a range of social services such as power, transport, schools and health facilities. Only if those needs are met will the majority of the population become participating numbers in the national life of society (Dienne, 2015: p5).*

From the perspective of high level of insecurity in Nigeria being a correlate of different types of criminal activities needed to be stopped headlong as shown in Table 1 below; it reveals the extent of crime index in this country which have defied the intelligence and capabilities of most security agencies and operatives in Nigeria.

Table 1: Ranking of Countries by Crime Index (2016)

Rank	Country	Crime Index (%)
1	Venezuela	84.44
2	South Sudan	81.32
3	South Africa	78.43
4	Papua New Guinea	77.58

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5	Honduras	76.43
6	Nigeria	74.14
7	Trinidad & Tobago	72.60
8	Elvader	72.02
9	Brazil	71.23
10	Kenya	69.49

Source: Adapted from Onuchukwu (2016: p8).

Thus, applying artificial intelligence technology to reduce high crimes rate is a sustainable strategy and better alternative to fight and halt insecurity challenges in Nigeria. One major area in which artificial intelligence technology has impacted the economy positively was during the novel coronavirus of 2019 (covid-19) pandemic that created a global shockwave and killing millions of people within seconds (Stier et al, 2020). At the beginning of September, 2021, the total global cases of covid-19 have surpassed 220 million with over 4.5 million deaths (Worldometer, 2021). The disease grew in strength and momentum from a local event with laboratory test of some chemicals and explosions to a pandemic affecting millions of people such that many governments instituted a form of lockdown of all human activities including other mobility restrictions to limit its spread effects (Arokoyu and Lawal, 2021). With the increasing surge in the number of victims, some are still reinstituting lockdowns as strategy to curb further spread and killings of people (Stier et al, 2020).

In Nigeria, the federal government instituted a nationwide lockdown on the 29th of March, 2020 (Presidential Taskforce on covid-19, 2020). The lockdown was temporarily relaxed after five weeks to a nation-wide night curfew till June, 2020 (i.e., the first phase of eased-lockdown). The second phase started on the 2nd of June through August 6; but was extended to September 3, 2020. The 3rd phase commenced shortly, lasting for four weeks and creating severe hardships among people till data as many are yet to recover from the effects. Most people lost their jobs, economic activities stagnated while others are out of business because the business money has been used for feeding while indoor doing nothing.

The use of lockdown as a strategy to stem its spread and subsequent effects was however, a way forward to save lives for a short-term basis. We should appreciate the fact that human mobility is a major driver of economic activities seen to be inevitable to life and survival (Lawal and Nwegbu, 2020). Therefore, when people's movement is restricted for any reason; it has the potential to create untold hardships in the society particularly among the poor, low-income earners and the disables that are most vulnerable as their survival depends on moving around to beg people from place to place. The palliative provided by the government were hijacked by politicians and sometimes shared among themselves during the night hours. In other words, the impacts of the pandemic could be perceived as a natural disaster that suddenly ravaged the entire nation such that many even die out of suffocation, hunger, ill-health or injury. This also includes production, distribution and supply chains of essential services, demand and supply, trade exchange, social interactions, health, education etc., leading to severe scarcity of food items and other basic welfare facilities and services including high inflation in the economic system (Fernandes, 2020). The most vulnerable people and places to the disease attacks were the poor and rural communities because they grossly lacked the resources to control its impacts headlong.

Understanding the impacts of the disease and adopted mitigation measures in Nigeria were comparatively very crude generally. The pandemic heighted the importance of vulnerability, self-reliance and the extent to which a disaster affected people since they are both a function of an area and the socio-economic circumstances of the victims themselves (Lawal and Arokoyu, 2015). However, in the Western World of Europe and America for instance, beside the use of lockdown which is just a first aid to the

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problem, artificial intelligence technology was used to perform essential services e.g., the distribution of goods and services such as food items, medical facilities, educational materials, information and communication, regular potable water and electricity supply among others were done by robotics, robo-advisers, conversational bots, self-driving cars/trucks, e-mail spam filters, drones etc. These are all the products of scientific research and technological development which facilitated not only further restriction and mitigation measures adopted but also curtails its rapid spread and effects in the advanced countries. It is unlike what happed in Nigeria and other African countries where people were forced to remain and caged indoor as prisoners under hunger, starvation and without medical facilities in an indefinite lockdown until they were released from captivity to regain their freedom when the government perceived a possible civil revolution; all in the name of combating coronavirus disease. In fact, the scourge was better indeed compared to government methods of fighting the disease. The methods were not only to enslave people with brutality but more of abuses to human dignity (Ujomu, 2001).

Artificial Intelligence Technology

This technology is a wide-ranging branch of modern technological application in the computer science where it was designed/built of smart machines capable of performing complex tasks which specifically required human intelligence. It could also be described as a theory and advanced development of computer systems that are able to perform tasks normally requiring human intelligence and ingenuity e.g., visual perception, speech recognition decision-making and transaction between languages. The types of artificial intelligence technologies discussed in this paper include reactive machines, limited memory, theory of mind and self-awareness.

a. **Reactive Machines**: A reactive machine follows the most basic of artificial intelligence technology principles and as the name implies, it is capable of only using its intelligence to perceive and react to the natural world before it. A reactive machine cannot store a memory and so its result is not so relied upon for past experiences to inform decision-makers in real-time. Perceiving the natural environment directly means that reactive machines are designed to complete only a limited number of specialized duties. Internationally, narrowing a reactive machines worldview is not any sort of cost-cutting measure but implies that this type of artificial intelligence devices will be more trustworthy and reliable enough to react the same way to the same stimuli at all time. A good example of a reactive machine is Deep-Blue which was designed by IBM in the 1990s as a chess-playing supercomputer system and defeated international grandmaster Gary Kasparor in a game. Deep-Blue was only capable of identifying the pieces on a chess board and knowing how each piece moves based on the rules of chess and knowing each pieces present position and determining what the most logical move would be at that moment. The computer was not pursuing future potential moves by its opponent or trying to put its own pieces in better position. Every turn was viewed as its own reality separate from any other movement that was made before hand. Another example is the Google's AlphaGo. This is also incapable of evaluating future moves but relies on its own natural network to evaluate the developments of the present game; giving it an edge over the Deep-Blue in a more complex game. AlphaGo also bested World class competitors of the game, defeating champion Goplayer Lee Sedol in 2016. Though limited in scope and not easily altered, reactive machine of the artificial intelligence technology can attain a relative level of complexity and offers reliability when created to fulfil repetitive tasks.

b. **Limited Memory**: This has the ability to store previous information (data) and make predictions when gathering same data and weighing potential decisions essentially looking into the past for

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clues on what may come next, limited memory artificial intelligence technology is more complex and presents greater possibilities than reactive machines. Limited memory type of artificial intelligence technology was created when a team continuously designed a model on how to analyze and utilized new data or an artificial intelligence environment. This is built and so models can be automatically trained and renewed over time and space. When utilizing limited memory artificial intelligence in machine learning, six steps are involved. Trained data must be created, the machine learning model must also be created, the designed model created must be able to make precise predictions, the model must be able to receive human or environmental feedback, the feedback must be stored as data for further retrieval and use and the steps enumerated so far must be functionally reiterated as a cycle or system.

c. **Theory of Mind**: The theory of mind is just that theoretical disposition of mankind, yet achieved for the technological and scientific capabilities necessary to reach the next level of artificial intelligence advancement. The concept is based on the psychological premise of understanding that other living things have thoughts and emotions that affect the behavior of people in the society. In terms of artificial intelligence machines, this would mean that it could comprehend how human beings, animals and other allied machines feel and make decisions through self-reflection and determination to utilize the information needed to make decisions of their own. Essentially, machines ought to grasp, process and evaluate the concept of mind. The fluctuations of emotions in decision-making and a litany of other psychological ideologies in real time, creating a two-way relationship between human ingenuity and artificial intelligence.

d. **Self-awareness**: Once the theory of mind can be established under the context of artificial intelligence, sometime probing into the future, the final step will be for artificial intelligence to become self-aware. This type of artificial intelligence technology possesses human-level attributes of consciousness and understands its own existence in the world as well as the presence and emotional state of others. It would be able to understand what others may need based on not just what they communicate to them but how they communicate it in our societies. Self-awareness in artificial intelligence relies both on human researchers, understanding the premise of consciousness technology and then learning how best practices can be replicated and subsequently building it into machines.

The artificial intelligence technology used during covid-19 pandemic by the advanced countries are Siri-Alexa and other smart machines, self-driving cars, robo-advisers, conversational bots and e-mail spam filters.

The development of intelligence technologies in Nigeria is an important player in Africa with 220 million people and one of the largest fast developing countries in the world. Again, Nigeria is Africa's biggest oil and gas exploiter with abundance of other resources with the largest natural gas reserves (Adeyemo, 2008). However, with the uncertainties surrounding oil prices in the world market and the impacts of covid-19 on the global economy; Nigeria is proned to plunging quickly into more misery index with about 8.3 million people living below the poverty line (Poronakie, 2023). While Nigeria was regarded as the regional economic giant of Africa some years ago based on its abundant oil and gas resources and human capital; the pace of innovation compare with the level of artificial intelligence measures adopted to combat crimes and diseases is very low due to many reasons ranging from lack of artificial intelligence knowledge/technology through poor infrastructural development, poor leadership styles, high insecurity level, constrained access to data and high rate of corruption in high places. According to the Oxford

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insight Government remarks on artificial intelligence readiness, Nigeria ranks 138 position in the world and 20th in the African sub-region; trailing behind South Africa, Kenya and Ghana respectively.

Nevertheless, the government recognizes the potentials of artificial intelligence technology potential to complement human efficiency and solve problems in different sectors of the economy e.g., security, mining, transportation, education, health, finance and agriculture. To this end, in November 2020, the government established the National Center for Artificial Intelligence and Robotics (NCAIR) as a digital innovation office of the government's task with extensive research and further understanding of the real application and use of the emerging modern technologies e.g., Deep Learning, Extended Reality, Robotics and Drones as well as the internet of things.

Public Sector Driven Artificial Intelligence Initiatives

To support economic diversification and sustainability in Nigeria NCAIR is collaborating with relevant authorities, stakeholders and researchers to utilize maximally the benefits gained from the artificial intelligence technology which aimed at achieving its set goals. Presently, the artificial intelligence-driven solutions have been slowly integrated into different areas in the private sectors. For example, the Lagos State Government enforces traffic rules and regulations through an All-powered Traffic Management Solution (TMS), which allows for real-time capture of video and picture, scans license plates and fines drivers who violate traffic rules on road networks. Since its development, the software has identified over 15,000 motorists and the data collected from the application of this system have also facilitated criminal investigation processes. Besides, to contain the spread of covid-19 and other deadly diseases at the airport and sea ports particularly at the peak of the pandemic in 2020; the government deployed artificial intelligence technologies e.g., the robots at specific air and sea ports to reduce human contacts by performing repetitive tasks such as temperature checks, profiling and boarding passes.

Despite the huge disadvantages of its operation such as limited access to artificial intelligence training and infrastructure; most of its activities taking place in the country's ecosystem is mostly a drive coverage by youths without adequate experience for its applicability. To solving one of the major challenges which is access to affordable and stable power supply, a problem affecting all sectors of the economy, the international organizations are working with local authorities and communities to install solar power solutions called renewable energy microgrids. This can deliver regular electricity supply to small communities in the rural areas where basic amenities are always in short supply. The team built an artificial intelligence system that identifies regional clusters in Nigeria where renewable energy microgrids are most viable and likely to impact the community positively. In addition, an interactive map acts as an interface to the system is been provided to enhance efficiency in the utilization of these modern technologies to reduce global security challenges and Nigeria in particular.

In agriculture, some farmers including other agrobusinesses are now adopting artificial intelligence technology into their operations to increase efficiency and high productivity. One notable method to mention is the Nigerian artificial intelligence start-up company called Airmant Limited, which launched an artificial intelligence software to help farm owners access modern and actionable information temperature, moisture, crop counts on farm, weed detection and possible outbreak of crop diseases. These management measures aimed to drive efficiency in cost-savings, enhance smooth farm operations and improve productivity Nigerian Banks have increasingly deployed artificial intelligence technologies into

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their various operations starting with the sensitive operated doors to stay ahead of sudden security attacks in the competitive market and improvement of all financial transaction processes. For instance, in 2019, the United Bank for Africa (UBA) launched its first maiden artificial intelligence Chatbot called Leo-Leo, is a virtual banker, a chatbot created to meet their customers' needs. Leo performs other essential banking duties like assisting customers to transfer money to their family members and friends, pay bills, open new accounts and other e-banking related services/issues.

Globally, the health sector is rapidly evolving and experiencing a shift from a human –oriented to a modern technology-oriented era based on increasing rate of insecurity across the world. Thus, advancement in artificial intelligence technology has contributed greatly to the national development of this country through healthcare efficiency beginning from early diagnosis and detection of illnesses to improved medical research and knowledge and its appropriate timely treatments. Nevertheless, the health sector is complex and faced with multiple challenges ranging from lack of adequate personnel, poor training and retaining of personnel, poor funding of health institutions and poor conditions of service leading to incessant strike actions by health workers against the government while people are dying e.g high infant mortality rate. Ubenwa, a Nigerian-Canadian startup is leveraging artificial intelligence technology to create accessible clinical-grade infant monitoring tools. Ubenwa is a software specialist that analyses a baby's crying to detect early signs of abnormalities such as asphyxia or brain cancer being an injury sustained during birth. Another technologically non-profit known as, "Help Mum"; is a Nigerian based non-governmental organization focusing on delivering low-cost health information to pregnant women; clean birth kits for women in rural communities can only do this by relying strongly on artificial intelligence mobile technology. She recently received 50,000 dollars as one of the winners of the 2021 Waishirz Global citizen Award. The award will further support the organization to implement its advocacy efforts to curb high early infant and maternal mortality rates among womb babies and pregnant women.

Bridging the Artificial Intelligence Technology Gap in Nigeria

As the Nigerian artificial intelligence growth space continues to pick up slowly, many underlying challenges to the system are identified. They include low funding of research in universities, in-capability lack of digital infrastructure and development of a human-centered national artificial intelligence policy so as to enjoy its full benefits. Artificial intelligence driven solutions have been a powerful driver of economic growth and development nation-wide particularly in low, middle as well as high income countries where the scourge originated. They have also contributed to the development of effective strategies to fight covid-19 pandemic and other deadly diseases. With this technological advancement, urban growth or sprawl comes the need for more expertise and regulation governing the institution of artificial intelligence technology in the context of environmental management in the country. Therefore, there is an urgent need for the government to accelerate the development and maintenance of infrastructure including to build artificial intelligence technical know-how through the equipment of the National Center for Artificial Intelligence and Robotics (NCAIR) as well as partnering with tech-giants, foreign startups and supporting local companies to emulate same. Furthermore, the youths should be empowered to develop relevant entrepreneurial skills required to drive business enterprises and innovations in the fourth industrial revolution for creating more job opportunities.

Challenges of artificial intelligence technology in Nigeria

Despite the efforts made so far by the government, the technology is often faced with many problems in developing countries including Nigeria. Nigeria is obliged to overcome these challenges by

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all means in order to improve the services of artificial intelligence technology especially now that she is hurry to realize vision 20:2020 by transforming into the top twenty economies in the world (EMAN, 2018). The challenges are discussed below.

a. **Complex algorithms**: The technical side of artificial intelligence technology involves some huge data and complex algorithms which make users not to have adequate grasp and understanding of its concepts. Many researchers in Nigeria are ignorance of these algorithms and technology. Besides, some Nigerians tend to avoid certain complicated learning processes.

b. **Artificial Intelligence Interface**: The challenge here is the shortage of data science skills within and among human beings to get maximum output from the services of artificial intelligence technology. There is obvious because of inadequate advance skills to interface between Nigerian situation and artificial intelligence technology.

c. **Decline of investment**: It is true that not all business owners or managers are willing to invest into the services of artificial intelligence technology because of the huge capital outlay in Nigeria. The funds required to set it up and also implement it is often very high, making it to be very expensive. It sometimes causes our workforce to evolve. The alarmist headlines emphasized the loss of some jobs to machines but the real challenge is for people to acquaint their passion with modern technology and the accompanying new responsibilities that require unique human abilities. According to global information on the implementation of the technology, 7 million existing jobs will be lost to artificial intelligence technology in United Kingdom from 2017 to 2037 while it may be possible to create 7.2 million jobs as a replacement. Such an uncertainty situation and the changes to how some people will be affected and adapt to make a living is another unforeseen circumstance at the long run. The transformative impacts of artificial intelligence technology on the society and economy will have far-reaching effects such that adequate preparation is required if global tragedy is to be avoided. This is true because if businesses and government's effort to make certain decisions based on intelligent reports about deviant behaviors of people in the society, it could degenerate into social oppression.

d. **Software malfunction**: No human technology is 100% perfect. The case of software/hardware crash could be highly frustrating when it happens to researchers or intelligent operatives especially retrieval systems are not only inadequate but generally poor. Thus, software tasks performed by human beings can be difficult to trace and retrieved. This kind of problem can be very frustrating and discouraging.

e. **Cultural and Religious Barriers**: Cultural affiliation and religion bigotry as seen in the many different ethnic groups in Nigeria necessitates the development and effective utilization of artificial intelligence technologies among the various geographical units in the country. Difference in languages may not pose severe impacts on the progress artificial intelligence technology in Nigeria but those ethnic groups that have the same tribal affiliations are usually very biased in working cooperatively with people from other tribes especially in issues involving a Hausa man and Igbo man in knowledge acquisition and thinking faculty. Similarly, there is so much religious fanatism and intolerance that militate against effective operations and the aim of artificial intelligence technology in Nigeria.

Effects of Artificial Intelligence Technology on Nigerian Society

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The inevitable changes of development and transformation taking place in the society have both prospects and challenges that are discussed below.

Positive effects: The technology can dramatically improve the effectiveness of our workforce and also augment for the various works done by human beings when the need arises. When artificial intelligence technology takes over the repetitive or more demanding tasks; it releases human workforce from excessive tress and so do better because they are well-equipped to effect creativity and apathy amongst others. If people are doing work that is more dangerous or demanding, it could increase their motivation, happiness and job satisfaction because of the attached extra wages (Scent, 2015). Again, empowering workers induce economic motivation, widen their social and economic horizon and predisposes them to greater receptivity of new ideas (Poronakie and Adediji, 2018). In this case, our society will gain countless hours of productivity with the introduction of autonomous transportation. Consequently, artificial intelligence technology will also influence the better functioning and ease of our traffic congestion flow to drastically reduced unnecessary delay in the mobility of production, distribution and consumption of goods and services in Nigeria. To free up from more stressful activities for surviving the test of time provides humans the opportunity to have enough rest, conserve energy and spend more good times with their families or meet other pressing needs that demand their attention. Besides, the tactics used to uncover criminal gangs and their nefarious activities have ensured peaceful coexistence and maintenance of adequate security of life and property in the society. In other words, peaceful atmosphere in modern societies depends largely on adequate application and functioning of intelligence technologies into all sectors of the economy.

Today, facial observations and recognition devices are becoming more common just like the finger prints. The use of artificial intelligence technology in the legal and judiciary arm of government had aided the quick fishing out of criminals without crossing individual's privacy. Its negative impacts include loss of jobs as some people are rendered redundant. Consequently, more problems leading to criminal activities as well as social and political instability are bound to emerge in the absence of sustainable alternative to earn a living. Next is the crashing of security data been stored in to the computer system and when this happens, all the security reports/information about suspected persons, areas and strategies to arrest the situation are totally lost while security operatives and the nation at large are left in confusion and without development focus.

Meanwhile, the ICDC has advised that there is currently a new covid-Omicron XBB variant coronavirus again. This type is quite different because it is more deadly and not easily detected or known. Its symptoms include no cough, no fever, but joint pain, headache, neck pain, upper back pain, pneumonia and general loss of appetite. In fact, it is 5 times more toxic than the Delta variant and has a higher mortality rate. The disease takes a shorter time for the condition to reach extreme, severity and sometimes without obvious symptoms. The virus is not found in the nasopharyngeal region but directly affects the lungs and windows for a relatively short period of time. Nasal swab tests are generally negative for covid-Omicron XBB and false-negative cases of nasopharyngeal tests are on the increase. This implies that the virus can spread in the community and directly affects lungs leading to viral pneumonia and consequently causing acute respiratory stress in human beings. XBB is highly contagious, virulent and lethal. It is advisable to be on masks always, avoid crowded places, maintain a distance of not less than 1.5 meter apart with people, wear a double layer mask, wash hands regularly even when everybody is a symptomatic (ie no coughing or sneezing. What is happening today could be a confirmation of the Biblical message of the end-time. The spread of more different deadly diseases in Nigeria and the world a large is increasingly investable. This is the more reasons for advocating the adoption of the artificial intelligence technology

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in Nigeria as it combats not only the spread of deadly diseases but also insecurity matters that join in terrorizing the peaceful coexistence of man with nature for sustainable productive harmony.

Conclusion

Nigeria is a blessed nation with abundant material and human resources but cursed with bad leadership, selfish and corruptive legislature, judiciary as well as insincere governments who exploited the nation's economic base at the detriment of the poor masses while the country is fast disappearing away under their watchful eyes. The different ethnic groups particularly those of the minorities who are in majority experienced severe deprivation, oppression and other hardships in the country despite the adoption of a federal system of government and democratic rule due to the problems of ethnicity, corruption and bad leadership. The present situation in Nigeria can be seen to agree with Bell-Gam (1990's) assertion that the country's present financial problems may be said to be a reflection of the errors in the past. From all indications, the leaders have no interest in the economic growth and development of the whole country. The location of income-generating facilities and other investments depend more on the interests of the rulers or their favorite group. Thus, the reality in Nigeria is best described in Adeyemo (2008) when he said "human resources, not capital, nor income, nor material resources constitute the ultimate basis for the wealth of the nation. Clearly, a country which is unable to develop the skills and knowledge of its people and to utilize them effectively in the national economy will not be able to develop anything else but she will only be capable of sustaining persistent chaos and economic underdevelopment".

Therefore, the authors are of the view that if Nigeria claims to be developed or developing; what is the situation of poverty, unemployment and inequality which are the correlates of insecurity and terrorism in this country? One can suggest here that the act of borrowing and sharing money among the stakeholders when the masses are walloping in abject poverty, mass unemployment constrained access to assets/basic amenities in the midst of plenty while experiencing harsh economic measures e.g., the cashless policy, sudden fuel subsidy removal and non-fixing of the refineries to function despite several protests and agitations by trade unions and the civil society, are indications of bad leadership, mismanagement of public funds and corruption of the highest order. Suffice it to say that the situation is a fundamental failure of successive administrations in this country to achieve the national goals as articulated in the Second National Development Plan (1970-1974) which are; building a united, strong and self-reliant nation; a great and dynamic economy; a just and egalitarian society; a land of Bright and full opportunities for all citizens and a free and democratic society (FRN, 1971:141). Hence, the adoption of artificial intelligence technology has come to stay in Nigeria as both an effective strategy and worthy companion for combating crime and insecurity, revamp the country's ailing economy and restore her lost glory and dignity as the giant of Africa.

Recommendations

1. Urgent need for electronic voting system in Nigeria to enhance good governance and the rule of law, cut-down the cost of governance and ensure the safety of life and property during general elections in this country.
2. Immediate review of all existing laws regulating oil and gas development particularly the obnoxious, outrageous and repugnant ones seen to be obsolete for economic growth and development of Nigeria.

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3. Government should organize a national conference where burning issues of national interests and mutual understanding among the different components of the country can be discussed and resolved.
4. Establishment of federal and State Ministry of Regional Development Planning that targets the urban and rural areas in the location, development and maintenance of basic infrastructural facilities in Nigeria.
5. Diversification of the economy from oil and gas to commercial agriculture, tourism and hospitality and the development of other solid mineral deposits in the country.
6. Need for cultural reform with emphasis on co-curricular activities essential for national integration, unity and nation-building in school programme.
7. Immediate fixing of the refineries and other income-generating facilities to reduce mass poverty, unemployment and high crimes insurgences in Nigeria.
8. Adoption of development policies e.g., people-corted, bottom-top bureaucratic framework, decentralization and public participation in all development programmes affecting the inhabitants of the areas where they are located.
9. There is also the need to build and strengthen institutional structures for effective delivery of the dividends of democracy.
10. Government should encourage more scientific researches into security issues in higher institutions of learning by providing adequate funds and implementation of findings.
11. The government should without further delay, improve capacity-building strategies for adequate security network services by training and retraining of security, personnels, use of modern equipment, artificial intelligence technologies, installation of CCT cameras at strategic locations including check points and public places across the country.

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