Chapter Four

Development of Artificial Intelligence (AI) Ecosystem as an Alternative Policy Framework for Policy Implementation and Evaluation

Jacho D. Sunday
Canice E. Erunke

Introduction

With the emergence of globalization and global institutions of governance, international conventions and the diffusion of policy ideas from the Western world to developing nation-states, public policies have become commonplace phenomena (Joyo, 2022). The concept of 'public' describes all actions, and inactions of the government of nations (Nigeria inclusive), and the extent to which these actions affect the generality of the people (the governed) in society. On the other hand, policy entails what government wants to do, or what it may not be willing to do (Ikelegbe, 1984). In either of the two extremes, it can be said that any public policy is directed at resolving societal problems. Globally, and from recent studies, it has been inferred that daily, the world throws up several problems ranging from terrorism, climate change, economic recession, human trafficking, internal conflicts, abrupt change of government (as is recently being witnessed in some parts of Africa); environmental hazards, low food production and food insecurity, sectional agitations, gender imbalance and other myriads of challenges. It is only proper and incumbent on state agencies to come up with a plan of action with which to pursue such challenges to solve these problems (Casey, 2004).

In all democratic societies, public policies tend to serve a crucial role in shaping the government's quest and drive for socio-economic, political and cultural development. Essentially, policy designs by states can be said to be a reflection of societal values, ideologies and priorities. What happens is that most often, public policies occur through a systematic and interactive process, and seek to identify and respond to emerging issues and collective aspirations of the people. According to Uop (2024), public policy plays an important role in defining the mood and direction of societies, enhancing social progress and promoting the common good. Thus, the provision of a standard framework for addressing complex societal challenges such as poverty, inequality, environmental degradation and public health concerns, among others forms the bulk of what constitutes public policy. In most climes, the nature of policies reinforces itself through deliberate strategic

plans, evidence-based decision-making stakeholder engagements, etc, the purpose of which is to identify pre-disposing factors to events and tackle same using appropriate policymeasures.

However, it is important to stress here that for every policy strategy taken by nation-states, the political economy of the system to a greater or lesser extent determines the intent of government at a specific time. For instance, in the United States of America, the U.S Department of Treasury (n.d) reported that due to the activities of undesirable elements including authorized encroachments into the US financial space, terrorism and production of Weapons of Mass Destruction (WMD), money laundering and other national security threats, the Office of Terrorism and Financial Intelligence has been mandated to design appropriate policies in collaboration with the Treasury Department. The latter is at this level mandated by provisions of the laws as enshrined in Section 311 of the U.S Patriot Act to not only enhance the implementation of economic sanctions against external threats to the U.S government but also to identify and target all forms of security networks and improve the safeguard of the American financial system in general.

By the provisions of enabling regulations and policy framework of the 311 Actions, reports from various sources indicate that issues of asset forfeitures by criminal enterprises, domestic violent extremism that have been viewed as an infringement on the U.S traditional values; the money laundering as well as terrorist finance tracking programme aimed at identifying, tracking and identifying terrorist networks, are some of the achievements recorded in public policy drive of the government (U.S Department of State, n.d). In their studies on Artificial Intelligence and economic policy-making in advanced countries, Andre and Calizo (2022) stated that the 20th-century advancement in information and communications technology (ICT) has taken a lean toll on the way and manner nations pursue their respective policy objectives and interests.

As opposed to a rudimentary approach to policy making, the application of Artificial Intelligence (AI) has been considered one of the most efficient and cost-effective ways policymakers determine critical societal challenges affecting their people. In Australia, for instance, it has been reported that the Department of Health and Human Services (DHHS) have successfully employed AI systems with relative success. The Australian government have continued to use advanced text analysis of anonymized historical triage data to detect patterns of human ailments that may pose health security risks to society. Conversely, through analysis of large datasets and crowd-sourced data, AI not only guides policymakers in agenda setting but ultimately, the system has assisted in the provision of early warnings of potentially harmful illnesses considered to be a threat to human existence (McKinsey Global Survey,2020).

In the same token, health experts in France have developed AI algorithms capable of estimating the prevailing incidence of diabetes mellitus (Haneef et al, 2021). The practice, again, has been able to provide essential data for public health surveillance. According to the Observatory of Public Sector Information (OPSI, 2018), the AI system, through its national language processing technique has been deployed in Belgium to assist civil servants process large volumes of data from stakeholder engagement platforms from where critical policies are framed and formulated. The essence of this kind of exercise is that AI technology can detect trends and uncover insights from these patterns of engagement as well as disaggregate opinions of groups along demographic and geographic divides.

In Africa, and particularly in the last few years, the use of Artificial Intelligence (AI) has been widely reported (Eke, Wakunuma & Akintoye, 2023). The emergence of the AI ecosystem in Africa takes two forms. There is one brought about by local tech spaces and other initiatives by international multinational companies operating within Sub-Saharan Africa. Some of these giant technology hubs are known to have established business outlets across many host countries across Africa and beyond. They include global multinationals such as Twitter, Facebook, Google, Alibaba Group; Huawei, Amazon and of course, Amazon. With the increasing incidences of domestic needs and socio-economic and political uncertainties in Africa (Nigeria inclusive), some of these multinationals leverage AI technology to help in devising strategies for tackling societal challenges. As earlier pointed out, the continent is currently bedevilled by some challenges ranging from poverty, flooding, official corruption, terrorism, environmental disasters, cross-border crimes and health crises (the ongoing cholera epidemic being the most copious example), among others.

While these innovations towards the resolution of human or societal needs are considered important, there are also growing concerns about the multiplier effects excessive use of AI could bring in Third World societies. Eke et al (2023) have queried that while AI is considered a critical technological innovation for societal sustenance and socio-economic development, the ethical issues surrounding the application of AI have largely been ignored. Thus it has been reported that several national, regional and international research institutions, academic think tanks, government bureaucracy and private investors have successfully developed and applied AI, or are on the verge of doing so. The case of Africa remains highly unknown (Jobin, et al 2019; Ulnicane, et al, 2021). The argument about ethical consideration here is that the question of justice, transparency, fairness, non-maleficence, responsibility, etc, tends to be the guiding principles of most advanced economies globally. For instance, this perspective is the hallmark of operational cum policy strategies of developed climes such as Europe, North America and East Asia (Cupta & Health, 2020).

Again, experts who have argued in favour of ethical considerations in the application of Artificial Intelligence (AI) aver that socio-cultural and political context may to a greater or lesser extent, shape the expectations of AI as well as the kind of risks and challenges it could pose to society. That is why Hargety and Rubinov (2019) insist that from a cultural perspective, there are some concerns, including the issue of bias, human rights violations, privacy, justice, solidarity, trust, etc. These issues are largely ignored by intelligentsias while taking a look at the supposed relevance and application of AI in the public policy domain. What this means is that for AI developers to succeed, there is a need to integrate people's cultural values and beliefs into mainstream AI in terms of policy design and implementation of AI technology to improve acceptability.

The foregoing analysis about the adoption and application of Artificial Intelligence in decision-making by nation-states, and particularly, advanced nations of the world points to the extent of commitment and degree of responsibility by government and other private institutions geared towards making the system work using AI. This study demonstrates that AI has become an integral part of human society because of its importance in shaping and redefining the global quest towards the realization of the Fourth Industrial Revolution through viable policy formulation and implementation strategies. The poser therefore is: what is the extent of preparedness of the Nigerian state to embrace AI? What does Nigeria stand to gain using AI technology and, what are the politics surrounding the effective implementation and evaluation of AI technology in Nigeria? These questions have become very critical to be able to understand the phenomenon of AI in the country and chart a strategic course towards the realization of objectives for this all-important technological innovation for enhanced national sustenance and development.

Conceptual Clarifications

Policy

Policy refers to any decision concerning what is expected to be done, and when and how it is to be done. According to Dimock and Dimock (cited in Kitabet al, (2012), policies are rules consciously acknowledged and intended to guide administrative decisions. Dyeon the other hand sees policy as what the government wants to do or those decisions the government may not be willing to take. Taking all these definitions into consideration, we can say that policies entail all actions or inactions individuals or government agencies are willing and able to take at a given period.

Public Policy

Public policy entails critical decisions taken by the government to resolve societal problems. Katznelson (2001) define public policy as general principles and

standards by which the operations of governments are carried out. According to the University of the People (2024), public policy entails deliberate decisions taken by the government and its agencies to address public concerns. On their part, Michael and Ben (2025) define public policy as those decisions of government designed to achieve public goals. In Nigeria, the constitution spells out the respective statutory roles of the Federal, State and Local Government authorities on major decisions that affect the Nigerian populace differently. There are policy decisions based on Exclusive Legislative lists including Health, Education, currency, national security, water resources, foreign affairs, etc. There are also Concurrent Legislative Lists for state governments such as education, health, and infrastructural development, among others. However, policies in democratic societies emanate from the people through their elected representatives. In Nigeria, there exists the legislative arm of government vested with the powers to make laws for the country.

Policy Evaluation

According to Gupta (2006), policy evaluation refers to the process by which the outcome or results of previously existing public policies are closely monitored by both the state and social actors, the purpose of which is to ascertain where policies are failing or succeeding. In case of policy failure, such policies are re-conceptualized and re-organized for further evaluation. Policy evaluation also finds expression in the overall impacts or effects of policies on the target audience. Policy implementation, on the other hand, looks at all the processes from policy conception, agenda setting and the policy actors who constitute the entire policy architecture. In most advanced societies, implementation of policy is the prerogative of several critical actors and stakeholders including the legislature, executive, administrative agencies, pressure groups as well as private individuals (Kitab, et al., 2012).

Artificial Intelligence

The Standford Institute for Human-Centered Artificial Intelligence (HAI) of Stanford University (2019), has conceptualized intelligence as the ability to learn and perform prescribed techniques to solve societal problems. Intelligence is also seen as the application of knowledge designed to achieve goals using appropriate context in an uncertain ever-evolving and changing world. On the other hand, Artificial Intelligence (AI) can be viewed as the science and engineering of making intelligent machines that can act and perform human tasks, the aim of which is to achieve desired goals. The process involves machine learning using a wide array of data sets, deep learning (implying the application of neural network systems like human brain neurons) and many other computer programming(HAI, 2019). As earlier pointed out in this work, most advanced countries have since adopted and applied those methods successfully, too, in their public policy endeavours.

Theoretical Framework

Although several theories can be adopted and applied to explain policy issues, the most suitable for this study is the Developmental State Theory attributed to Chalmers and Johnson (1982). This theory underpins the importance of framing public policies and the implementation strategies of the government of nation-states. Their notion of 'development' or 'developmental state' describes all interventionist policies implemented by the Japanese government that later gave rise to a sustained and rapid industrial revolution as well as long-term economic development. According to Jewellord and Jesse (2018), the developmental state thesis laid the foundation for the successful rise and resurgence of what has been generally known as Newly Industrialized Countries (NICs) of East Asia, or Asian Tigers, namely, Japan, South Korea, Taiwan and Singapore. Similarly, Amsden (2009, cited in Jesse, et al., 2018) maintains that the period of search for a new path for socio-economic development that began during the Second World War, and continued up to the 1980s has brought about enormous development in the region.

Conversely, the development framework and strategies were very much sustained by a political ideology that emphasized more on raising the income levels of the people as well as growing the economies of all Newly Industrialized Nations (NIS) (World Bank, 2015), to viable industrial destinations globally. Therefore, the central argument of the theory is that the state plays a significant role in any development process by creating an enabling environment that is capable of resolving myriads of economic challenges including market failures, scarcity of resources and lack of policy coordination between the government and other critical stakeholders. The theory clearly explains the many reasons that have accounted for the economic 'miracles' that have trailed the development paths of Southeast Asia such as Indonesia, Malaysia, Thailand, etc., while TWC shave continued to toil in underdevelopment.

In one of its social and economic development indicators, the World Bank (2015) alluded that the Gross Domestic Product (GDP) of countries in East Asia (China, Singapore and South Korea) peaked at US$2,286.00, 127.4 and US$898.1 billion in 2005. According to the World Bank (2015), some of these countries have since experienced an upward leap. For instance, in 2015, China's GDP rose from US$2,286.00 billion to US$11.064.70 billion, representing over 300% increase in GDP. As a result and as Dickson (2024, p. 149) has pointed out, China's engagements in Africa have become increasingly significant in the 21st century, characterized by multifaceted interactions spanning economic, political, and socio-cultural domains. Again, the report by the World Bank indicated that while Singapore experienced exponential growth from US$127.4 billion in 2005, and South Korea, US$898.1 billion in 2005, both countries, have risen to all-time highs,

with a GDP of US$296.8 billion and US$1,382.80 billion in 2015. However, Africa's GDP ratio has gained a marginal increase compared to those of the Asian Tigers. For example, the GDP ratio of Kenya, Nigeria, Rwanda and Tanzania increased from US$18.7 billion, US$112.2 billion, US$2.6 billion and US$16.9 billion in 2005, and rose to about US$63.8 billion, US$481.1 billion (in the case of Nigeria); US$8.3 billion and US$45.6 billion in the case of Rwanda(World Bank,2015) and Tanzania in 2011.

Unfortunately, however, some of these countries have continued to rise, and developing economies are in no way exemplifying strategies and policy frameworks that could propel growth and development. For instance, the impressive growth of Southeast Asia was due to deliberate efforts geared towards the transformation of policy framework as well as structures and institutions of states. Again, one way that kept the Asian Tigers on the path to economic prosperity was the tendency to initiate policies that took into account the mutual benefit of the state and business interests within the national policy. In this case, the state implemented a series of economic incentives and created a viable reward system capable of persuading and encouraging local capitalists to invest in critical national sectors.

Public policy and challenges of policy implementation and evaluation

As earlier stated, the purpose of public policy-making and implementation is aimed at solving societal problems. Thus, it is not out of place to see policy at this level as an intervention by the government to the people using a deliberate plan of action to achieve set goals. Public policies in most advanced societies take the form of a broader framework that is defined largely by vision, ideology, philosophy and principles which are often transformed into realizable actions, projects and programmes in the interest of the people (Khan, 2016). However, while the implementation of policies has increasingly been seen and recognized as critical as a tool for bridging the gap between expectations and results of policy decisions, policy experts have continued to argue that the implementation of public policies remains a mirage. This simple reason is the wave of politics that tends to becloud policy making and implementation in developing countries (Bullock &Lavis, 2019).

Buttressing the above assertion, Osmaniet al(2022) posit that policy implementation may not be realizable if it is confronted by challenges. Again, due to the dynamic and complex nature of global politics, several policies have failed in Third World countries. Ahmed and Dantata (2016), insist that though there may be politics of policy implementation in developed countries such as the USA, Canada, United Kingdom, etc, the pattern of politics in Africa and Latin America appears to suffer more in terms of political interference. In their studies on politics of policy

implementation in Lesotho, South Africa, Molafi and Radhamany (2022) agree that one of the reasons why public policies have failed in Africa is the domestic politics and the way and manner the African political system is being structured. To say the least, Africa is more or less heterogeneous, with diverse multi-linguistic social groups. This kind of social diversity, coupled with the colonial background of the continent and its people could hardly create an enabling environment for sectional politics to thrive.

In the same token, Braimah, Rafai and Annin-Bonsu (2014) claimed that the African continent generally owes its policies to the Western world. Grindle (1980) argues that the formulation and implementation of public policies in the continent have for several decades, been conditioned and influenced by neo-liberal structures and institutions such as the International Monetary Fund (IMF) and World Bank etc. While Third World countries may not exist alone given the current world economic order, these countries hardly have much to do about political self-discovery. Again, the politicization of public policies in developing countries has given rise to over-ambitious policy outcomes with little or no impact on the people. In Nigeria, due to increasing romance with the Bretton Wood system, the nation has experienced setbacks in major policies ranging from the Structural Adjustment Programme (SAP), deregulation of the downstream petroleum sub-sector, privatization of government assets, import restriction, and cash floating, among others.

What Nigeria stands to gain using AI in policy implementation and evaluation

The global space is currently witnessing a drastic change in economic, political and socio-cultural spheres of endeavours. This change is seen in the way and manner data is being processed, deployed and used for efficiency, precision and quick response to problem-solving in society. Artificial Intelligence therefore becomes critical where the desire of states and private entities is that of achieving desired goals without through the deployment of responsible AI. According to Ayantola and Abdulrahman (2024) countries such as China, the United States of America, the United Kingdom and the European Union, among others, have accomplished ambitious steps in deploying AI ecosystems for use. Although it can be said that a few African countries have followed the same path, it is not clear the extent of commitment to realize the full potential of the digital economy using AI techniques.

The Nigerian government, in November 2020, through the efforts of the then Minister of Information Communication and Digital Economy (FMICDE), Isa Pantami, commissioned the National Centre for Artificial Intelligence and Robotics (NCAIR). This step was said to have marked a bold step towards full-scale digital economic space. As a continental and national digital epicenter, the NCAIR was established in line with the nation's National Digital Economy Policy and Strategy

with AI constituting one of the eight pillars of Nigeria's digital economy. As part of its mandate, the centre is said to have trained and equipped many children with coding and machine learning skills as well as provide grants to tertiary institutions of learning. This effort could be useful for the growth of the nation's younger population to a level where the nation's future is assured and guaranteed in the ICT revolution.

Aside from growing the nation's teenage population to become AI compliant, Zakari (2024) in one of his investigations on the implication of Artificial Intelligence on national security for Nigerian security agencies opines that AI has significant prospects for not only national security but essentially for Nigeria's security agencies including the Nigerian Army, Navy, Airforce, Police among others. According to Zakari (2024), AI-enabled technology infrastructure has the potential to drive advanced surveillance capabilities such as the ability to recognize human facial appearance and video analytics. This practice aids in identifying imminent or potential threats as well as monitoring security threats with some level of effectiveness and precision. It has been reported that the Nigerian Air Force, for instance, uses AI for predictive aircraft maintenance.

The problem, however, is that the application of AI infrastructure in Third World countries (Nigeria inclusive) faces huge challenges. This ranges from a lack of awareness and understanding among policy and decision-makers in the country. Many people are still not familiar with AI technology as well as its capabilities. Again, there is the problem of skilled AI professionals with the needed expertise in machine learning, data analytics and specifically the aspect of cyber security, among other critical areas of national security concerns. The dearth of a strong pool of professionalism such as the capacity building of men of the armed forces and personnel of other security agencies could impinge negatively on effective use and deployment of AI resources. If this practice is allowed to fester, it will be a bit hectic to undertake informed security decisions and increase the scale and speed of military action when the need arises.

Again, Nigeria currently faces myriads of insecurity challenges ranging from terrorism, insurgency, banditry, kidnapping for ransom, ethnic conflicts, arms and human trafficking, among others. The report of the Armed Conflict Location and Event Data Project (2020) indicates that of the 2,404 security cases in the country, about 844 of these cases represent full-fledged battles, 220 as blasts through improvised explosives; 297 represent riots, and the remaining 1042 were considered as assaults against civil population (ACLED, 2020).

Okwor (2020) argue that poor data gathering and management systems are largely responsible for the seemingly intractable insecurity situations currently experienced in Nigeria. Conversely, the critical role AI plays in the resolution of

economic challenges and putting the Nigerian economy on the path of greatness is enormous. Undoubtedly, the state of the Nigerian economy has been turbulent and includes hyperinflation, low food accessibility and affordability, poverty, bureaucratic corruption, food insecurity, infrastructural deficits, etc. These challenges have continued to hinder a nation adjudged to be the largest economy in Africa and with huge natural and human capital and/or resource endowments such as oil and gas, solid minerals and personnel. Leveraging AI through immense investment in AI capabilities for enhanced data analysis, automation and intelligent decision-making strategies, will no doubt, reposition the nation to its lost glories where pressing economic issues can be effectively tackled and addressed. The resurgence of AI has the potential to boost entrepreneurial skills, businesses and private-sector conglomerates in the country. This can be achieved given that there is effective cooperation between government and other stakeholders in nation-building.

In the area of agricultural productivity, for example, traditional farming methods are commonplace, coupled with low crop yields. The application of AI-powered solutions such as Smart irrigation systems, precision agricultural techniques and disease prediction mechanisms can transform the agricultural sub-sector of the nation. According to research investigations by the International Food Policy Research Institute (IFPRI) (n.d), AI-powered irrigation systems in Africa could boost crop yields to about 20-30%, thereby significantly strengthening food security and output in the continent.

Moreover, Artificial Intelligence can help tackle cases of corruption in Nigeria. To most economic experts, the challenge of corruption in Nigeria appears to be intractable, and hence, constitutes a big hurdle to economic development. What has been suggested by some of these experts is the deployment of AI-powered blockchain technology where all financial leakages can be monitored and regulated. Added to this, AI systems can be useful in detecting inordinate financial transactions, flagging suspicious activities in the financial system as well as detecting all forms of fraudulent practices. Moreover, AI systems such as chatbots and virtual assistance can assist bridge existing gaps and help in financial inclusivity, by offering financial literacy, and training as well as facilitating mobile banking services in rural communities. The 2024 research study by the Alliance for Financial Inclusion (AFI) discovered that AI-powered financial inclusion solutions in developing countries increased bank account holders/ownership to about 15% in rural areas, thereby enhancing greater prospects for financial inclusivity and participation.

Conclusion

What is common in the chapter is the fact that public policies are designed to achieve the unique purpose of solving problems of society - economic, political or socio-cultural. The adoption and application of Artificial Intelligence (AI) for policy formulation and implementation have been impossible due to the dependence of Africa on the Western world. Therefore, African states must endeavour to delink from the shackles of Western domination, by resisting all alien policies that are not in tandem with their economic interest and survival. These countries should begin to think of home-grown development practices unique to African development. Again, African leadership should formulate policies that are mutually reassuring and all-inclusive. There is also an urgent need to strengthen the continent's democratic institutions and other arms of government. Overall, the government should invest heavily in the ICT through effective domestication of Artificial Intelligence infrastructure. This will help the continent to realize its core values and objective policy principles of development in terms of policy implementation and evaluation in every aspect of life in the 21st century and beyond.

REFERENCES

ACLED. (2020). *Armed conflict location & event data dataset filtered on Nigeria*. https://acleddata.com

Ayantola, A., & Abdulrahaman, A. (2024). Tracking Nigeria's policy commitment to AI. *Dataphyte*. https://www.dataphyte.com

Andre, W., & Calizo, S. (2022). *Artificial Intelligence in economic policy making* (APEC Policy Support Unit Policy Brief No. 52). https://www.apec.org

Bullock, H. L., & Lavis, J. N. (2019). Understanding the supports needed for policy implementation: A comprehensive analysis of the placement of intermediaries across three mental health systems. *Health Research Policy and Systems, 17*(1), 1-13. https://doi.org/10.1186/s12961-019-0460-0

Chalmers, J. (1999). *The developmental state*. Cornell University Press.

Dickson, M. E. (2024). Major powers and the new scramble for Africa in the 21st century: Interrogating China-Nigeria engagements. *African Journal of Political Science and International Relations, 18*(4).

Event Data Project. (2020) . *Armed conflict location and events* . www.humdata.com. Accessed September 10, 2024.

Eke, D. O., Wakunuma, K., & Akintoye, S. (2023). Responsible Artificial Intelligence in Africa: Social and cultural studies of robots and AI. Springer Nature. https://doi.org/10.1007/978-3-030-24780-9

Gupta, A., & Health, V. (2020). AI ethics groups are repeating one of society's classic mistakes. *MIT Technology Review*, *6*(29). https://www.technologyreview.com

Gupta, R. N. (2006, October 5). Empower information commissioner. *Hindustan Times*.

Haneef, R., Kab, S., Rok, H., Fuentes, S., Fosse-Edorh, S., Cosson, E., & Gallay, A. (2021). Use of artificial intelligence for public health surveillance: A case study to develop machine learning algorithms to estimate the incidence of diabetes mellitus in France. *Archives of Public Health*, *79*(168). https://doi.org/10.1186/s13690-021-00624-3

Joyo, F. (2022). The global context of public policy. In E. R. Aiyede & B. Muganda (Eds.), *Public policy and research in Africa* (pp. 45-67). Palgrave Macmillan. https://doi.org/10.1007/978-3-030-23363-5_3

Jobin, A., Lenca, M., & Voyen, L. (2019). The global landscape of AI ethics guidelines. *Nature Machine Intelligence*, *1*(7), 389-399. https://doi.org/10.1038/s41586-019-0113-8

Katnelson, I. (2001). *Policy history*. Royal Society Pub. https://www.sciencedirect.com

Michael, H., & Ben, C. (2025). Conceptualizing public policy. *Springer Nature*, *2*(13), 17-23.

McKinsey & Company. (2020). *The state of AI in 2020*. https://www.mckinsey.com

Observatory of Public Sector Information (OPSI). (2018, April 12). Unlocking the potentials of crowdsourcing for public decision-making with artificial intelligence. *OECD-OPSI*. https://oecd-ops.org

Okwor, U. D. (2020). Artificial intelligence as a tool for combating insecurity in Nigeria. *Research Gate*, *2*, 20. https://www.researchgate.net

Osmanie, M., Kolaj, R., Borisov, P., & Arabska, E. (2022). Why agricultural policies fail and two cases of failure in Albania. *Agricultural and Resource Economics: International Scientific E-Journal*, 86-104.

State Government of Victoria. (2020). *VCDI case studies: Early warnings of public health risks*. https://www.beg.com. Accessed November 2024.

Stanford Institute for Human-Centered Artificial Intelligence (HAI). (2019). *Human-centered AI*. https://online.stanford.edu

Ulnicane, I., Eke, D. O., Knight, W., Ogoh, L., & Stahl, B. C. (2021). Good governance as the response to discontents? *Interdisciplinary Science Reviews, 46*, 71-93. https://doi.org/10.1080/03080188.2021.1915382

University of the People. (2024). What is public policy? *University of the People*. https://www.uopeople.edu

Zakari, M. (2024). Implication of artificial intelligence on national security for the Nigerian security agencies. *Journal of Terrorism Studies, 6*(6). https://scholarhub.ki.ac.id/its