



Ethical And Regulatory Framework Of Artificial Intelligence (A.I) In Nigeria: The Dilemma Of Global Adaptation For Sustainable Growth.

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ABSTRACT

Artificial Intelligence innovations have made it indispensable for sustainable development across countries which boost economic growth of the society. However, the use of AI is associated with some ethical risks or problems across the globe particularly in Low- and Middle-Income Countries (LMICs), least developed countries like Nigeria and land locked developed countries (LLDC) that makes it imperative for control of Artificial Intelligence by ethical and regulatory frameworks. Though Nigeria has made effort to formulate policies with regard to artificial intelligence but is still faced with the dilemma of grappling with the problems of non-codified ethical regulatory frameworks in fostering innovations and the caution of mitigating users' harm, the prevailing unemployment, lack of knowledge and technological skills to drive the innovation, its effects in the society and how to fast-track artificial intelligence in Nigeria to meet up global ethical regulatory adaptations for sustainable growth. This paper focuses on appraisal of ethical and regulatory frameworks of AI in Nigeria, its adequacies with international standards as to keep pace with the development of artificial intelligence global best practices. This research uses doctrinal and comparative methods. It recommends skill trainings on AI and a review of artificial intelligence policies in Nigeria to inculcate a comprehensive ethical and regulatory frameworks for Nigeria's adaptation to global standard to enhance overall sustainable growth of AI in Nigeria.

Keywords: Artificial intelligence, Ethical Risk, Regulatory Framework, Mitigating, Innovation

1.1 INTRODUCTION

Artificial intelligence has become a global phenomenon that cut across countries. There is no gain saying that technological innovations brought about by artificial intelligence has immensely benefited humanities, economically, good governance, sustainable growth etc.

For countries across the globe to harness the full potentials of AI, each of the countries tried to have legal and regulatory frameworks that will foster AI practice at the same safeguard the risk associated with AI to make it safer for their countries and individuals. These policies shaped the approaches of the nation's that adopts it internally and at the same time cooperate internationally in such a way that one country's approach is ethically safe and not offensive to others. Unfortunately, Nigeria is yet to have a comprehensive AI ethical and regulatory framework internally.

Apart from that, the technological know-how of Nigerian on AI compared to developed countries is at low ebb to tackle with the risks of individuals which suffer in terms of data protection, AI algorithms, the fear of job loss with the introduction of AI.

As AI continues to evolve and infiltrate critical sectors like transportation, financial series, manipulating health and commerce, formidable challenges persist. (Akindele R & Adewunyi, 2023).

This dynamic risk necessitates urgent and comprehensive navigation and solution to ensure fair and equitable future for everyone.

While Nigeria has embraced the AI technology as current world order that, it has no choice than follow up (Valluriorg, 2020). There is the dilemma on what ethical and regulatory framework that is most suitable for Nigerians to mitigate the risks of AI and the AI governance approach that Nigeria should adopt to meet global standard without lagging behind in the accelerating AI innovations. What are the requisite regulatory framework that will put Nigeria as one of the most AI compliance countries with their international counterpart? It is in a bid to answer these nagging question that this paper is written to highlight the ethical and regulatory frameworks, the risk challenges as well as comparing the framework of other jurisdictions and the possible way forward to accelerate AI operations in Nigeria as to remove the quagmire with a view of finding a solution to a durable Ethical and regulatory framework that will meet both National and global standard.

1.2 CONCEPTUAL CLARRIFICATION OF AI

Artificial intelligence according to the American Heritage Science Dictionary 2020 is the ability of a computer or other machine to perform actions thought to require intelligence. It is the development of computer systems that are capable to perform task that would have require human intelligence. Artificial intelligence is a principle which requires action for it to be effective, known as AI governance. Georgieva et al clearly called it “third wave of scholarship on ethical AI”. It focuses on turning principles into actionable practice and governance. Accordingly, the third wave aims at promoting practical accountability mechanisms for future governance structure which include among others ethical and legal layers and levels ranging from AI developers to regulation and oversight.

Generally, AI governance is concerned with the legal framework or tools for ensuring that machine learning (ML) Technologies are well researched to help humanity explore the adoption of AI system fairly. Hence for there to be fairness, there is the necessity of ethics and regulation of AI. What then is ethics and regulation. Ethics and regulation is described as strong AI code of ethics which include avoiding bias, ensuring privacy of users and their data and negotiating environmental risks. AI ethics can be implemented in two ways namely: (1) code of ethics in companies and (2) government-led regulatory framework.

It is to this end that government are at the centre of regulatory framework to form AI policies and legislation that will guide and mitigate AI environmental risks in form of AI governance. Thus, the process of governance is said to involve in identifying answers to questions surrounding the safety of AI, which are appropriate and inappropriate for AI automation, what legal and institutional structures need to be involved, control and access of personal data and what role moral and ethical institutions play when interacting with AI shaped by algorithms and control of it. The impact of AI governance and regulation in our society cannot be over emphasized as it can lead our society into an age of abundance and automated labour coupled with human ingenuity and creativity, or it can lead us to a place where computers made our lives difficult in terms of finding jobs, differentiating what is true or false and having stable democracies thereby also leading the question of ethics in the commercialization of AI as a result of competitions called (AI wars).

The essence of ethics and regulatory framework of AI is to balance between private users, economic impacts, technological pervasiveness with ethical and social considerations as well as fostering innovation and maintaining regulatory compliance.

1.3 ETHICAL, LEGAL AND INSTITUTIONAL REGULATORY FRAMEWORKS OF AI IN NIGERIA.

The growth of Ethical and Regulatory framework of AI is determined by the Laws or legislations put in place by a country. In Nigeria, the growth of AI is quite slow due to lack of exclusive AI legal framework to take care of the ethical and regulations. Other challenges that affected the growth of AI in Nigeria includes lack of adequate knowledge about AI, infrastructure decay etc. These challenges put Nigeria far below index of countries with AI readiness. According to Oxford Insights, in its “Governance, AI readiness index 2020, Nigeria ranks 138 globally and 20 in African region with South African, Kenya and Ghana on top. In the same report in, 2021, Nigeria ranks below Mauritius, Egypt and South Africa.

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- (1) The startup Act, 2022
- (2) The data protection Act, 2023. With the Nigerian Sovereign Investment Authority (NISA) as the institution that managed the funds as facilitator rather than a regulatory body of AI for data processing and fiscal incentives and technological transfer.
- (3) The ARCON Act 2022 basically for advertising and application of AI License before getting release to the public.
- (4) Nigerian Centre for Artificial Intelligence and robotic (NCAIR), 2020. This is a government initiative saddled with the responsibilities of research and further understanding of application and use of emerging technologies like Artificial intelligence (AI), deep learning, extended reality (XR-VR/MR/AR), Robotics, Drones and the internet of things (IoT).

To actualize this AI vision NITDA was established.

- (5) National Informational Technology Development Agency (NITDA). This is the main regulatory body established by Nigeria on artificial intelligence for ensuring technologies on various areas in research and development, communication, security and networking, framework considering the Nigeria's belief in terms of value and institutions. The NITDA is saddled with responsibilities: the NITDA is to coordinate all other artificial intelligence technologies on how to carryout physical and virtual classes, train, build intelligence to serve as a research centre for private sector driven robotic and AI technology hub and research called Robotic and Artificial Intelligence Nigeria (RAIN). In a bid to achieve the above NITDA created a research department called National Centre for Artificial Intelligence and Robotic (NCAIR) is mainly for the promotion, research and development of AI for Nigeria's National interests. The National Centre for Artificial Intelligence and Robotics (NCAIR) was commissioned in Abuja on the 13th November, 2020 under the ministry of communication and digital economy for enhanced implementation of the digital economy which Artificial Intelligence is a key factor in its achievement. The NCAIR is now a digital laboratory for advancing skills development and innovations in AI in Nigeria. Thus, the establishment of NCAIR was lauded by Jake Okechukwu Effoduh (2021) when he stated that;

“Nigeria can be considered an artificial intelligence (AI) champion on the African continent, being the first country in the region to institutionalize a national centre for AI and robotics (NCAIR); an establishment of a dedicated government institution who are fostering a knowledge-based economy and promoting the research and development of AI system in Nigeria. Nigeria is set to produce its set of national AI strategy or policy”.

In spite of the early start of AI in Nigeria in Africa, there is a slow pace and development of ethical and regulatory framework of AI as Nigeria is yet to come up with a comprehensive policy on AI governance till date thereby given other African countries like Egypt, Kenya, Ghana to overtake and gap Nigeria in international global ranking on AI. However, NITDA has come up recently with some proposals aimed at enhancing the growth and a comprehensive AI governance policy and regulatory framework that will take care of Nigeria interests including ethical consideration but the dilemma Nigeria is facing is the ability to formulate a comprehensive ethical and regulatory framework that will meet up the aspirations of national interest and that of coping with the fast growing AI globally and to meet international standard for its adaptation in terms of:

- a. **Lawfulness:** Adherence to laws and regulations.
- b. **Ethicality:** Respect for ethical principles and values.
- c. **Robustness:** Technical rehabilitating while considering the social environment.
- d. **Privacy and data governance:** Ensuring data integrity and restricted access.
- e. **Explain ability:** Transparency in AI decisions.
- f. **Social and Environmental wellbeing:** Consideration of social and environmental impacts.
- g. **Diversity and fairness:** Avoidance of biases and discrimination.
- h. **Accountability:** Mechanisms to guarantee responsibility and auditability of AI systems.

Thus, for Nigerian legal and regulatory framework to comprehensively meet national and international standard, they must be in conformity with the above. Unfortunately, Nigeria is still struggling to come up with such a comprehensive AI governance policy in its legislation.

1.4 ETHICS AND CHALLENGES OF ARTIFICIAL INTELLIGENCE IN NIGERIA

The artificial intelligence innovation is associated with ethical issues and challenges which precautionary measures need to be considered when developing AI in Nigeria. While users of AI embrace the innovation, the growing technology poses some ethical problems of how transparency, accuracy, security and accountability can impact the AI technological innovation and human beings. Some ethical uses are:

1. **Inequality:** Artificial intelligence leads to the growth of wealth divide. Organizations that make use of AI usually generate revenue but the damaging consequence is that the technology limits human workforce in different organizations. Artificial intelligence however has the ability to widen the digital divide between countries but by incorporating human ability into the solution, it help to abridge the digital gap and create an inclusive society.
2. **Environmental Impact:** Although, AI can help with waste management and pollution reduction by reducing greenhouse emission through gas autonomous vehicle, However, it increases carbon cost as increased exposure to carbon impacts on carbon due to a higher measure of biological resources will be needed to produce to use technology.
3. **Bias:** Artificial intelligence is susceptible to bias as it is built by human being. The biasness of a system can be as a result from the data used to train the system or from the value attached by the creator and users. They are imputed by the creator in the machine learning language (ML) such as algorithms which are trained on data that only insight specific demographic groups or reflect on social biases. The consequence of such bias is that a wrong judgement may be given against a group. For instance, if used in law and detection by security agent, it may lead to wrongful judgement and imprisonment or detention of that group.
4. **Privacy:** Artificial intelligence can extract private details like facial recognition cameras, names, age and other details, which tends to safeguard the human privacy. However, it may sometimes be violated especially in cities by making it public which may be used to identify crimes and prosecute criminals. The above ethical chances need to be regulated by a framework to make AI safe for user in the society.

1.5 RISKS AND CHALLENGES OF AI SYSTEM

The challenges associated with AI and its operation is what researchers called risks of AI. In Nigeria, they include the fear of job loss, marginalization, ethical and legal dilemma. These risks of AI possess challenges on the confidence of AI to the society. The risk of AI manifests themselves in the following area:

1. **Data:** The optimum performance of AI depends on data availability and machine learning. Thus machine language taught the AI on algorithms and data usage by the creator or manufacturer is what the AI produces as being taught in law, economy, security, governance etc with minimal supervision and time. The ability to quantify the data and understand the algorithm language by the society poses a threat to the confidence of users. For instance, in Nigeria, the deployment of AI to do jobs ordinarily done by human beings such as waiter/waitress, sales in supermarkets poses the threat of a job loss with the fear of many to be sacked thereby depriving them of income.
2. **Marginalization:** There is the risk of marginalization from those who produce Ai system especially private sector who sold at a high cost to those who cannot produce it due to lack of technical knowhow. The fear of marginalization necessitated AI governance or regulatory framework to address those issues arising from business transaction on AI to avoid exploitation.
3. **Bias:** This is premised on the creator's machine language taught the AI system. As a human what he taught the AI machine is what the system will work thereby affecting the objective judgement of the AI.

1.6 ETHICAL AND LEGAL QUESTIONS

AI is a global phenomenon which cuts across countries. Thus, there is the risk of understanding, harnessing many ethical and legal questions that need to be clarified. These questions call for a defined AI governance framework in order to set standards for operation. The need for this was clearly put by Yoshija Walter that;

“As AI technology become increasingly integral to various sectors of the economy and society, their potential for both transformative benefits and significant risks become more apparent. This dynamic environment calls for proactive and nuanced approach to regulation, one that balances the promotion of innovation with the imperative to safeguard public interest and uphold ethical standards. The development and deployment of AI systems must be guided by principles that ensure transparency, accountability and fairness, thereby addressing the dual challenges of maximizing AI’s positive impact while mitigating its potential harm. Such a regulatory framework should be adaptable, allowing for swift evolution of AI technologies, while also being robust enough to address the complexities and uncertainties that accompany AI advancement”.

This is actually the adaptability dilemma Nigeria finds itself in drafting a comprehensive AI framework that can meet up its national interests and global standards to keep pace with international fast growth of AI. To address the risks of AI, it is suggested that three measures need to be tackled, namely;

1. **AI Misalignment:** The risk of AI system developing goals misaligned with human intentions, potentially leading to harmful outcome.
2. **Human Abuse of AI:** The potential misuse of AI for harmful purposes by individual need to be guarded.
3. **Information Control:** The Challenges posed by AI’s capacity to generate new information raising issues of explainability and blurring line between facts and fiction.

1.7 COMPARISON OF ARTIFICIAL INTELLIGENCE, ETHICAL AND REGULATORY FRAMEWORK WITH OTHER JURISDICTION.

The quest for supremacy and dominance in the technological innovation, regulation and adaption of AI in the international space and drastic changes resulted in legislation of various countries by adapting their own principles and AI governance or framework.

Here is a comparative analysis of AI framework of other Jurisdiction based on;

- i. Safety and effective system
- ii. Algorithmic discrimination protections
- iii. Data privacy
- iv. Notice and Explanation
- v. Human alternatives, consideration and fallback.

Due to the complexity of things and the constant demand from the globe's technologically savvy population, governments around the world have imported, deployed, and employed breakthrough Artificial Intelligence technologies to solve public concerns. This segment of this paper discusses the existing AI governance frameworks in various countries to ensure equitable benefits and minimize operational hazards.

1. **Europe:** Europe’s digital gap with the world’s leaders is on average being compounded by an emerging gap with the world’s leaders in its development and corporate use of Artificial Intelligence technologies. Without faster and more comprehensive engagement in Artificial Intelligence, that gap could widen, especially for those European countries with relatively low readiness to use the technology. The potential to deliver on Artificial Intelligence and catch up against the most Artificial Intelligence-ready countries such as the United States and emerging leaders like China are large. If Europe on average develops and diffuses the technical according to its current assets and digital position relative to the world, it could add some percentage to its combined economic output by 2030. It is important to note that Europe may not need to compete head-to-head but rather in areas where it has an edge such as in business-to-business and advanced robotics, and continue to scale up one of the world’s largest bases of technology developers into a more connected Europe-wide web of Artificial Intelligence based innovation hubs. The European Commission's Artificial Intelligence governance framework is set to do the following;

- a. Addresses risks specifically created by Artificial Intelligence applications;

- b. Propose a list of high-risk applications;
- c. Set clear requirements for Artificial Intelligence systems for high-risk applications;
- d. Define specific obligations for Artificial Intelligence users and providers of high-risk applications;
- e. Propose a conformity assessment before the Artificial Intelligence system is put into service or placed on the market;
- f. Propose enforcement after such an Artificial Intelligence system is placed in the market;
- g. Propose a governance structure at European and national level.

2. United States of America (USA): The National Artificial Intelligence Initiative Act of 2020 became law on January 1, 2021, providing for a coordinated programme across the entire US Federal government to accelerate Artificial Intelligence research and application for the nation's economic prosperity and national security. The USA's National Artificial Intelligence Initiative is aimed at ensuring continued state leadership in Artificial Intelligence research and development and lead the world in the development and use of trustworthy technology in the public and private sectors.

4. United Kingdom: The Committee on Standards in Public Life has issued "Artificial Intelligence and Public Standards" in 2020, remarking on the role of public standards in the Artificial Intelligence sector. According to the Committee, the current instruments and principles in place in the United Kingdom are enough to address the risks associated with the development of artificial intelligence. This is an example of clarifying and adapting existing rules and regulations so that they can be applied more clearly to situations involving artificial intelligence. The United Kingdom government also recently established the Centre for Data Ethics and Innovation (CDEI) as a specific statutory entity aimed at exploring concerns of Artificial Intelligence and its governance. The government has charged the Centre with connecting policymakers, industry, civic society, and the general public in order to build the best governance regime for data-driven innovations. On their website, the Centre frequently publishes papers and reports on the state of Artificial Intelligence regulation in the United Kingdom. Also, the United Kingdom is directed in its Artificial Intelligence deliberations by the Artificial Intelligence Council, an independent expert council. The function of the Committee is to provide advice to government and high-level leadership of the Artificial Intelligence ecosystem. The establishment of a wholly independent committee of Artificial Intelligence experts can as well be emulated by other countries.

6. Egypt: Egypt's artificial intelligence governance system is built on four pillars and four enablers. The pillars are Artificial Intelligence for government, Artificial Intelligence for development, Capacity building and International Relations. The enablers are governance, data, ecosystem and infrastructure. All of the above pillars are enabled by the enablers to exploit Artificial Intelligence for the development of Egypt and the well-being of Egyptians while boosting the development envisaged at regional and international levels. Furthermore, the framework is now codified in the Egyptian Charter on Responsible Artificial Intelligence published in 2021 in accordance with the Organization for Economic Co-operation and Development (OECD)'s Artificial Intelligence Principles. This is with the aim to adopt assessment, and technical guidelines to ensure best practices.

In 2019 the Egyptian government established the National Council for Artificial Intelligence, and in April 2023 announced the launch of the Egyptian Charter for Responsible AI. It outlines AI guiding principles pertaining to human rights and dignity, fairness and equity, transparency and explainability, accountability and responsibility, privacy and data protection and collaboration and international cooperation. These principles exist to pay attention to AI's developments and align the principles with the subsequent frameworks and guidelines.

5. Kenya: In 2018, the Kenyan government established a fourteen-member Blockchain and Artificial Intelligence task force comprised of experts from companies such as Safaricom, Cisco, IBM Research Africa, and the African Development Bank, as well as tech entrepreneurs and consultants from academia, research institutions, and the local technology sector. The task force's aim is to propose a roadmap for contextualizing the implementation of these new technologies in the context of overall public service delivery. The task committee will also offer suggestions on how the government may capitalize on developing technology over a period spanning five years, with other major milestones in 2027 and 2032.

6. Japan, India and Korea: As many other countries, Japan's AI regulation strategy focuses on encouraging innovation while ensuring responsible use. The government's "Social Principles of Human-Centric AI" prioritize human dignity, diversity, inclusion, and sustainability, steering away from stringent constraints on AI use. Instead, Japan prefers agile governance, relying on sector-specific regulations and non-binding guidelines that evolve with the technology. This approach is complemented by legal frameworks like the Act on the Protection of Personal Information and the Product Liability Act, which indirectly influence AI development and use. Japan also supports innovation through legislative reforms, such as the revised Road Traffic Act, which accommodates higher levels of automated driving. Meanwhile in India, a complex AI governance landscape is emerging, attempting to balance the need to foster businesses with addressing potential risks in the country. The government has vacillated between a non-regulatory stance and a more cautious approach focused on user harm mitigation. India's recent introduction of the Digital Personal Data Protection Act marks a significant step towards addressing data privacy in AI development. Discussions continue on whether to adopt regulatory models similar to the EU or the US, but India's unique economic and cultural context calls for more targeted regulations that address specific negative consequences of AI, especially considering the fact that India is a large country with many rural areas and social concerns such as the cast system. South Korea is trying to position itself as a leader in AI technology with an emphasis on both industry support and user protection. The proposed Act on Promotion of AI Industry and Framework for Establishing Trustworthy AI aims for comprehensive regulation of the AI industry, categorizing high-risk AI systems and establishing ethical guidelines for AI use. This legislation reflects South Korea's commitment to fostering a technologically advanced and ethically responsible AI ecosystem. In stark contrast, North Korea's engagement with AI focuses on its application in cyber-warfare, utilizing AI technologies for cyber-attacks. This divergent use of AI by North Korea might underscore the diverse implications of AI globally and highlights the necessity of international cooperation in AI governance.

7. China: China's use of AI in governance and surveillance has been a subject of considerable debate and criticism in the West. The country is often portrayed as compromising governance to enable security-focused AI applications. However, this view is an over simplification. While stability remains a critical priority for the Chinese government, there is an evolving attitude within the country towards AI-enabled surveillance policies. The State Council of China has emphasized AI's "irreplaceable role" in maintaining stability, as evident in the AI-enabled social credit system based on exhaustive data gathering to incentivize compliance. Recent developments show that China's regulatory bodies are actively balancing security interests with desires for reduced restraints on innovation. The country has imposed privacy-related penalties and restrictions against tech firms, such as sanctioning the ride-share firm Didi. These measures indicate a shift towards more measured regulatory phases in response to AI challenges, including privacy concerns and data breaches. China's approach to AI regulation is characterized by a dual emphasis on promoting AI innovation while ensuring state control over the technology. This approach contrasts with the more horizontal approach of the EU AI Act, which applies flexible standards and requirements across a wide range of AI applications. China employs discrete laws to tackle singular AI issues, a more vertical regulatory approach. China's AI regulation has so far addressed challenges like AI-driven recommendation algorithms and deep synthesis tools (often used to create deepfakes). Regulations require service providers to limit discrimination, mitigate the spread of negative information, and address exploitative work conditions. Laws around deep synthesis tools mandate that such content conforms to information controls and is labeled as synthetically generated, with additional measures to prevent misuse. Despite China's use of AI in law enforcement and surveillance, regulations have been introduced to address the use of this technology by non-governmental agencies. These regulations stipulate the specific purposes for which facial recognition tools may be used, emphasizing public safety in public places. In comparison, the US has a more decentralized approach, focusing on specific applications of AI. The EU, on the other hand, has implemented a comprehensive and risk-based approach. China's blend of innovation promotion, state control, and societal influence is reflective of its political attitudes, such as communism and collectivism: Three current real-life cases exemplify the Chinese approach:

- **Social Credit System:** A notable example of AI utilization in governance is China's social credit system. It leverages exhaustive data gathering for compliance and stability, offering benefits such as tax breaks and transport discounts to compliant citizens.
- **Facial Recognition Technology:** The usage of AI-enabled facial recognition technology for public security has sparked intense public opposition in China. This led to policy updates by the Cyberspace Administration of China (CAC), which now requires companies to obtain citizen consent for using facial recognition technology and offer alternatives where feasible. However, it is likely that the Chinese government is exempt from these consensual ideals and may probably have reserved its right to use facial recognition systems according to its needs.
- **Generative AI Regulation:** On August 15, 2023, China introduced a law restricting the development of generative AI technology. This regulation demonstrates China's strict approach to the public use of AI, contrasting with the more laissez-faire approach of the US. Although many things may be occurring in the dark, China is widely acknowledged to be the country that uses AI the most for making its citizens comply with its ideology.

8. Australia: Australia has been an active participant in the conversation about Artificial Intelligence regulation, with a variety of agencies requesting input on how to best approach its regulation. The Department of Industry, Innovation, and Science, in collaboration with a branch of the Commonwealth Scientific and Industrial Research Organization (CSIRO), released the Artificial Intelligence Ethics Framework and the Artificial Intelligence Technology Roadmap in April 2019, outlining Australia's core principles regarding the technology. However, Australia currently lacks a distinct legal framework for the development and application of artificial intelligence and must rely on existing legislation and standards until new standards are produced. This is similar to the Nigerian situation which should be addressed promptly.

1.8 GLOBAL ADAPTATION FOR NIGERIA ETHICAL, AI GOVERNANCE AND LEGALFRAMEWORK

From the above comparison, Nigeria need to learn some lessons on AI and adapt accordingly to global standard to avoid the risk of eroding moral and ethical norms. An Artificial Intelligence governance framework in Nigeria must ensure that the application is human-centric, following the Chinese AI governance framework which is centred on security and privacy, safety and reliability, openness, accountability, and justice. Also, as is the case in the United States; adequate research should be undertaken to prepare the present and future national workforce in Nigeria for the integration of Artificial Intelligence systems across all sectors of the economy and society, the results of which should be powerful enough to solve issues of data breaches caused by non-authorization and lack of consent. In addition, it is the structural measures in Europe which should be considered by the Nigerian policy makers in creating a proper AI framework for Artificial Intelligence in the country. A solid framework must envisage a synergy between the private sector and the governance body. The Australian Centre for Data Ethics and Innovation frequently publishes papers and reports on the state of Artificial Intelligence regulation in the United Kingdom and this is an innovation that Nigeria should adopt when it comes to uniting its technological stakeholders. Finally, Egypt and Kenya posit an ideal of AI structure that encompasses government ministries, departments, and agencies that use Artificial Intelligence directly or indirectly as members of the Artificial Intelligence regulatory body and an AI task force respectively. This will not only reduce the danger of biases in AI but also place Nigeria at par with its counterparts in global ranking.

An AI Governance Framework in Nigeria must ensure that AI application is pro-people, or human-centric to avoid the risks of destroying the citizens' moral and ethical values or even driving them out of jobs, etc. Such a framework must conform to the protection of citizen' rights which includes right to privacy, data protection, freedom of information and speech, etc. it should be potent enough to address issues of data breaches arising from non-authorization and lack of consent. This must be done with the aim to ensure that regulations provide certainty of operations and discourage exploitation whilst providing striving environment for the private individuals. An ideal of framework must ensure that government Ministries, Departments, and Agencies that directly or indirectly apply AI form part of AI governing body. AI governance framework must encourage local content and production of AI systems. There is dire need to develop and build skills for AI optimization in Nigeria. Currently there

is dearth of knowledge on these systems and the needed skills to develop them. An ideal AI framework for Nigeria must encourage up skilling and reskilling in AI development and application. Finally, the goal of the framework must be to minimize risks of applying AI and ethics to increase the benefits of its application nationally and globally.

1.9 CONCLUSION

Artificial Intelligence is one of the greatest innovations of man. Its main objective is to improve the existence of man by automating most human activities. In almost all areas of human endeavour, Artificial Intelligence systems have been deployed to promote productivity, increase yield, solve health complicated problems, sustainable economic growth, handle security and crisis issues perfectly with little or no supervision. Regardless, as identified in this work; there are serious threats when these systems and their algorithms are not properly structured. In preventing possible dangers, countries of the world have developed governance frameworks for Artificial Intelligence application to ensure that the benefits are enjoyed and the risks are well managed. While the examined jurisdictions demonstrate the critical need for Nigeria to develop and build potential for Artificial Intelligence optimization, there is currently a scarcity of knowledge about these systems as well as the necessary abilities to develop them. A suitable Artificial Intelligence framework for Nigeria should include education and skill acquisition on information technology. Worldwide, approaches to AI governance vary, reflecting diverse socio-economic and cultural contexts. A crucial challenge is balancing rapid AI development with effective regulatory oversight, ensuring ethical standards and societal well-being in line with global best practices. The advances in AI technology caused an increase in demand for data storage and processing, amidst the pre-existing high demand for cloud infrastructure, streaming services, remote working and 5G networks. With the dawn of the Internet of things (IoT) and the anticipation of the vast amounts of data to be generated from it, in tandem with the development of AI models; a most prudent way for Nigeria to position itself for an influx of growth and development would be by creating a comprehensive, legislative and regulatory incentives for technical experts and investors in the field of AI.

This paper has thoroughly examined Nigeria's approach to this dire need, identifying lapses and offering useful recommendations based on the Ethical, AI Governance and Legal Frameworks adopted by selected countries. It is hoped that with the recommendations proffered, a robust Ethical, AI Governance and legal Framework will surely emerge for Nigeria.

2.0 RECOMMENDATION

Nigeria can achieve a safe and enabling environment for the deployment of Artificial Intelligence systems to maximize its potentials while curtailing its negative effects. This paper proposes the following recommendations:

- i. Establishment of a comprehensive or an All-Encompassing AI-specific Law.
- ii. Licensing of Artificial Intelligence Service Providers.
- iii. Partnership with National and International AI Stakeholders to enhance global adaptation.
- iv. Ensuring speedy and fast implementation of a comprehensive Ethical, AI governance and legal framework to keep pace with the global trend and standard.
- v. The framework must envisage a synergy between the private sector and the governance body. This must be done with the aim to ensure that regulations provide certainty of operations and discourage exploitation whilst providing striving environment for the private individuals. An ideal framework must ensure that government Ministries, Departments, and Agencies that directly or indirectly apply AI form part of AI governing body.
- vi. AI governance framework must encourage local content and production of AI systems. This will reduce risks of biases in AI and place Nigeria with her contemporaries. There is dire need to develop and build skills for AI optimization in Nigeria. Currently there is dearth of knowledge on these systems and the needed skills to develop them. An ideal AI framework for Nigeria must encourage up skilling and reskilling in AI development and application.
- vii. Conclusively, the goal of the framework must be to minimize risks of applying AI and increase the benefits of its application to suit the adaptability to global standard in Ethical, AI governance and frameworks for sustainable growth.

REFERENCES

- African Union: The Digital Transformation Strategy for Africa (2020-2030) 27 28 2
- AI Council, 2020. <https://www.gov.uk/government/groups/ai-council> (Retrieved June 20, 2023).
- AI Council, 2020. <https://www.gov.uk/groups/ai-council> (Accessed on 2/6/2024).
- Akindele, & Adewuyi “Navigating the Ethical and Legal Terrains of AI Tool Deployment: A Comparative Legal Analysis” <https://scholarworks.lib.csusb.edu/ciima>.
- Akindele R, and Adewuyi S. J. “Navigating the Ethical and Legal Terrains of AI Tools Development: Comparative Legal Analysis (ed) in International Information Management Association (IIMA) Conference proceeding 2023, P.142
- Bughin, J. et al (2018) “Notes from the AI founder: Modelling the impact of AI on the world economy. <https://www.mckinsy.com/featured-insights/artificial-intelligence/notes-from-the-ai-founder-modelling-the-impact-of-ai-on-the-world-economy>. (Accessed June 4, 2024).
- CDEI, (2020). <https://www.gov.uk/government/organisations/centre-for-dataethics-and-innovation/about>. (Retrieved June 20, 2023)
- CGTN Africa.cgtn.com/2020/09/03/Nigeria-to-artificial-intelligence-b=robotics-centre (accessed 4/6/2024).
- Cheng J, Zeng J. Shaping AI’s future? China in global AI governance. *J Contemp China*. 2023;32(143):794–810. <https://doi.org/10.1080/10670564.2022.2107391>.
- Dawson, D et al., (2019). “Artificial Intelligence: Australia’s Ethics Framework.” https://consult.industry.gov.au/strategic-policy/artificial-intelligenceethicsframework/supporting_documents/ArtificialIntelligenceethicsframeworkdiscussionpaper.pdf (Retrieved June 20, 2023).
- DIVISION E, SEC. 5001.
- Gasser U, and Almeida A. F. Layered (2017) Model for AI governance. *IEEE internet comput.* 21, 56-62 <<https://doi.org/10.1109/MIC.2017.41808357> Accessed 31/5/2024.
- Georgieva L, et al (2022) “From AI ethics principles to data science practice: a reflection and gap analysis based on recent frameworks and practical experience. *AI Ethics* available from <https://doi.org/10.1007/543681-021-00127-3> accessed on 30/5/2024.
- Habuka, H. (2023) Japan’s approach to AI regulation and its impact on the G7 presidency [News Blog]. CSIS Center for Strategic & International Studies. 2023; <https://www.csis.org/analysis/japans-approach-ai-regulation-and-its-impact-2023-g7-presidency>.
- Hickok, M (2021) “Lessons learned from AI Ethics principles for future Actions. *AI Ethics* 1, 41-47. <https://doi.org/10.1007/543681-020-00008-1> Accessed on 31st May, 2024.
- [https://ahdictionary.com/word/search.html?q=artificial intelligence](https://ahdictionary.com/word/search.html?q=artificial%20intelligence) (accessed on June 30, 2024).
- IEEE, (2017). “IEEE Global Initiative for Ethical Considerations in AI (AI) And Autonomous Systems (AS) Drives, together with IEEE Societies, New Standards Projects; Releases New Report on Prioritizing Human Well-Being.” https://standards.ieee.org/news/2017/ieee_p7004.html(Retrieved June 20, 2023).
- IEEE, (2017). “IEEE Global Initiative for Ethical Considerations in AI (AI) And Autonomous Systems (AS) Drives, togetherwith IEEE Societies, New Standards Projects; Releases New Report on Prioritizing Human Well-Being.” https://standards.ieee.org/news/2017/ieee_p7004.html(Retrieved June 20, 2023).
- JAKE, O. E. (2021) “Policy brief towards A Right-Respecting Artificial Intelligence Policy for Nigeria” Paradigm initiative, November, at P.3.
- Kenyan Wallstreet, (2018). <https://kenyanwallstreet.com/kenyagovt-unveils-11memberblockchain-ai-taskforce>(Retrieved June 20, 2023).
- Klare M, (2023) Dueling views on AI, autonomous weapons | Arms Control Association [Armos Control Today]. Arms Control Association.; <https://www.armscontrol.org/act/2023-04/news/dueling-views-ai-autonomous-weapons>.
- Liu S, (2023) India’s AI Regulation Dilemma [Aisa-Pacific News]. *The Diplomat*. <https://thediplomat.com/2023/10/indias-ai-regulation-dilemma/>
- National Information and Development Act, 2020 section 6(a).

- Obianyo et al “A Critical Appraisal of the Legal Framework of Artificial Intelligence Governance in Nigeria”. University of private and public law (COUJPL) Vol. 4 No. 1, 2022.
- Radwan, S & Sobeih S (2019) “Egypt’s AI strategy is more about development than AI.”OECD AI Policy Observation <https://oecd.ai/fr/wonk/egypt-aistrategy> (Retrieved June 20, 2023).
- RAIN, (2019) <https://rainnigeria.com/about-us-on> (accessed 4/6/2024)
- Sally Radwan, & Sammar Sobein (2021) “Egypt’s AI strategy is more about development than AI” AI policy observation (May 26). Available from <https://oecd.ai/fr/work/egypt-ai-strategy> accessed 31 may, 2024.
- Stewart U, (2018) “AI can help to bridge the digital divide and create an inclusive society” <https://news.itu.int/ai-can-help-to-bridge-the-digital-divide-and-create-an-inclusive-society>. (Access June 4, 2024).
- STOA, (2020). [Europarl.europa.eu. https://www.europarl.europa.eu/regdata/etudes/STUD/2020/6](https://www.europarl.europa.eu/regdata/etudes/STUD/2020/6). (Accessed June, 4 2024).
- Sullivan M. Global AI Regulation: A Closer Look at the US, EU, and China [AI Regulation Discussion Post]. Transcend Blog. 2023; <https://transcend.io/blog/ai-regulation>.
- The Committee on Standards in Public Life, (2020) “AI and Public Standards” <https://www.gov.uk/government/news/artificial-intelligence-and-public-standards-committee-publishes-report-on> (Retrieved June 20, 2023).
- The new ‘Egyptian Charter for Responsible AI’: between interpretation and enforcement by Aliah Yacoub 23 May 2023. Synapse Analytics <https://www.synapse-analytics.io/post/the-new-egyptian-charter-for-responsible-ai-between-interpretation-and-enforcement> accessed 5:15pm 27 June 2023.
- Valluriorg.com/blog/artificial intelligence and – its applications. (accessed on June 29, 2024).
- World Economic Forum, (2018) “Harnessing Artificial Intelligence for the earth” <https://www3.weforum.org/docs/harnessing-artificial-intelligence-for-the-Earth-report-2018.pdf> (Accessed June 4, 2024)
- Yoshija W, (2024) “Managing the race to the moon: Global Policy and governance in Artificial Intelligence regulation – A contemporizing overview and an analysis of socio-economic consequences. Discover Artificial Intelligence at P.3. <https://doi.org/10.1007/54416302400/09-4>. Access June 2, 2024.
- Yoshija W, (2024) Managing the Race to the Moon: Global policy and Governance in Artificial Intelligence Regulation – A contemporary overview and analysis of socioeconomic consequences. University of Benin, Benin Switzerland, P. I. Also available from <https://doi.org/10.1007/15/544163-024-00109-4> Accessed 31/5/24