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Navigating the Ethical and Legal Terrains of AI Tool Deployment: A Comparative Legal Analysis

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ABSTRACT

The pervasive influence of technology has revolutionised numerous sectors across the globe, underscoring the need for a comprehensive evaluation of the tools that technology has engendered. Artificial Intelligence (AI), as a prominent technological tool, has exceeded expectations and proven immensely beneficial to humanity. Consequently, it is imperative to scrutinise the ethical and regulatory frameworks governing its application. This paper employs a doctrinal methodology to analyse the regulatory landscape and ethical guidelines surrounding AI technology in Nigeria and some selected jurisdictions. The findings highlight the necessity of establishing a robust governance system to govern the utilisation of this transformative technology. In light of the analysis, this study proposes several recommendations, including the imposition of stringent requirements for the provision and utilisation of AI tools, as well as the intensification of collaborations with relevant stakeholders.

Keywords: Emerging technologies, Artificial Intelligence, ethics, legal, regulations, Nigeria.

INTRODUCTION

The science of Artificial Intelligence, as well as its rapid growth warrants the need for a determination of its legal and ethical consequences (Pery, 2020).¹ This is because this specific technology has transformed the way of doing things.

There is a radical change in the technological image of the world and it is inevitable that concerns will be raised as to the possible effects of artificial intelligence especially in a country like Nigeria in view of increase in urban diversity, consumer expectations, population and data mining.

Artificial Intelligence's potential for bias in the modern era poses a significant threat to public trust, societal well-being, data protection, economic strategies, and technical decisions. Extensive research is now focused on understanding the profound social consequences of this transformative technology. While regulatory systems predate AI, efforts to address its negative impacts have been ongoing. However, as AI continues to evolve and infiltrate critical sectors like transportation, financial services, manufacturing, healthcare, and ecommerce; formidable challenges persist. This dynamic landscape necessitates urgent and comprehensive investigation and solutions to ensure a fair and equitable future for everyone (Valluriorg, 2020).² This situation is aggravated by the existence of mixed linked algorithm, automated system and data handling tools (Valluriorg, 2020)³.

CONCEPTUAL CLARIFICATION

Artificial Intelligence is simply defined as the development of computer systems that are able to perform tasks that would require human intelligence.

The American Heritage Science Dictionary (2020)⁴ defines the term as the ability of a computer or other machine to perform actions thought to require intelligence.

RESEARCH METHODOLOGY

This study investigates the ethical and legal regulation of AI. Its descriptive nature meticulously captures the pulse of our ever-evolving world, providing a vivid snapshot of its impact. To embark on this enlightening journey, a mono-method qualitative approach was chosen, ensuring a focused and in-depth exploration. The study employs analytical deduction as the cornerstone of its data collection and analysis, unearthing profound insights. By adopting a desk-research methodology, the study interrogates an array of literature sources. The study addresses the gaps

in the existing literature by conducting a systematic review of current ethical and legal regulations surrounding AI. The study also carefully selects and analyses other jurisdictions in their application of ethics in AI administration, comparing it with the situation in Nigeria.

HISTORICAL DEVELOPMENT OF ARTIFICIAL INTELLIGENCE

The history of Artificial Intelligence began with classical philosophers' attempts to describe human thinking processes.⁵ This attempt culminated in the invention of the programmable digital computer in the 1940s.⁶ This device and its accompanying ideas propelled scientists to consider the possibility of creating an electronic brain.

John McCarthy, an American computer scientist, coined the term 'Artificial Intelligence' in 1956 at the Dartmouth Conference, marking the official birth of the discipline.⁷ It now serves as a broad term encompassing robotic process automation and robotics. However, before the implementation of Artificial Intelligence, computers needed significant changes. Prior to 1949, computers lacked the ability to store commands and were limited to executing them. Additionally, computing was prohibitively expensive.⁸

However, in recent times; the fundamental limit of computer storage that was holding society back decades ago is no longer a challenge. Moore's Law, which estimates that the memory and speed of computers doubles every year; has finally caught up with computing after breakthroughs in computer science, mathematics, and neuroscience. (Ajay, 2018) Hence, we now live in the age of big data in which we have the capacity to collect huge sums of information too cumbersome for any human being to process, but which fall within the capabilities of the technology of Artificial Intelligence. This makes AI particularly useful to multiple industries in comparison to other forms of information technology.

ETHICAL RULES AND CHALLENGES IN ARTIFICIAL INTELLIGENCE

The rapid development and evolution of Artificial Intelligence technologies, while unleashing opportunities for business and communities in Nigeria has led to important deliberations.⁹ Interested parties are demanding more transparency in the way Artificial Intelligence technologies are used and solutions to the legal and ethical issues stem from the growing consolidation of the technology in daily

affairs. Despite the positive impact that this technology has on humans, vulnerabilities that hinder accuracy, security and accountability seem to lurk beneath the surface. The following highlight the ethical implications of Artificial Intelligence

1. Bias

Humans build artificial intelligence. As a result, it is prone to bias. Systematic bias can originate from the data used to train systems or from the values held by system creators and users.¹⁰ It typically occurs when machine learning algorithms are trained on data that only highlights specific demographic groupings or reflects social biases. Artificial intelligence that is biased against specific groups in society has far-reaching consequences.

For example, its use in law enforcement and national security may result in the wrongful imprisonment or detention of certain groups. In other circumstances, such as child internet protection, it is actually beneficial for Artificial Intelligence to target such groups.

2. Inequality

One of the most damaging consequences of AI is the growth of the wealth divide. organisations that use artificial intelligence generate revenue, however the technology limits the human workforce in various organisations.¹¹ Artificial intelligence has the potential to deepen the digital divide between countries. On the bright side, by incorporating human ability into its solutions, it can help bridge the digital divide and create an inclusive society.¹²

3. Privacy

It is reasonable to expect that Artificial Intelligence will have a significant impact on privacy during the next decade.¹³ For instance, facial recognition cameras in cities may violate privacy by keeping public imagery, yet such imagery may be utilised to solve crimes and identify criminals

4. Environmental Impact

Artificial intelligence can help with waste management and pollution reduction by reducing greenhouse gas emissions and traffic congestion through autonomous vehicles.¹⁴ However, the increased exposure of carbon footprints may impact carbon cost as there is a higher measure of biological resources to produce and use prevailing technology.

THE NIGERIAN REGULATORY FRAMEWORK ON ARTIFICIAL INTELLIGENCE

Commonly called the giant of the African continent, it is expected that Nigeria should lead in the Artificial Intelligence journey. However, the reverse is the case as the technology faces challenges ranging from lack of adequate knowledge about it to infrastructure decay, and lack of regulatory frameworks and policies. According to the Oxford Insights in its Government Artificial Intelligence Readiness Index 2020, Nigeria ranks 138 globally and 20 in the region below South Africa, Kenya and Ghana. (Chukwubuikem, 2023) The same report in 2021 had Nigeria ranking below Mauritius, Egypt and South Africa.

Commendably, Nigeria has taken some giant strides in the last few years starting with the establishment of the National Council for Artificial Intelligence and Robotics (NCAIR) in November, 2020. (Alajemba, 2018) The council is the innovative body of the government responsible for research and further understanding of the application and use of emerging technologies like Artificial Intelligence, Deep Learning, Extended Reality (XR-VR/MR/AR), Robotics, and Drones, and the Internet of Things (IoT).

The Nigerian Government is also set to establish the centre for Artificial Intelligence and robotics under the National Informational Technology Development Agency (NITDA) which is intended to focus on emerging technologies in various areas such as research and development, communication security and networking. (CGTN Africa, 2020) Furthermore, there is an ongoing private sector driven Robotic and AI Technology Hub and Research Centre called Robotics and Artificial Intelligence Nigeria (RAIN) that carries out physical and virtual classes, build intelligent machines, train, and certify youth on ultra-modern courses in automation, data science, robotics and machine learning. (RAIN, 2019)

It is important to note that a national Artificial Intelligence governance framework for Nigeria must be that which takes into account the country's beliefs in terms of values and institutions. It must be one that is focused on providing clear answers to ethical questions and defining standards and guidelines for application of Artificial Intelligence for the common good of all.

COMPARATIVE ANALYSIS WITH SELECTED JURISDICTIONS

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 minimise operational hazards.

1. China

Overtime, the Artificial Intelligence governance regime in China has taken a rapid development space.¹⁹ China is regarded as one of the AI superpowers driving the technological implementation era. The People's Republic of China's Ministry of Science and Technology (MOST) formed a National Governance Committee for New Generation Artificial Intelligence and published the governance principles for new generation artificial intelligence. This was established in 2019 to guide the functioning of the technology.²⁰ The Beijing Academy of Artificial Intelligence (BAAI) also published the Beijing Artificial Intelligence principles to guide research and development in the area.²¹In essence, the Chinese AI governance framework is centred on security and privacy, safety and reliability, openness, accountability, and justice, all of which are factors that other countries should consider in their technological aspirations.

2. United States of America (USA)

The National Artificial Intelligence Initiative Act of 2020²² 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.²³The 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.

3. 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;

- i. addresses risks specifically created by Artificial Intelligence applications;
- ii. Propose a list of high-risk applications;
- iii. Set clear requirements for Artificial Intelligence systems for high-risk applications;
- iv. Define specific obligations for Artificial Intelligence users and providers of high-risk applications;
- v. Propose a conformity assessment before the Artificial Intelligence system is put into service or placed on the market;
- vi. Propose enforcement after such an Artificial Intelligence system is placed in the market;
- vii. Propose a governance structure at European and national level.

4. 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 Organisation (CSIRO), released the Artificial Intelligence Ethics Framework and the Artificial Intelligence Technology Roadmap in April 2019, outlining Australia's core principles regarding the technology.²⁴ 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.²⁵ This is similar to the Nigerian situation which should be addressed promptly.

5. 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.²⁶ 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.²⁷ 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.²⁸ 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.²⁹ 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 Organisation 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.

7. 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.³⁰ The task force's aim is to propose a roadmap for contextualising 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 capitalise on developing technology over a period spanning five years, with other major milestones in 2027 and 2032.

LESSONS FOR NIGERIA

To avoid the risk of eroding moral and ethical norms, an Artificial Intelligence governance framework in Nigeria must ensure that the application is humancentric, 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-authorisation and lack of consent.

In addition 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 invention that Nigeria should adopt when it comes to uniting its technological stakeholders.

Finally, Egypt and Kenya posit an ideal 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 on par with its counterparts

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, 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 optimisation, 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. It is likewise argued that programmers and engineers must ensure that ethical and security concerns are addressed during the early design of AI systems. As a result, politicians, developers, and other stakeholders must work together to determine where to draw the line between liberty and public protection by providing laws and safeguards in the deployment and usage of AI. Lastly, it is important to recognise that because AI is constantly evolving, so is the legal and regulatory environment. This means that AI policy and regulation should be an iterative process involving all key players.

RECOMMENDATIONS

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

1. Establishment of an All-Encompassing AI-specific Law

A new law that will cater for Artificial Intelligence should be enacted by the Nigeria's National Assembly. Such law must take into consideration the country's core values, principles, ethics and societal beliefs while providing means for effective, non-biased utilization of the technology. This way, the country will have its own Artificial Intelligence regulations on certainty of operations and discourage internal and external exploitation.³¹

2. Licensing of Artificial Intelligence Service Providers

The increasing emergence of Artificial Intelligence enabled technology ensures the need for a set of requirements to ensure only authorized businesses or service providers would offer Artificial Intelligence enabled services to the public. This would not only ensure the safety and security of customer data, but also serve as a monitoring mechanism to make sure only ethically and legally compliant Artificial Intelligence systems are deployed. It would also limit third-party use of the technology. The Nigerian Communications Commission can achieve this through its Licensing Department by establishing a new class of licence to be made available for Artificial Intelligence providers. These licenses would provide an avenue for regulatory examinations which would force the providers to guarantee security compliance.³²

3. Partnership with Relevant Stakeholders

The Nigerian government should make intentional efforts to drive collaboration toward effective regulations with relevant stakeholders such as the Ministry of Communications & Digital Economy, National Office for Technology Acquisition and Promotion (NOTAP) and National Information Technology Development (NITDA). Regular collaborations would yield useful information sharing and improve stakeholder involvement. The government can also establish a partnership to confer and deliberate on the regulatory needs for a licence for Artificial Intelligence.³³

4. Stakeholder Conferences

Public-Private Partnerships (PPP) can be organised through meetings and conferences with heads of the Information Communication Technology (ICT) Industry in the field of emerging technologies to share information and promote inclusive collaboration in policy formulation and agenda setting for Artificial Intelligence.³⁴

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