



AN EXAMINATION OF ARTIFICIAL INTELLIGENCE AND LEGISLATIVE DRAFTING THROUGH A COMPARATIVE LENS

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Abstract:

Legislative drafting is a unique discipline of law that requires precision and attention to detail. The legislative drafting process is characterised by a potential for significant inefficiencies and a risk of error. Converting complex policy objectives into precise legal language is a time-consuming task that often relies on the expertise of a limited pool of legal professionals. As the volume and complexity of legislation grows, traditional manual drafting methods are increasingly inadequate. This has led to delays in lawmaking, inconsistencies in legal text, and potential loopholes that can undermine the effectiveness of legislation. While Artificial Intelligence (AI) has shown promise in areas such as legal research and document analysis, its application to the creation of legislative text remains relatively unexplored. This gap presents a substantial opportunity to harness AI's capabilities to enhance the legislative drafting process's efficiency, accuracy, and consistency. Therefore, this paper seeks to advocate for an AI guide to assist in drafting legislation. This paper demonstrates the transformative potential of AI in the legislative sphere, paving the way for a more modern and effective lawmaking process. This paper also investigates the extant regulatory frameworks for AI in Nigeria. It adopts a comparative lens to analyse the experiences of other jurisdictions, particularly those with legislative drafting AI software. This paper finds that it is necessary to harness AI tools' innovation to improve the legislative drafting process's quality, efficiency, and accuracy. It accordingly recommends that an AI-powered tool be developed to draft legislation in Nigeria.

Keywords: Artificial Intelligence, Legislative Drafting, Automation, Programming

1. INTRODUCTION

The intersection of artificial intelligence (AI) and law has emerged as a focal point of academic and professional interest.¹ While AI has revolutionised numerous sectors, such as healthcare, business, and finance, its potential to transform the legislative process remains relatively untapped. Legislative drafting, the meticulous conversion of policy objectives into precise legislative language, is a cornerstone of lawmaking. Traditionally, this task has been undertaken by legal experts, which is time-consuming and susceptible to human error.² The complexity of modern legislation and the increasing volume of laws have exacerbated these challenges. AI has made significant inroads into the legal sector, demonstrating potential in legal research, contract analysis, and predictive analytics. Natural language processing (NLP) has been particularly influential, enabling AI systems to understand and process legal text with increasing accuracy.³ However, the application of AI to legislative drafting remains in its infancy. In an era of digitalisation, it is imperative to study the importance of artificial intelligence in the legislative drafting process. This paper explores AI's application to legislative drafting, a critical yet often time-consuming aspect of lawmaking. This paper adopts a comparative lens to examine some countries using AI to draft legislation. This research draws insights from jurisdictions like the United Kingdom (UK), Netherlands, and European Union, exploring how they have grappled with this technology's opportunities.

This paper is divided into five sections. Section 1 provides an introduction, section 2 provides conceptual clarifications, section 3 provides the legal and policy framework of artificial intelligence in Nigeria, section 4 provides the challenges associated with the use of AI to draft legislation, section 5 provides a cross-country analysis, section 6 provides recommendations, and section 7 provides the conclusion.

2. CONCEPTUAL CLARIFICATIONS

a. Artificial intelligence: By far the greatest danger of Artificial Intelligence, AI theorist Eliezer Yudkowsky has observed, “is that people conclude too early that they understand it.”⁴ Artificial Intelligence (AI) pertains to creating computer systems and algorithms that can execute tasks usually necessitating human intelligence, including learning, problem-solving, decision-making, and perception. The specific goals of AI involve the

¹ Massimo Genovese, 'Introduction: Artificial Intelligence and Law' (November 2023) < <https://www.collegesoflaw.edu/blog/2023/11/30/artificial-intelligence-law-introduction/>> accessed 11 January 2025.

² Bench-Capon, *'Artificial Intelligence and Law'* (Oxford University Press, 2013).

³ Cole Stryker, 'What is NLP?' (August, 2024) < <https://www.ibm.com/think/topics/natural-language-processing> > accessed 18 January 2025.

⁴ Eliezer Yudkowsky, 'Artificial Intelligence and Computers' < <https://www.goodreads.com/quotes/1228197-by-far-the-greatest-danger-of-artificial-intelligence-is-that> > accessed 11 January 2025.

development of machines capable of emulating human intelligence, addressing complex knowledge-based tasks, constructing systems that can execute functions necessitating human cognitive abilities, and establishing mechanisms that can learn autonomously.⁵ AI technologies aim to mimic human cognitive functions, enabling machines to adapt and improve their performance over time. In this research, AI software tools refer to developing AI systems to draft legislation in Nigeria.

b. Legislative Drafting: legislative drafting transforms legislative intent into clear and concise written instruments that can be effectively implemented.⁶ Legislative drafting refers to the process of creating legislation and any writing derived from such legislation. It involves translating policy decisions and legal concepts into clear, precise, and unambiguous language that can be enacted into law. Legislation is the enacted law of the country. Therefore, legislation refers to laws passed by a legislative body through its lawmaking process.⁷ 2024.

Artificial intelligence tools can be trained to draft legislation and any legislative document, such as motions, briefs of argument, and lead debates, to make the drafter's task easier. Therefore, legislative drafting related to AI will be the crux of this research.

c. Automation: Automation involves the application of specialised technology and software to perform specific repetitive tasks that remain consistent over time.⁸ Automation is applying technology, programs, or processes to achieve outcomes with minimal human input. It automatically uses equipment and systems to complete specific and unchanging tasks.⁹ AI can automate repetitive tasks and workflows, increasing efficiency and productivity across various industries. An AI-powered tool can be developed to automate legislative drafting tasks, especially if an in-house style is already established.

3. LEGAL AND POLICY FRAMEWORKS OF ARTIFICIAL INTELLIGENCE IN NIGERIA

a. National Information Technology Development Agency, Act No. 28 2007 (NITDA Act)

⁵ University of Illinois Chicago, 'What is Artificial Intelligence' (March 2024) <<https://meng.uic.edu/news-stories/ai-artificial-intelligence-what-is-the-definition-of-ai-and-how-does-ai-work/>> accessed 12 July 2024

⁶ Onyekachi W. Duru, 'Legislative Drafting' <<https://www.linkedin.com/pulse/legislative-drafting-onyekachi-duru-esq/>> accessed 11 January, 2024.

⁷ Cornell Law School, 'Legislation' <<https://www.law.cornell.edu/wex/legislation>> accessed on 11 April

⁸ Coursera, 'Automation vs. AI: Meaning, Differences, and Real World Uses' <<https://www.coursera.org/articles/automation-vs-ai>> accessed 12 September 2024.

⁹ IBM, 'What is automation?' <<https://www.ibm.com/topics/automation>> accessed 12 September 2024.

NITDA was enacted by the National Assembly in 2007 under the supervision of the Ministry responsible for Communications and Digital Economy to develop a programme catering to Information Communication Technology (ICT) and other related activities in the country. The NITDA Act was passed to enable NITDA to perform a set of responsibilities defined under the Act. Some of the responsibilities include the development and regulation of ICT in Nigeria.¹⁰ Section 7(d) of the Act also provides that the Agency has the power to structure the Agency into such number of departments as it deems fit for the effective discharge of the functions of the Agency. Under this, NITDA established a centre known as the National Centre for Artificial Intelligence and Robotics (NCAIR). The NCAIR is one of NITDA's special-purpose vehicles that was created to promote research and development on emerging technologies.¹¹ NCAIR is a digital innovation and research facility focused on AI, robotics, drones, and other emerging technologies to transform the Nigerian digital economy.¹² NITDA, in collaboration with NCAIR, is empowered to develop standards, guidelines, and frameworks for the Nigerian IT sector.¹³ As a result, the National Artificial Intelligence Policy (NAIP) was co-created in 2022 by a team of experts from NITDA and 63 professionals drawn from 351 volunteers, including local and international participants. These experts contributed to seven key thematic areas: education, finance, health, media and telecommunications, labour and productivity, general issues, and security. Legislative drafting and legal research were not included in the thematic areas listed above. In 2023, the policy was further updated into a strategy to provide a more comprehensive framework for developing, using, and adopting AI in Nigeria. The National Artificial Intelligence Strategy (NAIS) did not include legislative drafting. This is a lacuna that must be addressed. As AI redefines traditional processes across various sectors, the policy framework must be expanded to include the legislative sector. Doing so would enable drafters to harness AI tools to create well-structured, coherent, and efficient legislation, ultimately contributing to Nigeria's lawmaking quality.

b. Nigeria Data Protection Act 2023 (NDPA)

The Nigeria Data Protection Act was enacted in 2023 to provide a legal framework for regulating personal data in Nigeria. It replaces the Nigerian Data Protection Regulations (NDPR) 2019. Notably, priority is given to the NDPA over any other legislation¹⁴ relating to processing personal data directly or indirectly in Nigeria.¹⁵ A key

¹⁰ Okuyemianu Oluwapo, 'A Review of the National Information Technology (NITDA) Bill' (25, January 2024) <<https://medium.com/regcompass-insights/a-review-of-the-national-information-technology-development-agency-nitda-bill-b7bf9e7e3df7>> accessed 24 September 2024.

¹¹ NITDA Official website, 'NCAIR' <<https://nitda.gov.ng/ncair/>> accessed on 20 June 2024.

¹² Ibid.

¹³ As provided for in section 6 of the NITDA Act 2007.

¹⁴ Apart from the CFRN, 1999.

¹⁵ Gabriel Eze, 'Understanding the Nigeria Data Protection Act 2023: Obligations of Digital Platforms and Businesses' (3 August, 2023) <<https://infusionlawyers.com/understanding-the-nigeria-data-protection-act-2023>>

provision of the Act is the establishment of the Nigeria Data Protection Commission and a Governing Council of the Commission.¹⁶ Section 1 of the Act provides that its objectives are to safeguard the fundamental rights and freedoms and the interests of data subjects as guaranteed under the Constitution of the Federal Republic of Nigeria, 1999.¹⁷ The Act applies to all forms of processing personal data, including those used in AI systems. Under the NDPA, 'data' refers to information about an identified or identifiable natural person (data subject).¹⁸ The Act outlines obligations for data controllers and processors, requiring them to adhere to certain privacy principles and to implement appropriate data protection measures.¹⁹ Its overarching objectives encompass the prevention of personal data manipulation, the fortification of Nigerian businesses in global trade through equitable data protection mechanisms and the alignment of the Nigerian data protection authority with global best practices.²⁰ The NDPA is relevant for safeguarding individual data privacy and the integrity of personal data exchange transactions. However, the Act does not make provisions for regulating AI in Nigeria's legislative drafting. The Act only provides one risk of AI (data infringement) without making provisions for other risks associated with AI, such as algorithm bias, etc. As AI technology evolves, regulations on AI in legislative drafting can help ensure that legislative drafting practices remain relevant, effective, and in line with international best practices.

c. Cybercrimes (Prohibition, Prevention, Etc) Act, 2015

The Act was enacted in 2015 to establish a comprehensive framework for Nigeria's prohibition, prevention, detection, prosecution, and punishment of cybercrimes. It addresses various cybercrime activities, including computer-related fraud, identity theft, cyberbullying, data interference, and unauthorised access to computer systems. The Act also aims to protect critical national information infrastructure, safeguard electronic communications, data, and intellectual property, and uphold privacy rights. Additionally, it provides for

2023/?utm_source=mondaq&utm_medium=syndication&utm_content=articleoriginal&utm_campaign=article> accessed 1 October, 2024.

¹⁶ The Commission will oversee the implementation and enforcement of the Act's provisions. It will also regulate the processing of personal information and other related matters while the Council is charged with formulating and providing the overall policy direction of the NDPC's affairs.

¹⁷ KPMG, 'The Nigeria Data Protection Act, 2023' (September, 2023) <<https://kpmg.com/ng/en/home/insights/2023/09/the-nigeria-data-protection-act--2023.html>> accessed 10 October, 2024.

¹⁸ This can include anything from names and addresses to an identification number, location data, an online identifier or one or more factors specific to that individual's physical, physiological, genetic, psychological, cultural, social, or economic identity.

¹⁹ Ema Ogbe and Chinelo Obiekew, 'Artificial Intelligence and Nigerian Data Protection' (13 August, 2023) <<https://www.mondaq.com/nigeria/privacy-protection/1505422/artificial-intelligence-and-nigerian-data-protection#>> accessed 1 October, 2024.

²⁰ Olisa Agbakoba legal, 'Artificial Intelligence Regulation in Nigeria: Key Consideration, recommendations, legal framework, and policy development for Artificial intelligence in Nigeria', <<https://oal.law/artificial-intelligence-ai-regulation-in-nigeria-key-considerations-recommendations-legal-framework-and-policy-development-for-artificial-intelligence-ai-in-nigeria/>> accessed 20 June 2024.

establishing regulatory bodies, facilitates international cooperation in combating cybercrime, and prescribes penalties for offences, reinforcing Nigeria's commitment to enhancing cybersecurity.²¹

While the Cybercrimes (Prohibition, Prevention, Etc.) Act 2015 provides a robust framework for addressing various forms of cybercrime but notably lacks specific provisions related to AI and legislative drafting. As AI technology continues to advance and integrate into various sectors, including legislative processes, the absence of targeted regulations within the Act leaves a critical gap in addressing AI's unique challenges and ethical considerations in this context.

4. CROSS COUNTRY ANALYSIS

a. European Commission

The European Commission drafts legislation using an AI-powered tool called LEOS (Legislation Editing Open Software). LEOS is a web tool that supports legislative drafting in the EU with online collaboration, version control, and co-editing. It enables multiple people to work together on drafting legislation. It supports features like **comments**, **suggestions**, and **co-editing** so that different stakeholders can contribute simultaneously, making the drafting process more efficient. It utilises Akoma Ntoso²² XML schema format. LEOS is an open-source software designed to help those involved in drafting legislation, which is a complex knowledge-intensive process. The LEOS keeps track of all changes made to legislative documents. Multiple users can edit the same document in real-time. This ensures a more dynamic and efficient collaboration between legal experts, lawmakers, and other stakeholders. LEOS has been created to address the **modernisation and digital transformation of the drafting and revising of legislation in Member States, EU Institutions, EU agencies and bodies**. The aim of the software is to:

- a) Improve the quality of legislation.
- b) Increase the efficiency of the legislative process across the Union.
- c) Facilitate interoperability and seamless cooperation between the different actors in the legislative process in and between EU Institutions and Member States.

²¹ Fetus Ogun, 'Understanding Nigeria's Cybercrimes Act and its Implementation Mechanism' <<https://thecjid.org/understanding-nigerias-cybercrimes-act-and-its-implementation-mechanism/>> accessed 10 October 2024.

²² Akoma Ntoso is a standardised XML schema for structuring legal documents. It was developed to create a universal way to store and share legislative texts, court decisions, and parliamentary records in a machine-readable format. The format ensures that legal documents have a clear structure that computers can easily interpret. This makes searching, analysing, and sharing these documents easier across different platforms and jurisdictions.

- d) Improve transparency and accessibility, thus improving the effectiveness of the law.
- e) Explore and pilot the use of innovative technologies.²³

The code of augmented LEOS is available for free under EUPL²⁴ licence. The development team paid attention to organising the code in a structured way to ease its reusability (modules, plugins). The current modules of augmented LEOS can be found on code.europa.eu. The vision of the development team centres around a paradigm shift enabled by a 'machine processable law' and a 'hybrid AI approach with human oversight', which refers to the combination of advances in IT (Artificial Intelligence, Machine Learning, Natural Language Processing, etc.), the use of standards and progress in understanding the theory and practice of lawmaking.²⁵ The development team constantly improves the tool yearly.²⁶ On 1 January 2021, the European Commission launched a study on 'Drafting legislation in the era of AI and digitisation'. The contract was awarded to the University of Bologna, led by Prof. M. Palmirani.²⁷ In 2021, the Commission and the University of Bologna worked on the tool and drafting legislation in the era of AI and digitisation. The study convincingly demonstrated the potential of using advanced IT (including AI) to substantially improve the core business of the Commission, i.e., developing legislation and policy.²⁸

Lessons for Nigeria

- a) The LEOS development team first developed a good understanding of the way public administrations address the issue of drafting legislation to identify best practices. They invested time and resources researching the best open standards and tools to deliver an open source for the EU community. Nigeria can learn from this by extensively researching the drafting styles used in Nigeria to develop a suitable application that can be used across Nigeria.
- b) LEOS enables online collaboration, version control, and co-editing. Each user, depending on his or her role, has access to a draft, can add comments and suggestions, and can search for and filter comments

²³ Enrico Albanesi, 'Legislative Drafting in Multilingual Legal Orders and Computer- Assisted Translation Tool Translation Tool (Case Study: The European Union)' (2022) 2(1) *European Journal of Law Reform*. <https://www.elevenjournals.com/tijdschrift/ejlr/2022/2/EJLR_1387-2370_2022_024_002_002> accessed 20 October, 2024.

²⁴ The EUPL is the first European Free/Open Source Software (F/OSS) licence created on the initiative of the European Commission

²⁵ Ibid.

²⁶ European Commission, 'LEOS- Open Source software for editing legislation' <<https://joinup.ec.europa.eu/collection/justice-law-and-security/solution/leos-open-source-software-editing-legislation>> accessed 20 October 2024.

²⁷ Ibid.

²⁸ Alice Vasilescu, 'Legal Drafting in the era of AI and Digitization: Enhancing Quality and Efficiency' (29 April, 2024) <<https://interoperable-europe.ec.europa.eu/collection/justice-law-and-security/solution/leos-open-source-software-editing-legislation/news/legal-drafting-era-ai-and-digitisation>> accessed 20 October, 2024.

in real time. Nigeria can learn from this by formulating an AI application that allows for online collaboration and co-editing for a faster and more efficient draft.

- c) The current modules of augmented LEOS can be found on code.europa.eu²⁹The code of augmented LEOS is available for free under the EUPL licence. Visitors outside European Union institutions can also register through [the EU Login portal](#). After registering, the visitor's account would be validated by EU staff before the user gained access. Nigeria can learn from this by making the proposed tool available and accessible to the National and State Legislatures nationwide. Some of these AI-powered tools are not easily accessible online.
- d) The EU uses a hybrid approach. The development team's vision centres around a paradigm shift enabled by a 'machine processable law' and a 'hybrid AI approach with human oversight'. The LEOS was not created to replace legislative drafters completely. The hybrid AI approach should also be adopted in Nigeria.
- e) The LLM is trained on a **large dataset** of European legislative documents, particularly focusing on preambles, to learn the style, structure, and legal references typically used in such texts. The proposed legislative drafting tool in Nigeria should also be trained on the correct style and structure of drafting legislation in Nigeria.
- f) The Commission improves the tool yearly. The EU organises conferences and roundtable discussions to improve the tool. In 2021, the European Commission launched a study on 'Drafting legislation in the era of AI and digitisation. ' It is not enough to develop legislative software in Nigeria. The software must be subject to thorough review regularly. Conferences, studies, and seminars should be launched regularly for the best results.
- g) The proposed software should be able to cite relevant documents about the proposed Bill. A significant task of the LEOS is its ability to reference other relevant documents, such as existing EU regulations, directives, treaties, court rulings, and previous legislation. This is essential because new legislation must be grounded and harmonised with existing legal frameworks. For example, the LLM understands when to cite the Treaty on the Functioning of the European Union (TFEU) or specific EU directives or regulations related to the drafted new law. The proposed AI tool for drafting in Nigeria should adopt this method.

b. United Kingdom (UK)

²⁹ European Commission, 'Readme' <<https://code.europa.eu/info/about/-/blob/master/README.md>> accessed 14 October 2024.

The UK's legislative drafting process is managed primarily by the **Office of the Parliamentary Counsel (OPC)**, a specialised team of lawyers responsible for drafting government Bills.³⁰ While the UK does not use **LEOS** (the EU's Legislation Editing Open Software), it has developed its own tools and processes to handle the complexities of drafting laws unique to the UK legal and parliamentary system. The UK Government's incubator for AI developed an AI-powered tool for drafting legislation called Lex. The project name originates from the Latin word "lex," which means "law" or "statute."³¹ Lex is dedicated to enhancing the drafting and navigation of legislation within the UK government. By leveraging advanced AI technologies, Lex aims to assist legal drafters, making their work more productive and accessible.³² The project was built in close collaboration with the Ministry of Justice, the Government Legal Department, and the National Archive. Lex supports legislative teams by giving them a range of AI-enhanced tools to navigate, explain, and interrogate UK laws easily.³³ In July 2024 alone, the King's Speech laid out plans for 40 Bills.³⁴ Lex aims to simplify and streamline this intricate process by providing a tool available to drafters and making their time more productive. Drafting legislation requires meticulous attention to detail, extensive research, and careful revision to ensure clarity and consistency. One of Lex's standout features is its semantic search capability. Lex's AI-powered search can quickly locate contextually relevant legislative materials in a way that traditional search methods cannot do reliably. For example, when searching for terms like "Tax regulations on people who have recently arrived in the UK from abroad", Lex retrieves pertinent results far more effectively than conventional methods. It also provides for similar legislation and Bills on similar subject matter. The project also includes an AI-assisted drafting tool that generates explanatory notes and other parts of a Bill swiftly and accurately. The tool reduces the manual effort involved, allowing legislative teams to focus on more nuanced aspects of their work. Lex is designed with a deep understanding of UK-specific legal terms. The application has open embedding models to ensure that AI accurately captures the nuances of legal language, making the drafting process even more precise. The application has features such as "select legislation type", "select legislation subtype", "semantic search", and "select geographical context". The developers engaged in a user research

³⁰ Office of the Parliamentary Counsel, 'About OPC' <<https://www.gov.uk/government/organisations/office-of-the-parliamentary-counsel>> accessed 20 October 2024.

³¹ Liam Wilkinson, 'Improving Legislative Drafting with Lex' (15 August, 2024) <<https://ai.gov.uk/blogs/improving-legislative-drafting-with-lex/>> accessed 22 October, 2024.

³² Ibid.

³³ Ibid.

³⁴ Mark Say, 'AI develops Lex tool for legislative drafting' (20 August, 2024) <<https://www.ukauthority.com/articles/iai-develops-lex-tool-for-legislative-drafting/>> accessed 24 October, 2024.

session with the Office of the Parliamentary Counsel (OPC) and revealed valuable insights into the drafting process.³⁵

Lessons for Nigeria

- a) The Lex project was built closely with the Ministry of Justice, the Government Legal Department and the National Archive. In Nigeria, the legislature and the Ministry of Justice can collaborate to give recommendations on the functionalities of the proposed legislative drafting software.
- b) The Lex application has features such as "select legislation type" and "select legislation subtype" to streamline the drafting process. The proposed software in Nigeria can have features such as these to streamline the automated drafting process.
- c) In the UK, the developers engaged in user research sessions with the Office of the Parliamentary Counsel (OPC), which revealed valuable insights into the drafting process. Nigeria can benefit from this by including legislative drafters in the development of the software. Legislative drafters can give valuable insights into the entire process.
- d) Aside from drafting, Lex also has search capabilities. Lex has an enhanced AI-assisted search that provides precise and contextually relevant results. The semantic search capability uncovers related legislative areas.
- e) LEX has a user-friendly interface, making navigation seamless. The proposed legislative drafting software in Nigeria should also be user-friendly.

c. Netherlands

The Netherlands has a legislative drafting software called the LEDA (Legislative Design and Advisory System). The system was built to support Dutch legislative drafters during the drafting process.³⁶ It guides users through an interactive drafting checklist and checks legislative drafts to determine whether important drafting requirements are met.³⁷ The LEDA system is currently being used within the Dutch ministerial

³⁵ Liam Wikinson (n31) 11.

³⁶ LEDA is designed to offer easy access to the Dutch Directives for Regulations (Aanwijzingen voor de regelgeving).

³⁷ Wim Voermans, 'Computer-assisted legislative drafting in the Netherlands: the LEDA System' <<https://ial-online.org/wp-content/uploads/2019/07/Voermans-Legimatics.pdf>> accessed 25 October 2024.

departments. The Belgian federal government is considering a similar system called Solon to support legislative drafting.³⁸ The LEDA system offers three major functionalities which are:

- a) Methodological support: The system offers a structured approach to drafting legislation, which includes templates and checklists that help ensure the process is thorough and compliant with legal and drafting standards.
- b) Document drafting and document-assembly support: The system enables users to compile various components of legislation, such as different sections, annexes, or references, into a coherent and complete document. The system automatically formats or organises information according to legislative standards and
- c) Knowledge-based information retrieval: The system has powerful search capabilities, allowing users to easily find relevant directives, articles, or legal texts based on specific queries or keywords.³⁹

The LEDA system is mainly an informational skeleton guiding users in drafting new legislation.⁴⁰ LEDA consists of two major modules: the Preparatory Policy Module (Pmodule) and the Basic Design Screen (BDS). LEDA includes a conceptual dependency parser (CDP) to help users ensure their drafts align with relevant Directives. After drafting within the BDS, the CDP analyses the text to check if any relevant Directives were missed. It does this by identifying keywords, phrases, and concepts in the user's text and then matching them with entries in a database. The CD-parsers function as a sophisticated legislative spell-check. However, instead of finding misspelt words and marking them, the CD-parser of LEDA only marks points of attention in a draft Bill and offers Directives and other information that can be useful to the user. This system acts as an intelligent legislative proofreader, helping users refine their drafts.

The LEDA system has recorded a massive success in the Netherlands. LEDA is actively used in the Netherlands' departmental drafting process to assist in creating legislation and policy documents. LEDA has recently been evaluated with good results, and a commercial version was made available for all Dutch

³⁸ Ibid.

³⁹ Wim Voermans, 'LEDA: A semi-intelligent Legislative Drafting Support System' (1993) <https://www.researchgate.net/publication/28640927_Leda_a_semiintelligent_legislative_drafting_support_system> accessed 12 October, 2024.

⁴⁰ LEDA has functionality that makes it possible to analyse a draft text dynamically to see which directives are relevant. To do this, LEDA recognises drafting concepts in the draft text (e.g., formulations used to delegate or sub-delegate powers). Once LEDA recognises these concepts, the systems connect (using hypertext) the analysed text fragment to information leaflets corresponding to the drafting concept in question.

ministerial departments responsible for legislative drafting. The LEDA approach is being adopted in similar projects in Australia (Enact), Italy (Lexedit) and Belgium (Solon).⁴¹

Lessons for Nigeria

- a) Extensive research on the subject matter was conducted. The drafting process and how different directives can be used during the drafting stages were analysed.⁴² Nigeria can also benefit from this by investing in quality research to develop efficient legislative drafting software that works effectively within the Nigerian context.
- b) The LEDA system offers a structured approach to drafting legislation, which includes templates and checklists that help ensure the process is thorough and compliant with legal and drafting standards. Nigeria can benefit from this by developing a legislative drafting application with templates and checklists to meet important drafting requirements.
- c) The system is trained with important drafting information, which functions as a transgressive layer in an edit field. This information is taken from the directives or regulations regarding legislative quality in the Netherlands. The LEDA is dissected into different information levels. The information levels correspond with different substantial and structural elements of a draft. For instance, LEDA consists of levels such as 'definitional clause', 'attribution of administrative authority', 'prohibition-permit systems', 'supervision (model) clauses', 'sanction systems', 'transitory regime', etc. Nigeria can benefit from this by developing a drafting software application that can be dissected into different levels for an efficient and easy drafting process.
- d) The LEDA system also serves as a legislative proofreader, helping users refine their drafts. LEDA includes a conceptual dependency parser (CDP) to help users ensure their drafts align with relevant directives. The CD-parser of LEDA marks points of attention in a draft Bill and offers directives and other useful information to the user. The proposed legislative drafting software in Nigeria can also be designed to serve as a legislative proofreader.
- e) The system should have powerful search capabilities to allow users to easily find relevant directives, articles, or legal texts based on specific queries or keywords. The proposed legislative drafting software should also be designed with legal research capabilities.

⁴¹ Ibid.

⁴² An information analysis was conducted.

5. CHALLENGES OF THE DEVELOPMENT AND USE OF ARTIFICIAL INTELLIGENCE TO DRAFT LEGISLATION

The integration of AI into the drafting of legislation presents several challenges that need careful consideration. A legislative drafter must be aware of the risks associated with using AI to draft legislation and take steps to mitigate the risks. This indicates that a well-balanced and holistic approach to technological advancement and ethics will be required to maximise the benefits of AI. The challenges of AI include:

a. Limited understanding and depersonalisation

Drafting legislation requires a deep understanding of the law and policy implications and the ability to anticipate and address unintended consequences. While powerful, AI systems may struggle to capture the full complexity and nuance involved in legislative drafting.⁴³ Legislative drafters possess a level of training, nuanced judgment and expertise that AI cannot fully replicate. Understanding the intent behind the legislation is critical. AI may not effectively interpret the underlying goals of lawmakers, leading to drafts that miss the mark. While AI can assist in many areas, it cannot substitute human understanding, wisdom, empathy, judgment, and intuition. It may be limited in fully comprehending nuanced interpretations of law and legislative instructions. AI might not fully comprehend the socioeconomic and political factors influencing new legislation.⁴⁴ It merely contains and provides data.

b. Data Privacy Infringement

Most AI-powered tools require the user to input his or her data⁴⁵ One of the risks associated with using AI is data privacy infringement. Data confidentiality ensures that private information remains under restricted access and does not leak to unauthorised parties.⁴⁶ Data may not be secured from other users when given to an AI system, as one bug incident that occurred with ChatGPT in 2023 "allowed some users to see titles from another active user's chat history". AI involves the recollection, storage, analysis, processing, or interpretation of enormous quantities of information (big data), which is applied to generate machine results, actions, or behaviours.⁴⁷ When AI software or a machine requires the personal data of users in its development or

⁴³ Propylon, 'AI and Drafting, Charting the Course' (28 June, 2024) <<https://propylon.com/artificial-intelligence-in-legislative-drafting-benefits-pitfalls-and-regulations/>> accessed 10 December, 2024

⁴⁴ Ibid

⁴⁵ Personal Data is essential to AI because it is a crucial input to the functioning of specific AI systems.

⁴⁶ Mark Van Rijmenam, 'Privacy in the Age of AI: Risks, Challenges and Solutions' (17 February 2024) <<https://www.thedigitalspeaker.com/privacy-age-ai-risks-challenges-solutions/>> accessed 11 December, 2024.

⁴⁷ Ibid.

functioning, developers must respect the regulation on data protection and users' rights.⁴⁸ In Nigeria, the Act that regulates data is the Nigerian Data Protection Act of 2023.⁴⁹ Privacy protection is essential in creating trust among users and stakeholders and is a critical factor in developing AI systems perceived as responsible and reliable by their users.

c. funding

The development and integration of AI systems into legislative drafting require substantial financial investment. This includes costs associated with research and development, acquiring and maintaining the necessary software, and training personnel to use and manage these systems effectively. AI technologies must be tailored to the specific needs of legislative drafting, which involves extensive research and development. This process is not only time-consuming but also resource-intensive. Training programs and capacity-building initiatives come with their costs, including the time and resources needed to develop and deliver training materials. Without adequate funding, ensuring that staff are adequately prepared to work with AI technologies becomes challenging. Governments and private individuals, especially in developing countries, often lack the financial resources to invest in sophisticated technological advancements.⁵⁰

d. Weak Legal and Institutional framework on AI for Legislative Drafting in Nigeria

Developing AI-powered software to draft legislation in Nigeria cannot function effectively in a weak or complex regulatory framework. Implementing AI in the legislative process requires significant technical infrastructure and expertise. Many legislative bodies may not have the resources or capabilities to integrate AI tools effectively. NITDA established a centre for AI known as the National Centre for Artificial Intelligence and Robotics (NCAIR). However, there is no input from legislative drafters. The Center consists of computer experts and engineers with limited knowledge of drafting. Therefore, there is a clear need to establish an institutional framework to develop AI software customised for legislative drafting.

e. Software Malfunction and cyber threats

⁴⁸ Red Ibero Datos, 'General Recommendations for the Processing of Personal Data in Artificial Intelligence' (21 June, 2029) <<https://www.redipd.org/sites/default/files/2020-02/guide-general-recommendations-processing-personal-data-ai.pdf>> accessed 23 September, 2024.

⁴⁹ The NDPA will apply "where the —

- a) data controller or data processor is domiciled in, resident in, or operating in Nigeria;
- b) processing of personal data occurs within Nigeria; or
- c) the data controller or the data processor is not domiciled in, resident in, or operating in Nigeria but is processing the personal data of a data subject in Nigeria

⁵⁰ Emile Mbungu Kala, 'Challenges of Technology in African Countries' (2023) 13(4) *Open Journal of Safety Science and Technology* <<https://www.scirp.org/journal/paperinformation?paperid=129992>> accessed 9 December, 2024.

Malfunction in AI software is one of the challenges of using AI to draft legislation. Malfunction in AI software results in critical risks, including erroneous outputs, system failures, or cyber-attacks. Integrating AI in legislative drafting involves using extensive databases, sensitive information, and complex algorithms, all of which are vulnerable to cyber-attacks.⁵¹ Relying on AI-powered technologies to draft simple, technical, or routine legislative texts can make them susceptible to technical errors or vulnerabilities in the AI program, such as bugs or flaws in the AI algorithm. Invariably, this can create flawed legislative texts and contradictions that may result in unintended consequences and erode public trust in the democratic process.⁵² Software malfunctions can compromise the reliability and accuracy of AI-generated drafts. Even small errors can have significant legal implications, leading to the creation of laws that are not fit for purpose or that inadvertently introduce new issues. As cyberattacks become more sophisticated and widespread, the ethical challenge arises in deciding how to respond to these threats and effectively reduce their consequences.

6. RECOMMENDATION

In light of the findings of this study, the following recommendations are provided to enhance the integration of AI in legislative drafting in Nigeria:

1. Stakeholders in Nigeria's legislative process should invest in the development of AI-driven software specifically tailored to legislative drafting. Such tools would significantly enhance both the accuracy and efficiency of the legislative process, improve the quality of laws, and reduce the time required for drafting legislation.
2. NITDA should revise the National Artificial Intelligence Policy (NAIP) to explicitly include legislative drafting within its scope. Furthermore, the National Centre for Artificial Intelligence and Robotics (NCAIR) should expand its mandate to accommodate AI applications in the legislative domain. As AI continues to transform various sectors, the legislative sector must not be left behind.
3. Nigeria should look to jurisdictions such as the Netherlands, the United Kingdom, and the European Union for guidance in adopting and implementing AI in legislative drafting.

⁵¹ Marcus Comiter, 'Attacking Artificial Intelligence: AIs Security Vulnerability and What Policymakers can do about it' (August, 2019) <<https://www.belfercenter.org/publication/AttackingAI>> accessed 10 December 2024.

⁵² Aditya Kumar, 'Top 15 Challenges of Artificial Intelligence in 2025' (17 October 2024) <<https://www.simplilearn.com/challenges-of-artificial-intelligence-article>> accessed 12 December 2024.

4. Developers must train AI models on diverse and representative datasets to minimise bias. In addition, continuous monitoring and evaluation of AI outputs are essential to ensure fairness, inclusivity, and adherence to democratic principles in legislative drafting.

6. CONCLUSION

AI can improve the quality of legislation by providing new capabilities and freeing up the time of those formulating the policy to focus more on substantive issues and less on peripheral ones. As this paper examines, the opportunities in using AI for legislative drafting are unravelling in many jurisdictions. Indeed, AI promises a future in legislative drafting where efficiency, accuracy, improved productivity, and quality legislation are achieved. Improving the process of creating legislation and regulation can result in greater accessibility for the public and strengthen the rule of law.