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Navigating the Shift of Transitioning Legal Research Paradigms in Nigerian Legal Education

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Abstract

Global advancements in legal education are reflected in the shift from print to digital and now artificially-facilitated legal research. This move is marked by a number of significant factors, challenges, and developments that define the way in which scholars, students, and legal professionals obtain and apply legal knowledge. Legal research was once exclusively print-based, but with the emergence of the technological era, new paradigms for legal study have evolved, with considerable implications for legal education in general. The benefits and limitations of print materials, computer-assisted legal research, the impact of artificial intelligence on legal research as well as avenues through which artificial intelligence can enhance teaching and learning are examined in this article. This study identifies challenges and proffers recommendations all in a bid to improve the integration of AI technologies in legal research and by extension legal education in Nigeria.

Keywords: Legal Research, Legal Education, Computer-Assisted Legal Research, Generative Artificial Intelligence, Disruptive Technologies.

1. Introduction

Academics in tertiary institutions engage in academic research as this enhances their intellectual base while priming them for promotions and societal recognition¹. Legal education equips lawyers in training with legal knowledge or specialised skills². The goal of legal education is to train

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¹ A Ndayebom and B Aregbesola, 'Problems Facing Research Programme in Nigerian Tertiary Institutions' (2023) 1(5) *European Journal of Higher Education and Academic Advancement*, 4-5.
<https://www.researchgate.net/publication/373492734_Problems_Facing_Research_Programme_in_Nigerian_Tertiary_Institutions> accessed 12 January 2025.

² E Solomon, 'Towards Effective Legal Writing in Nigeria' (2017) 12(1) *Journal of Common wealth Law and Legal Education* 1. <<http://www.google scholar.net>> accessed 12 January 2025.

lawyers who will uphold the principled application of the law in society³, essentially highlighting the role of legal research in promoting quality legal education and practice⁴.

Legal research is the study of the relationship between the world of the law and the world that the law purports to govern⁵. It is a systematic enquiry carried out within the law discipline⁶. In this paper, legal research is defined as a systematic process undertaken to identify principles, laws and administrative policies, to discover new information, and affirm or contradict existing knowledge. It aims to fill a gap in knowledge by igniting an enquiry towards answering a legal question. It is trite that legal research has evolved from print-based to computer-assisted and now, artificial intelligence-enabled legal research.

Legal research raises the standard of legal education by equipping law students, and lawyers with the requisite skills to learn and practice law effectively, in addition it enables the lawyer develop a critical mind. From time immemorial, legal research and legal education have coexisted; legal education being an indispensable component of the legal profession while legal research serves as the fulcrum for legal education⁷.

Legal education, alongside access to legal research tools, fundamentally shapes the understanding and application of the rule of law. It focuses on developing advocacy, ethical reasoning, and critical thinking abilities⁸ required to practice law.

A paradigm shift refers to a major change in the worldview and practices of how a concept is accomplished⁹ Oni believes that a paradigm shift can occur in a wide range of circumstances; such as when new research techniques and methodologies are presented that drastically change the current order for improved legal research. Through legal research, the researchers verify, clarify and establish theories, principles

³ N Madubuike-Ekwe, 'Challenges and Prospects of Legal education in Nigeria: An overview' (2017) 8(1) *Nnamdi Azikiwe University Journal of International Law and Jurisprudence* 128-129. <<https://www.ajol.info/article>> accessed 12 January 2025.

⁴ M Umoh, 'The Dynamics of Legal Research in Contemporary Legal Education in Nigeria' (LLM Dissertation, University of Uyo 2025) 69.

⁵ R Dubey and A Shaikh, 'A Study on Computer-Assisted Legal Research: An Inescapable Trend' (2020) 24(6) *International Journal of Psychosocial Rehabilitation* 18206-18207. <https://www.researchgate.net/publication/371503439_A_STUDY_ON_COMPUTER_ASSISTED_LEGAL_RESEARCHAN_INESCAPABLE_TREND> accessed 12 January 2025.

⁶ C Ogundare, 'Modern Trends in Legal Research Methodology' (September, 2020) (Paper presented at National Workshop for Legal and Research Assistants, Abuja) 9 <<http://www.studocu.com>> accessed 12 January 2025.

⁷ Ibid n4.

⁸ O Arewa, 'Law, Technology, and Legal Education: The Intersection of Academic Structures and Substantive Legal Change' (2020) 53(2) *Columbia Journal of Law and Social Problems* 165-204.

⁹ A Hayes, 'What is a Paradigm Shift? Definition, Example, and Meaning' (2022) *Journal of Business Essentials* <<https://www.investopedia.com/terms/p/paradigm-shift.asp>> accessed 12 January 2025.

and application of the law while understanding their effects on prevalent situations¹⁰.

Prior to the technological revolution of the 21st century, legal research was primarily conducted using print materials¹¹, which were the "go-to" resource for legal scholars. As at then, legal research was conducted with the collections¹² in a physical law library. This is in tandem with the idea that, legal research concerns how to use the law library and the materials it contains¹³.

This traditional approach involved lawyers or law students searching through lengthy legal documents, case law, statutes, and regulations, which took a lot of time and effort¹⁴. The effort put forth in research is linked to the fact that a lawyer is only as good as his or her research, with legal research being the hallmark of legal education. This outdated approach to finding legal information is tiresome, time-consuming, and energy-intensive; however due to technological advancements¹⁵ this erstwhile trajectory has witnessed a paradigm shift. Judges, lawyers and legal scholars can now find legal information¹⁶ in minutes using a personal computer, research software, the Internet, and an online connection known as Computer-Assisted Legal Research¹⁷.

CALR involves the use of a variety of information resources¹⁸. More importantly, electronic law databases make case law available and accessible to the law student as distance is no more a barrier. Students evaluate authorities and access other cited materials by using these databases¹⁹.

In recent times, the integration of artificial intelligence into legal research has become essential for modernising legal education. "Artificial intelligence²⁰" was originally defined by John McCarthy²¹ in 1955 as "the science and engineering of making intelligent machines." The idea has been

¹⁰ S Oni, 'Global Trends and Paradigm Shift in Legal Research' (2023/2024) 5. *Lead City University Law Journal* 3-4. < <https://www.journals.lcu.edu.ng> > accessed 12 January 2025.

¹¹ Ibid n3.

¹² Such as, textbooks, law reports, statute books, periodicals, indexes, digests among others.

¹³ S Anasi, 'Digital Libraries and Legal Research in Nigeria: The way forward' 2010 3(1) *Library and Information Practitioner* 85-86.

¹⁴ Ibid n4.

¹⁵ Such as databases and more recently, Artificial Intelligence assistants.

¹⁶ Statutes, law reports, commentaries and other legal references.

¹⁷ CALR; Ibid n5.

¹⁸ Such as e-books, e-journals, full-text databases, bibliographic databases, CD-ROM databases and other e-learning resources.

¹⁹ A Ajala, 'Towards Sustainable Computer-assisted Legal Research in Nigerian Law Faculties: Exploring the Nexus between User Education, Intrinsic Motivation and Use of Electronic Law Databases' (2019) 6(1-2) *Asian Journal of Legal Education* 59. <<https://www.researchgate.net>> accessed 12 January 2025.

²⁰ AI

²¹ C Manning, 'Artificial Intelligence Definitions' (2020). <<https://hai.stanford.edu/files>> accessed 12 January 2025.

expanded to include the capacity of an artificial or non-natural object to perform tasks and engage in cognitive exercises just like a human²².

According to Igbozurike, AI can be utilised to access virtual libraries for research purposes (finding the law, scanning through the law, and updating the law where appropriate)²³. As a corollary, the International Bar Association²⁴ has called for a reassessment of legal education due to the breach between traditional legal education and the needs of the modern legal industry caused by the incursion of AI technologies²⁵. Apparently, the tools of trade of a lawyer are no longer books in the traditional sense, rather his instruments are migrating to electronic formats and the internet²⁶. To remain on top of their game, lawyers, law teachers and students must understudy changing research paradigms and apply them. Undoubtedly technological trends and evolving legal research dynamics have impacted legal education in Nigeria and globally. This paper will analyse progression from print to computer-assisted to AI-enabled legal research, its effects on legal education as well as highlight challenges and proffer recommendations.

2. Print Legal Research: The Traditional Paradigm

Traditional legal research is generally associated with the use of print resources since law libraries deal with physical objects²⁷, it facilitates access to documents as agents of instruction, reference and, research for educational institutions, professional organisations and industrial concerns²⁸.

Print resources were the main acquisitions made by law libraries and they are published materials in hard copy²⁹. These resources,

²² J Igbozurike, 'Adopting Artificial Intelligence to the Practice of Law in Nigeria – Lawyer's Delight or Dismay' (2020) 2. <<https://papers.ssrn.com/papers>> accessed 12 January 2025.

²³ Ibid n22.

²⁴ International Bar Association (IBA). (2020). The Future of Legal Education and Training. IBA Reports, 3

²⁵ Such as document automation, predictive analytics, and legal research tools.

²⁶ C Omekwu, 'Information Technology Fundamentals for Lawyers' (October 2004) (Paper presented at staff seminar of Nigerian Institute of Advanced Legal Studies {NIALS} 8; J Owuoye, 'Information Communication Technology (ICT) Use as a Predictor of Lawyers' Productivity' (2011) *Library Philosophy and Practice*, Paper 662 4-5 <<http://digitalcommons.unl.edu/libphilprac/662>> accessed 12 January 2025.

²⁷ Such as text-bearing objects, textbooks, law reports, periodicals, a wide variety of materials, audio-visuals etc

²⁸ O Akinwumi, 'Law libraries in the face of changing technologies: The Nigerian experience' (2012) 5 *Journal of Applied Information Science and Technology* 10-12. <https://www.jaistonline.org> accessed 13 January 2025.

²⁹ Such as books, journals, theses, government reports, and other printed documents.

categorised as either primary³⁰ or secondary³¹ were the bedrock of legal research in the pre-digital era.³²

Since the internet and technology-enabled research were unknown at the time, legal researchers had no option than to rely solely on print collections; in spite of the physical exertion involved. Legislation, case law and doctrinal literature are considered as vital in understanding the law; therefore, legal scholars organise, analyse and re-present this information in a convincing manner³³.

Traditional legal research encourages critical thinking and understanding of legal theories by reading textbooks accompanied by note taking. The standard editing and strict peer review process undergone before the publication of a book³⁴ makes it authoritative, affording the researcher utmost confidence to cite same without fear of it being labelled fake news³⁵. Additionally, consulting print materials aids understanding of legal frameworks and concepts³⁶. Another significant advantage that scholars in developing countries value is that books can still be read in areas³⁷ where internet connections are unavailable, or when the power grid collapses³⁸, and it does not require any technological equipment.

The act of holding a book and reading provides additional context and teaches the researcher basic research skills in event of internet outages³⁹. Notably, print materials serve as the starting point for legal research; however, it is time-consuming and slow. Print resources quickly become outdated since published editions cannot be revised in real time⁴⁰. Accessing print resources requires visiting a physical library, which can be

³⁰ e.g. law reports, legislation.

³¹ e.g. textbooks, journals.

³² A Obiamalu and A Echedom, 'Assessment of University Libraries in South-East Nigeria based on LRCN Standards and Guidelines: A Focus on Buildings, Furniture and Equipment' (2021) *Library Philosophy and Practice* (e-journal). 5092.
<<https://digitalcommons.unl.edu/libphilprac/5092>> accessed 12 January 2025.

³³ P Langbroek, K Bos, M Thomas, M Milo, and W Rossum, 'Methodology of Legal Research: Challenges and Opportunities' (2017) 13(3) *Utrecht Law Review* 5-6.
<www.utrechtlawreview.org> accessed 12 January 2025.

³⁴ Or other print resource.

³⁵ Ibid n4.

³⁶ J Baker, 'Teaching Legal Research in the Books: Necessary or Not' (2017)
<<http://www.gingerlawlibrarian.com/2017/10/teaching-legal-research-in-books.html>> accessed 12 January 2025.

³⁷ Like in rural areas or remote communities.

³⁸ Like in Nigeria; See C Okocha, 'National Power Grid Collapses Again, 12th Time this year alone' *ThisDay* (Lagos, 11 December 2024) p5.

<<https://www.thisdaylive.com/index.php/2024/12/12/national-power-grid-collapses-again-12th-time-this-year-alone/?amp>> accessed 12 January 2025.

³⁹ T Mospan, 'The Value of Teaching Print Legal Research, Research, Instruction and Patron Services' (2015) American Association of Law Libraries. 3.
<<https://ripslawlibrarian.wordpress.com/2015/06/08/the-value-of-teaching-print-legal-research/>> accessed 12 January 2025.

⁴⁰ J Eiseman, 'Time to turn the Page on Print Legal Information' (2010) 8.
<<https://blog.law.cornell.edu/voxpath/2010/09/15/time-to-turn-the-page-on-print-legal-information/>> accessed 12 January 2025.

inconveniencing, and stocking print collections demand a large physical space.

3. Computer-Assisted Legal Research (CALR): A Transitional Phase

CALR presents a unique situation in which the method and medium of information search and retrieval, as well as the nature of information resources, differ from manual legal research. It incorporates the use of computers and other information technology capabilities, as opposed to the traditional legal research method of searching print resources⁴¹. There is no doubt that CALR has transformed the way legal research is conducted.

It first appeared in the mid-1960s in America, but its revolution began with the arrival of Lexis⁴² and West Law in the 1970s. Lexis⁴³ was founded in 1973, while West Law gained prominence in 1975 after overcoming hardware and software deficiencies⁴⁴. These databases make plethora of case law readily available and accessible as law students, lawyers and scholars utilise it to evaluate authorities and obtain other cited sources⁴⁵. Scholars are not limited by any geographical location. Their large databases are routinely updated, presenting solicitors with the most recent changes in United States law⁴⁶.

The evolution of computers and the internet appears to have shifted legal research away from traditional techniques of sourcing materials through library catalogues and towards technology-based legal research via the Internet. This is not only time-saving, but energy-efficient and costs less in the long term. It also enables simultaneous access to information, and data at minimum expense⁴⁷.

In recent years, the Council of Legal Education⁴⁸ and the National Universities Commission⁴⁹ have made it mandatory for law libraries to subscribe to international and local content databases⁵⁰; this is the rationale for the insistence by accrediting teams to sight receipts as proof of subscription and the demand for actual search sessions. As a result, law faculties in Nigeria have impressed upon university managements the importance of yearly subscriptions.

⁴¹ Ibid n5.

⁴² Now lexis nexis.

⁴³ The first commercial, full-text electronic database of case law.

⁴⁴ P Hellyer, 'Assessing the influence of Computer-Assisted Legal Research: A Study of California Supreme Court Opinions' (2005) 5 William and Mary Law School Scholarship Repository Library Staff Publications 2. <<https://scholarship.law.wm.edu/libpubs/5>> accessed 12 January 2025.

⁴⁵ M. Ashikuzzaman, 'Advantages or Benefits of E-resource' (2014) Network, Library and Information Science Academic Blog 2014 <<http://www.lisbdnet.com/advantages-or-benefits-of-e-resource/>> accessed 12 January 2025.

⁴⁶ Ibid n5.

⁴⁷ Ibid n8.

⁴⁸ Established by Legal Education (Consolidation) Act, 1962.

⁴⁹ Established by National Universities Commission Act 1974.

⁵⁰ NexisUni (formerly LexisNexisAcademic), WestLaw, Heinonline, Law Pavilion, Legalpedia and Electronic Law Companion.

Law faculties in Nigerian universities ensure that their law libraries are equipped with computers, printers, scanners, photocopiers, digital library software, e-learning software, e-learning resources, and Internet access⁵¹; as information technology tools and platforms to aid CALR.

The integration of computer-assisted legal research into Nigerian legal education has definitely changed how law is taught and practised in the country. Indeed, keys to research and information are no longer held by traditional libraries or limited to a physical facility, but are now in the custody of digital libraries, which store and handle large collections in electronic formats⁵². Technology facilitates the retrieval and use of legal resources from these digital platforms or databases⁵³.

The CALR experience not only broadens comprehension of law students, scholars and lawyers, but it also equips them with necessary skills to navigate these platforms for research and academic purposes. Electronic law platforms offer a user-friendly interface for accessing legal information, provide advanced search functionality and tools for evaluating and visualising legal information. This makes it easy for scholars to locate and utilise legal knowledge⁵⁴. The usage of electronic law platforms has simplified the legal research process, however digital information literacy is required to fully utilise them⁵⁵.

Despite the tangible benefits of CALR, there are limitations to its utilisation in Nigeria, namely inconsistent power supply, information overload, infrastructural deficits, the threat of cyber-attacks, limited access to reliable internet and inability to renew subscription to electronic databases⁵⁶, insufficient bandwidth, poor technological adaptation, high data costs, and digital search illiteracy. Furthermore, some researchers appear to be tech-resistant.

4. Artificial Intelligence in Legal Research

The fourth industrial revolution⁵⁷ is the integration of the physical, digital, and biological worlds⁵⁸. 4IR "refers to the marriage of physical

⁵¹ K. Sivakumaren, V. Geetha and B. Jeyaprakash, 'ICT Facilities in University Libraries: A Study' (2011) *Library Philosophy and Practice* <<http://digitalcommons.unl.edu/libphilprac/628>> 4 accessed 13 January 2025.

⁵² O Fakolujo, 'Data Retrieval and use of ICT in Research' in A Olayinka, V Taiwo, A Raji-Oyelade, and G Farai, (eds), *Methodology of Basic and Applied Research* 2nd ed. (The Post Graduate School, University of Ibadan 2006), 203.

⁵³ I Kolade-Faseyi, 'Research and the Legal Profession: An Appraisal' (2018) (5) (1) *Unimaid Journal of Public Law*, 187.

⁵⁴ *Ibid* n5.

⁵⁵ *Ibid* n4.

⁵⁶ From my professional experience as a law librarian, this could be attributed to the high cost of data subscription resulting from the high foreign exchange rate which poses a limitation on the part of many scholars and institutions in Nigeria.

⁵⁷ 4IR or Industry 4.0

⁵⁸ N Ndung'u and L Signe, 'The Fourth Industrial Revolution and Digitization will transform Africa into a Global Powerhouse, Brookings' (2020) 1. <<https://www.brookings.edu/research/the-fourth-industrial-revolution-and->

assets and advanced digital technologies: the internet of things⁵⁹, robots, drones, autonomous vehicles, 3D printing, cloud computing, nano-technology, AI and more that communicate, analyse and act upon information, enabling organisations, consumers and society to be more flexible, responsive and make more intelligent data-driven decisions"⁶⁰.

The 4IR introduced the virtual world⁶¹, in which disruptive technologies⁶² play an important role. DT are those technologies that challenge traditional ways of doing things, undermining existing products and even entire sectors⁶³. It manifests also as AI. Paisley and Sussman affirm that AI refers to technologically generated intelligence capable of learning and processing large amounts of data using algorithms, often with greater speed and accuracy than the human brain⁶⁴. It represents a paradigmatic shift in legal research, offering the potential to analyse vast amounts of legal information quickly and accurately. This technology not only promises improved accuracy but also reduces the time and costs associated with legal research.⁶⁵

AI is having an increasing impact on the Nigerian legal profession, notably in legal research. AI-powered technologies are transforming the way lawyers access and interpret legal documents, statutes, and case law⁶⁶. These technologies, which use Natural Language Processing⁶⁷ algorithms, enable the rapid processing of volumes of legal information, resulting in more comprehensive legal research. AI-powered software, which combines machine learning and NLP, can detect patterns and insights in massive volumes of legal data that humans would struggle to discover on their own⁶⁸. For example, Timi, Nigeria's first AI legal assistant, has greatly

digitisation-will-transform-africa-into-a-global-powerhouse/> accessed 12 January 2025.

⁵⁹ IOT

⁶⁰ P De-Filippi and X Lavyssier'e, 'Blockchain Technology: Towards a Decentralised Governance of Digital Platforms?' in A Grear and D Bollier (eds.) *The Great Awakening: New Modes of Life amid Capitalist Rules* (Brooklyn: Punctum Books, 2020) p.185-222. <<https://punctumbooks.com>> accessed 13 January 2025.

⁶¹ I Pantami, (2022) *Skills rather than just Degrees* (Ibadan: University press) p. 9.

⁶² DT

⁶³ In J Rajendra, 'Disruptive Technologies and the Legal Profession' (2020) 6(5) *International Journal of Law* 271-273. <www.lawjournals.org> accessed 13 January 2025.

⁶⁴ In: V Enebeli, and S Gilbert, 'Artificial Intelligence: Challenges and Opportunities for Arbitration in Nigeria' (2022) 1-19. <<https://ssrn.com/abstract=4245238>> accessed 13 January 2025.

⁶⁵ L Tileke and A Gibbins, 'Artificial Intelligence and Legal Research in the 21st Century' (2020) 7-9. <www.tileke.com> accessed 13 January 2025.

⁶⁶ L Journal and T Sourdin, 'Judge V Robot? Artificial intelligence and Judicial Decision-making' (2018), 41(4) *UNSW Law Journal* 1114-1133. <<https://www.researchgate.net>> accessed 12 January 2025.

⁶⁷ NLP

⁶⁸ E Jiya, A Samaila and Y Surajo, 'Artificial Intelligence and Technology for Improving the Efficiency of The Judiciary in Nigeria' (2023) *International Journal of Research and Innovation in Applied Science*. 1-2. <<https://doi.org/10.51584/ijrias.2023.8509>> accessed 13 January 2025.

increased the speed and productivity of legal research, litigation support, and legal opinion drafting, demonstrating AI's enormous potential in the legal field⁶⁹.

There are various benefits to adopting and applying artificial intelligence. The use of AI in legal research improves the accuracy of research findings while reducing the amount of time that legal practitioners spend manually reviewing information. Artificial intelligence can also be used to draft correspondence. Furthermore, AI improves search operations by allowing users to perform contextual searches instead of keyword searches. This means that even if the exact keywords are not there in the documents, lawyers and law students can still find contextually relevant information⁷⁰. Generative AI⁷¹ is particularly well-suited to serving as virtual research assistants. It refers to algorithms that generate new content, such as text, code, photos, videos, and audio, based on user input. It seeks to create systems capable of producing creative results comparable to those produced by humans⁷².

GAI's core feature is its ability to learn from large datasets, identify patterns, and generate new content with similar features⁷³. GAI tools are divided into several categories, including content creation⁷⁴, idea generating and brainstorming, proofreading and editing⁷⁵, translation, and language support⁷⁶.

ChatGPT⁷⁷ is an AI content model that excels at language comprehension and generation, particularly in conversational settings⁷⁸. It serves as a virtual research assistant, streamlining the research process and harmonising research papers⁷⁹. ChatGPT helps speed the drafting of

⁶⁹ J Onyekwere, 'LawPavilion unveils Nigeria's first Artificial Intelligence Legal Assistant' *The Guardian* (Lagos, 21st August, 2018) <<https://guardian.ng>> accessed 13 January 2025.

⁷⁰ T Balogun, 'Application of AI in Legal Research in Nigeria' *ThisDay* (Lagos, 20th January, 2025) <<https://www.thisdaylive.com/index.php/2024/07/26/application>> accessed 13 January 2025.

⁷¹ GAI; Such as ChatGPT, GoogleBard among others

⁷² S Park, 'Use of Generative Artificial Intelligence, Including Large Language Models Such as ChatGPT, in Scientific Publications: Policies of KJR and Prominent Authorities' (2023) 24 *Korean Journal of Radiology* 715, 718 <<https://doi.org/10.3348/kjr.2023.0643>> accessed 13 January 2025.

⁷³ S Kar, C Roy, M Das, S Mullick, and R Saha, 'AI Horizons: Unveiling the Future of Generative Intelligence' (2023) *International Journal of Advanced Research in Science, Communication and Technology* 22. <<https://doi.org/10.48175/ijarsct-12969>> accessed 13 January 2025.

⁷⁴ Such as CHATGPT and GoogleBard.

⁷⁵ Such as grammarly and paperpal.

⁷⁶ Such as google and ChatGPT.

⁷⁷ Developed and launched by OpenAI in November, 2022.

⁷⁸ T Wu, S He, J Liu, S Sun, K Liu, Q Han, and Y Tang, 'A Brief Overview of ChatGPT: The History, Status Quo and Potential Future Development' (2023) 10 *IEEE/CAA Journal of Automatica Sinica* 1122-1136. <<https://doi.org/10.1109/JAS.2023.123618>> accessed 13 January 2025.

⁷⁹ B Fatani, 'ChatGPT for Future Medical and Dental Research' (2023) 15 *Cureus* <<https://doi.org/10.7759/cureus.37285>> accessed 13 January 2025.

research papers by assisting with data analysis, scientific writing and generating ideas⁸⁰.

GPT-3 has been suggested as a tool for assisting authors and content creators in coming up with ideas and overcoming writer's block⁸¹, as well as for automating the production of repetitive or time-consuming content jobs⁸².

Attri believes AI accelerates the collection of comprehensive, relevant, and current legal knowledge by automating and streamlining the research process⁸³. This efficiency not only saves time, but also enables lawyers to concentrate on more difficult aspects of their work. Suffice it to say, while ChatGPT is a valuable legal assistant, its application poses ethical and scholarly issues such as the fact that the generated text may lack substance or misinterpret complicated legal concepts due to limitations in comprehension⁸⁴.

ChatGPT may not always provide the most up-to-date or accurate legal information, necessitating cross-verification with other sources. Over-reliance on AI tools may diminish critical thinking and problem-solving skills among legal professionals and students.⁸⁵ It is suggested that in order to maximise benefits, researchers should be encouraged not to rely solely on ChatGPT for key information, particularly complex ones. Lawyers, law students, lecturers and researchers must exercise caution and competence while employing AI tools to avoid becoming unduly reliant on the technology. To use it ethically, legal scholars should make an effort to understand the complex workings of the technology, its capabilities and limitations, it should supplement rather

⁸⁰ C. Macdonald, D. Adeloje, A. Sheikh, and I. Rudan, 'Can ChatGPT Draft a Research Article? An Example of Population-Level Vaccine Effectiveness Analysis' (2023) 13 *Journal of Global Health* <<https://doi.org/10.7189/jogh.13.01003>> accessed 13 January 2025.

⁸¹ T Duval, G Lamson, de K rouara, and M. Gall , 'Breaking Writer's Block: Low-Cost Fine-Tuning of Natural Language Generation Models' (2020) <arXiv preprint arXiv:2101.03216> accessed 12 January 2025.

⁸² G. Jaimovitch-L pez, C. Ferri, J. Hern ndez-Orallo, F. Mart nez-Plumed, and M. Ram rez-Quintana, 'Can Language Models Automate Data Wrangling?' (2022) *Machine Learning* 1-30. <<https://doi.org/10.1007/s10994-022-06259-9>> accessed 13 January 2025.

⁸³ In J Regalia, 'From Briefs to Bytes: How Generative AI is Transforming Legal Writing and Practice' (2023) *Tulsa law Review* 1-68. <<https://ssrn.com/papers=4371460>> accessed 13 January 2025.

⁸⁴ J Regalia, 'Generative AI and the Future of Legal Education' *Nevada Lawyer* (2023) <https://nvbar.org/wp-content/uploads/NevadaLawyer_Oct2023_Generative-AI-Education.pdf>. accessed 13 January 2025.

⁸⁵ See K Miller, AI Overreliance Is a Problem. Are Explanations a Solution?, Stanford University Human-Centered Artificial Intelligence (Mar. 13, 2023), <<https://hai.stanford.edu/news/ai-overreliance-problem-are-explanations-solution>> (explaining that overreliance on AI is seen when humans tend to accept AI responses, even when the responses are incorrect); See, e.g., A Nowak, Five Reasons Law Students Shouldn't Rely on ChatGPT to Write for Them (Mar. 13, 2023), <https://nationaljurist.com/uncategorized/five-reasons-why-law-students-shouldnt-rely-on-chatgpt-to-write-for-them/>.

than replace their research skills, they should do additional searches to corroborate the results of ChatGPT, and adhere to ethical standards about its use, such as proper attribution of ideas⁸⁶. The question of who owns the copyright to an AI-generated work will be examined in the light of relevant legislation⁸⁷.

Section 1(1)⁸⁸ provides for works⁸⁹ that qualify for copyright protection. The preconditions hang on originality and expression. Originality test implies that sufficient effort must have been expended in making the work derive an original character⁹⁰

A question might arise if a GAI system is capable of producing an original work, and the answer may be inferred that such system is incapable of creating original work as it has been pre-trained on multiple databases and generates its responses from there. Also, copyright protection entitles the author to enjoy his economic and moral rights, the economic right accords the owner the right to exploit his work⁹¹ whereas moral right entitles the owner to claim paternity over his work with a major objective to prevent authorship from being attributed to another.

The Law recognises that only an author, who is a living being possesses the capacity to enjoy the economic and moral rights of his intellectual output. Moral rights are considered personal to authors therefore GAI systems, imbued with the ability to produce works almost like human-creations lack honour, reputation and personality⁹²

Thus there is no simple solution when it comes to authorship and copyright ownership of research content generated by GAI⁹³. Nigerian laws do not grant copyright protection to works created by GAI however, there will be a definite direction when Nigerian courts are faced with cases involving the infringement of copyright by GAI system or whether works created by AI tools are eligible for copyright protection⁹⁴.

In the United States, a copyright infringement lawsuit was filed against a technology company. They claimed that their copyrighted work

⁸⁶ So as to avoid plagiarism.

⁸⁷ The Nigerian Copyright Act (2022) Cap C28. This law came into effect in 2023.

⁸⁸ Copyright Act 2022 Cap C28.

⁸⁹ Such as literary works, musical works, artistic works, audio-visual works, sound recordings and broadcasts.

⁹⁰ Section 1(2).

⁹¹ Sections 9-13.

⁹² D Ekanem, 'Artificial Intelligence and Copyright Protection in Nigeria, Legal Impact and Challenges' (2024)

<<https://www.mondaq.com/nigeria/copyright/1473138/artificial-intelligence-and-copyright-protection-in-nigeria-legal-impact-and-challenges>> accessed 13 January 2025.

⁹³ This is because ChatGPT reacts to commands and algorithms set by a human being and, to some extent, human interaction and input are incorporated into the research output.

⁹⁴ E Ogunlaja, 'Generative Artificial Intelligence and The Nigerian Copyright Act 2023' (2024).

<<https://www.dentons.acaslaw.com/en/insights/articles/2024/june/10/generative-artificial-intelligence-and-the-nigerian-copyright-act-2023>> accessed 12 January 2025.

was used to teach the defendants' GAI tools; however, the defendants contended that their activities qualified within the fair use exception clause⁹⁵. This proves that the level of human engagement in the process must be considered when determining whether GAI-produced content is protected by copyright.

The United States Copyright Office must evaluate whether the work is generally one of human authorship, with the computer⁹⁶ serving as an assisting tool, or whether the traditional elements of authorship in the work were conceived and accomplished by man rather than a machine. If the traditional aspects of authorship were created by a machine, the work will be considered lacking human authorship and will not be registered with the US copyright office⁹⁷.

A court in Shenzhen, China, recently ruled that an AI-generated piece is copyright eligible. The Court believed that the author of an AI program should be identified as the person who created the AI-generated works. It was alleged that Tencent⁹⁸ has been releasing new articles generated by an automated program named "Dreamwriter"⁹⁹. In China therefore, AI generated works are to be considered for Copyright protection as long as human effort is involved especially as technologies keep evolving. The issue of determining authorship and ownership of GAI-generated works is difficult and developing, and there is an increasing need for Nigerian Copyright laws to encompass the growing field of AI.

In the UK, AI-powered legal research tools like ROSS Intelligence are gaining ground in some law firms¹⁰⁰. ROSS uses natural language processing and machine learning to search legal databases and provide relevant results, offering a powerful tool for legal researchers. Lawyers here anticipate the full deployment of generative AI and chatGPT in their legal research and practice, as Thomas Reuters¹⁰¹ reports that a vast majority of lawyers and law firm professionals are aware of generative AI and ChatGPT, and believe it should be used for legal work. In spite of some law firms adopting AI-powered tools to assist with research tasks, the use

⁹⁵ B Brittain, 'Open AI says NewYork TIMES 'hacked' ChatGPT to build Copyright Lawsuit' (27th February, 2024) Reuters.

<<https://www.reuters.com/technology/cybersecurity/openai-says-new-york-times-hacked-chatgpt-build-copyright-lawsuit-2024-02-27/>> accessed 13 January 2025.

⁹⁶ Or other tool.

⁹⁷ Copyright Registration Guidance: Works containing Material generated by Artificial Intelligence, copyright registration guidance works containing materials generated by artificial intelligence. (2023) <<https://www.federalregister.gov>> accessed 13 January 2025.

⁹⁸ A major Chinese Technology Company.

⁹⁹ S Paul, 'Chinese Court Rules AI-Written-Article is protected by Copyright' <<https://venturebeta.com/2020/01/10/chinese-court-rules-ai-written-article-is-protected-by-copyright/>> accessed 13 January 2025.

¹⁰⁰ For example, BakerHostetler, Womble Carlyle.

¹⁰¹ Thomson Reuters Institute, 'ChatGPT and Generative AI within Law Firms' (2023). <<https://www.thomasreuters.org>> accessed 12 January 2025.

of AI in legal research raises ethical considerations as regards reliability, creativity, copyright, and critical thinking.

In the United States of America, AI has made significant inroads into legal research, with GAI tools enhancing the writing capabilities of legal professionals. GAI analyses legal data, and offers transformative potential in legal writing, curating vast arrays of sources and refining legal text.¹⁰² Casetext and Harvey exemplify how GAI can streamline legal research and improve efficiency; by automating citation checking, summarising legal findings, and interpreting legal synonyms¹⁰³.

ChatGPT can assist law professors with routine tasks and complex research, providing near-finished products and valuable starting points¹⁰⁴. AI chatbots¹⁰⁵ can transform static study materials into interactive learning tools, facilitating deeper understanding and improved memorisation for law students.¹⁰⁶ However, challenges such as the generation of fictitious cases and citations,¹⁰⁷ and data privacy concerns, highlight the need for cautious and ethical use of AI technologies.¹⁰⁸ This is an indicator that irrespective of the value of GAI in legal research, Nigerian law students/researchers should be trained on its ethical usage.

The use of Chatgpt has been criticised for its indiscriminate use of intellectual property of others without proper attribution. It runs on software, which is not specifically protected in Nigeria. Although, it may be argued that copyright protection extends to the original documented expression of the software, which is affixed to a medium. Consequently, ChatGPT outputs may be subject to copyright protection, depending on the specific content and materials used to generate the output¹⁰⁹. In some cases, these rights may be owned by the creators of the training data used to train the AI model, while in other cases, they may be owned by the owners of the AI model itself; however efforts can be made to actually curb this problem and they are:

¹⁰² J Regalia, 'From Briefs to Bytes: How Generative AI is Transforming Legal Writing and Practice' (2024)

Forthcoming tulsa law review 20. <<https://ssrn.com/=4371460>> accessed 12 January 2025.

¹⁰³ R Bertolo and A Antonelli, 'Generative AI in scientific publishing: disruptive or destructive?' (2023) <<https://www.researchgate.net>> accessed 13 January 2025.

¹⁰⁴ T Oltz, 'CHATGPT, Professor of law' *Journal of Law, Technology & Policy*, (2023) 1. <<https://papers.ssrn.com>papers>> accessed 12 January 2025.

¹⁰⁵ Such as ChatGPT.

¹⁰⁶ S Harrington, 'The Ultimate Study Partner: Using a Custom Chatbot to Optimise Student Studying During Law School' (2023). <<https://ssrn.com/abstract=4457287>> on 13 January 2025.

¹⁰⁷ J Brodtkin, 'Lawyers have real bad day in court after citing fake cases made up by ChatGPT' (2023) *Ars Technica* <<https://arstechnica.com>> accessed 13 January 2025.

¹⁰⁸ M Gurman, 'Samsung bans Staff's AI use after spotting ChatGPT data leak' (2023) *Bloomberg* 2. <<https://www.bloomberg.com>articles>> accessed 12 January 2025.

¹⁰⁹ E Attat, 'An Appraisal of Artificial Intelligence and Its Impact on the Legal Profession in Nigeria' (LL.B project, University of Uyo, 2023) 76.

- i. Increased Protection for Digital Content: new laws or regulations should be formulated which would deter online piracy and also protect the rights of digital content creators.
- ii. Strengthened Enforcement Mechanisms: Nigeria's copyright law provides for criminal penalties for copyright infringement, however increased collaboration between law enforcement and copyright owners could strengthen its enforcement, as well as use of technological tools to detect and prevent infringement.
- iii. Changes to the Duration of Copyright Protection: Nigeria's copyright law currently provides for a copyright term of the life of the author plus 70 years. This term may be extended or shortened, in the light of international developments and debates around copyright duration¹¹⁰.

5. Enhancing Teaching and Learning through AI Tools

Integrating AI tools into legal teaching and learning has great potential to transform legal education in Nigeria. The inclusion of AI tools has the capacity to enhance legal education which in turn improves the quality of law graduates. The following strategies should be adopted:

- i. The existing legal research methodology curriculum should be revised to include courses on AI technologies. This should cover both theoretical knowledge and practical skills in using AI tools for legal research and writing¹¹¹. AI improves and supplements the educational process; by delivering personalised learning routes, simulating intricate legal situations, and promoting a deeper comprehension of predictive algorithms and legal analytics¹¹². With the deployment of AI students are geared to engage in thorough legal research and analysis quickly than with traditional methods.
- ii. To ensure factual and practical applicability, the legal curriculum experts should develop modules that demonstrate the use of AI¹¹³ in real-world legal matters.
- iii. Continuing Professional Development programmes¹¹⁴ should be organised regularly for the Faculty. These crop of law teachers will be empowered to introduce students to AI-powered legal

¹¹⁰ Ibid n109.

¹¹¹ A Garba and A Waziri, 'Integrating Artificial Intelligence into Legal Education in Nigeria: Navigating the New Frontier for the Judicial System' (2023) 5(2) *kampala International University Law Journal* <<https://www.researchgate.net>> accessed 13 January 2025.

¹¹² Ibid n103.

¹¹³ Such as predictive analytics and document automation which will help in legal research.

¹¹⁴ Training workshops and seminars with the theme and sub-themes crafted round AI tools and their application in legal research.

research platforms¹¹⁵ which provide enhanced search capabilities and document drafting assistance¹¹⁶.

- iv. Law Teachers can also promote the deployment of AI-powered productivity applications¹¹⁷. These tools offer intuitive interfaces and features that can assist law students in staying organised, managing assignments effectively, and enhancing research productivity throughout their academic journey.¹¹⁸

AI technologies should be deployed solely as a tool and not as a crutch. There should be a balance between human effort and reliance on AI. The benefits of AI to legal research and legal education can be exploited while maintaining the fundamental values of legal education¹¹⁹, thereby positioning Nigerian legal education as a major player in the international legal sector.

6. Challenges in Transitioning Legal Research Paradigms

The deployment of AI in Nigeria is still developing because of challenges such as irregular power supply, lack of internet or technology culture, poor internet connectivity, low bandwidth, corruption among others¹²⁰. Other forms of challenges include the conservative¹²¹ nature of some lawyers who fear that robots will take over their jobs. There is also no policy regulatory framework for AI software. Another challenge is lack of digital information literacy and training among faculty and students.

7. Recommendations

The following recommendations are made:

- i. There is an urgent need for development of national and institutional policies to guide AI deployment in legal research and legal education.
- ii. The Government should invest in ICT infrastructure for the purposes of legal research in legal education.
- iii. The University management should organise regular training programmes for faculty and students on AI tools and digital information literacy.
- iv. The National Assembly should revisit the Nigerian Copyright Law by amending it in the light of AI.

¹¹⁵ like Lexis+ AI Legal Assistant and Westlaw Edge.

¹¹⁶ Delaware law Library Guide, Generative AI & Legal Research, 2025.

<<https://libguides.law.widener.edu/generative-ai-legal-research>> accessed 12 January 2025.

¹¹⁷ like Todoist, ScholarlyAI, Elicit, or PerplexityAI.

¹¹⁸ ProLawgue, AI Tools to Boost Your Efficiency: Law School Edition 2024.

<https://www.prolawgue.com/7-ai-tools-to-boost-your-efficiency-law-school-edition/> accessed 12 January 2025.

¹¹⁹ Such as critical thinking, ethical reasoning, and legal analysis.

¹²⁰ I Kolade-Faseyi, AI and The Nigerian Legal Profession, (2021) 1 *Achievers University Law Journal* 167 <<https://aulawjournal.com>> accessed 13 January 2025.

¹²¹ Book-biased.

- v. Legal researchers should accept evolving legal research technology.

8. Conclusion

The evolution of legal research paradigms in Nigerian legal education reflects a trajectory from sole reliance on print resources to the advent and eventual acceptance of digital technologies, which has culminated in artificial intelligence systems. This revolution has significantly improved the effectiveness, efficiency, accessibility, and volume of legal research and pedagogy. Traditional legal research became overtaken by computer-assisted legal research; and then GAI technologies further transformed the dynamics of legal research and by extension legal education. AI tools possess the capability to transform teaching and learning in legal education and it is expected that these recommendations would be implemented by the stakeholders, so as enhance the Nigerian legal education system.

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