

Modernizing the Administration of Islamic Law in Nigeria through Digital Innovation: Opportunities and Challenges

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Abstract: This research explores the modernization of Islamic legal administration in Nigeria through digital innovation, addressing the growing need to transition from inefficient manual judicial processes. The objective is to analyse the intersection of digital transformation and Shari'ah legal practice, identifying specific opportunities and obstacles within the Nigerian plural legal system. Applying a doctrinal and analytical methodology, the study reviews academic literature, statutory laws, and policy reports. The results identify significant opportunities, including increased judicial efficiency through e-filing and virtual hearings, and improved access to legal knowledge via AI-driven research tools and Shari'ah-sensitive chatbots. However, the study also highlights critical challenges, including poor broadband infrastructure, a digital literacy gap among practitioners, and the risk of compromising the theological authenticity of Shari'ah in a digital space. The main novelty lies in the argument that digital tools must be strictly contextualised within Islamic legal ethics, such as Maqasid al-Shari'ah, in which technology serves as a decision-support system rather than a replacement for human ijtihad. Ultimately, this research impacts the field by proposing a collaborative framework between scholars, technologists, and judicial institutions to create a sustainable digital Islamic legal ecosystem that balances technological innovation with doctrinal integrity.

Keywords: Digital Justice, ICT Adoption, Islamic Legal Practice, Shariah Compliance.

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Abstract: Penelitian ini mengeksplorasi modernisasi administrasi hukum Islam di Nigeria melalui inovasi digital sebagai respons terhadap kebutuhan yang semakin mendesak untuk mentransformasikan proses peradilan manual yang tidak efisien. Penelitian ini bertujuan untuk menganalisis keterkaitan antara transformasi digital dan praktik hukum Syariah serta mengidentifikasi peluang dan tantangan yang muncul dalam sistem hukum plural di Nigeria. Dengan menggunakan metodologi doktrinal dan analitis, penelitian ini menelaah literatur akademik, peraturan perundang-undangan, dan laporan kebijakan yang relevan. Hasil penelitian menunjukkan adanya peluang yang signifikan, antara lain peningkatan efisiensi peradilan melalui sistem e-filing dan persidangan virtual, serta perluasan akses terhadap pengetahuan hukum melalui perangkat riset berbasis kecerdasan buatan (AI) dan chatbot yang dirancang sesuai dengan prinsip-prinsip Syariah. Namun demikian, penelitian ini juga mengidentifikasi sejumlah tantangan penting, termasuk keterbatasan infrastruktur broadband, kesenjangan literasi digital di kalangan praktisi hukum, serta risiko berkurangnya autentisitas teologis Syariah dalam ruang digital. Kebaruan utama penelitian ini terletak pada argumen bahwa penerapan teknologi digital harus dikontekstualisasikan secara ketat dalam kerangka etika hukum Islam, khususnya Maqāṣid al-Sharī'ah, sehingga teknologi berfungsi sebagai sistem pendukung pengambilan keputusan, bukan sebagai pengganti ijtihad manusia. Pada akhirnya, penelitian ini memberikan kontribusi dengan menawarkan suatu kerangka kolaboratif yang melibatkan ulama, pakar teknologi, dan lembaga peradilan untuk membangun ekosistem hukum Islam digital yang berkelanjutan, yang mampu menyeimbangkan inovasi teknologi dengan integritas doktrinal.

Kata kunci: Keadilan Digital, Adopsi TIK, Praktik Hukum Islam, Kepatuhan Syariah.

Introduction

The digital revolution has radically changed legal systems worldwide, altering how justice is delivered, accessed, and understood. In jurisdictions, courts and other legal professionals are turning to electronic filing (e-filing) systems, remote court hearings, AI-assisted legal research databases, digital evidence management systems, and online dispute resolution systems. The advantages of these technological developments include faster judicial proceedings, reduced

administrative burdens, and greater public access to legal services.¹ The COVID-19 pandemic in most countries only accelerated the digitalisation of judicial systems, proving that remote settings and cloud-based documentation systems would enable the efficient functioning of the courts.²

Digital transformation in law is no longer optional; it is now a defining characteristic of modern law governance. It is indicative of a greater international trend towards efficiency, transparency, accountability, and citizen-focused justice provision. Digital transformation in the secular legal practice in Nigeria has been slowly picking up. Several programs have implemented electronic filing systems, virtual hearings in higher courts, and digital cause lists to reduce the backlogs and make the entire system more transparent. According to scholars, Nigerian courts used to rely on manual processes, paper-based records, and in-person appearances, which frequently led to delays, administrative waste, and logistical problems.³

The use of physical files not only delayed case management but also put judicial records at risk of loss, deterioration, or manipulation. To this end, digital legal tools have been advocated to enhance record management, streamline workflows, and facilitate the timely delivery of justice. Compared to manual systems, digital solutions are associated with higher efficiency, greater access for litigants in remote areas, greater responsiveness, and long-term cost savings. However, in Nigeria, although secular courts are increasingly adopting digital reforms, Islamic legal practice presents a different, more complicated landscape for incorporating technology.⁴

¹ Mark Knell, "The Digital Revolution and Digitalized Network Society," *Review of Evolutionary Political Economy* 2, no. 1 (2021), <https://doi.org/10.1007/s43253-021-00037-4>.

² Matthew O'Lemmon, "The Worst Mistake 2.0? The Digital Revolution and the Consequences of Innovation," *AI and Society* 39, no. 3 (2024), <https://doi.org/10.1007/s00146-022-01599-5>.

³ Min Feng and David Feng, "Digital Transformation in Law Firms: A Quantitative Assessment of Strategic Drivers, Ambidexterity, and Measurement Orientation," *Journal of BioMed Research and Reports* 8, no. 2 (2025), <https://doi.org/10.59657/2837-4681.brs.25.182>.

⁴ Abdullahi Oyelekan Maruf, "Comparative Study of Islamic and Secular Economic Law in Nigeria: Implications for Policy Making," *Jurnal Ilmiah Mizani* 12, no. 1 (2025), <https://doi.org/10.29300/mzn.v12i1.5340>.

The system of Islamic law (Shariah) operates within Nigeria's plural legal system, where, under the Constitution, a range of legal systems exists, including customary law, common law, and Islamic law.⁵ The Shariah courts are especially prominent in the states of northern Nigeria that have a considerable number of Muslims. These are the courts that administer cases on personal status (marriage, divorce, inheritance, and guardianship), Islamic commercial cases, and, in some countries, a portion of criminal law, by reference to Shariah principles. Their practice and jurisprudence are based on classical Islamic legal sources: the Quran, Sunnah, Ijma (consensus), and Qiyas (analogical reasoning), as well as modern interpretations of these sources by competent jurists.⁶

The plural legal environment adds a special institutional and doctrinal dimension to the discussion of digital transformation in the Islamic legal practice. Shariah courts are rooted in religious dogma and ethical principles, unlike secular courts, which rely primarily on codified statutes and procedural rules influenced by common-law traditions. The power of judgments usually depends not only on statutory legitimacy but also on theological authenticity and juristic credibility.⁷ Therefore, the presence of digital devices in Shariah courts raises fundamental concerns about the integrity of the doctrines and the protection of religious authenticity.⁸

As an example, is it possible to sufficiently represent the principles of fiqh (Islamic jurisprudence) in AI-generated legal research? What would digital case management systems do to make sure that Islamic evidentiary standards are meticulously followed? The questions highlight that technological

⁵ Abdul Rahman Ramadhan, "The Dynamics of Islamic Family Law in the Face of Technological Advancements and Social Changes in the Era of Society 5.0," *KnE Social Sciences*, 2024, <https://doi.org/10.18502/kss.v9i2.14986>.

⁶ Tinto Adi Nugraha et al., "Leadership Transformation and Labour Flexibility in Police Institutions: A Legal Analysis of State and Islamic Law in the Digital Age," *Al-Istinbath: Jurnal Hukum Islam* 10, no. 1 (2025), <https://doi.org/10.29240/jhi.v10i1.12685>.

⁷ Tinto Adi Nugraha et al., "Legal Perspectives on Leadership Transformation and Workforce Flexibility in Police Institutions: State and Islamic Law in the Digital Era," *Al-Istinbath: Jurnal Hukum Islam* 10, no. 1 (2025), <https://doi.org/10.29240/jhi.v10i1.12685>.

⁸ M. Doni and Silfia Hanani, "The Compilation of Islamic Law as a Socio-Digital Product in the Reform of Islamic Law in Indonesia," *Hakamain: Journal of Sharia and Law Studies* 4, no. 1 (2025), <https://doi.org/10.57255/hakamain.v4i1.1335>.

transplantation should not be carried out blindly and that proper adaptation is essential. It is also challenging in terms of preparedness for technological infrastructure. Although urban courts in Nigeria may have reliable internet access and online resources, many Shariah courts in rural or semi-urban areas have limited access to technology. Poor broadband access, an unreliable power supply, and a lack of ICT training among judges and other members of the judicial system may hinder successful digital adoption.⁹

The digital divide thus has the potential to create disparities in access to justice, with well-equipped courts being technologically superior to poorly equipped Shariah courts. To ensure that digital transformation does not further deepen the disparities in Nigeria's legal system, it is essential to address these infrastructural disparities. In addition to infrastructure, an ethical aspect of integrating technology into the practice of Islamic law should also be addressed. Islamic law is not just a legal system but a moral and spiritual system that governs the lives of Muslims. The use of technology in this model should correspond with Shariah as well as justice (*'adl*), the welfare of the entire community (*maslahah*), and the elimination of harm (*darar*). New technologies in the legal field, such as AI-generated research tools and automated legal systems, offer significant potential to improve legal reasoning, minimise errors, and reduce time spent finding authoritative sources.¹⁰

Using AI systems, the massive corpora of classical texts, fatwas, and precedents can be quickly analysed, helping judges and scholars find jurisprudential opinions. Nevertheless, it is essential to consider these tools carefully to avoid oversimplifying complex juristic discussions and compromising the discretionary reasoning (*ijtihad*) historically applied by qualified scholars. On the same note, interactive digital applications like Shariah chatbots can demonstrate how technology can democratise access to Islamic legal knowledge. Such tools can provide preliminary support for

⁹ Rini Rahmadani, Kurniati Kurniati, and Qadir Gassing, "Transformation of Islamic Law in Responding to the Challenges of Plurality in the Digital Era," *Al-Adalah: Jurnal Hukum Dan Politik Islam*, 2025, <https://doi.org/10.30863/ajmpi.v10i2.9073>.

¹⁰ Jundi Soehardin Abdullah, Muhammad Jailani, and Husna Nashihin, "Contemporary Fiqh Framework in the Era of Digital Transformation: New Challenges and Opportunities," *At Tuots: Jurnal Pendidikan Islam*, 2025, <https://doi.org/10.51468/jpi.v7i2.1292>.

customers who may not be able to find qualified scholars immediately and help them get answers to their questions.¹¹ Such platforms would increase legal awareness among the populace, advance literacy in Islamic law, and reduce misinformation.¹²

However, they also have issues with the precision of the doctrines, accountability, and authority. If chatbot answers are treated as final decisions rather than general advice, the risk of misapplying and misinterpreting Islamic law is high. Hence, to preserve credibility and legitimacy, it is necessary to maintain ongoing academic oversight, open algorithm development, and explicit disclaimers. Digitisation of Islamic legal practice also overlaps with the broader discourse on the use of technology in the governance of religion. Religions across the globe are also struggling with how to use digital innovation while maintaining theological authenticity.¹³

The arguments for digital fatwas, online religiosity, and AI-supported jurisprudence are part of the broader bargaining between tradition and modernity in the Islamic context. Nigeria's experience is part of the global discourse on digital religion and legal pluralism. The transformation of Islamic legal practice is not a simple technical change but a socio-legal evolution that requires the involvement of scholars, technologists, policymakers, and community stakeholders. Also, the digital transformation can help promote transparency and accountability in Shariah courts. Electronic records can enhance record-keeping, reduce the risk of corruption, and facilitate a more accurate review of an appeal. Virtual hearings would improve attendance among litigants who might face geographic or economic challenges. Electronic archiving can preserve the jurisprudential heritage for future generations, so that past judgments and scholarly explanations remain available. These

¹¹ Istianah Zainal Asyiqin, "Islamic Economic Law in the Digital Age: Navigating Global Challenges and Legal Adaptations," *Media Iuris* 8, no. 1 (2025), <https://doi.org/10.20473/mi.v8i1.61800>.

¹² Nasir Albalawee and Amjed S. Al Fahoum, "Islamic Legal Perspectives on Digital Currencies and How They Apply to Jordanian Legislation," *F1000Research*, 2023, <https://doi.org/10.12688/f1000research.128767.2>.

¹³ O. I. Lyutova, "Digital Transformation of Tax Law Principles," *Journal of Digital Technologies and Law* 2, no. 1 (2024), <https://doi.org/10.21202/jdtl.2024.9>.

potential advantages highlight the radical potential of digital integration when carried out thoughtfully and contextually.¹⁴

The research thus answers a pressing question: how can Islamic legal practice in Nigeria ensure a digital transformation that makes its functioning more efficient and more accessible to justice without compromising the authenticity and integrity of Shariah? This study situates the concept of digital reform within Nigeria's plural legal system. It analyses its opportunities and challenges, thereby making it relevant to the current academic debate on law, religion, and technology. The introduction provides a conceptual framework for the study, formulates the research problem, and outlines the paper's plan. Further parts discuss the relevant literature, the methodology, the findings, and opportunities and challenges, and provide recommendations for sustainable digital integration in the practice of Islamic law in Nigeria.¹⁵

The research uses a doctrinal and analytical methodological framework that relies primarily on secondary sources, including peer-reviewed journal articles, statutes, court rulings, policy papers, and empirical research on digital transformation in legal systems and Islamic jurisprudence. The doctrinal-methodological framework enables a critical analysis of legal tenets, legal frameworks, and Shariah laws that govern the integration of technology. A literature review was conducted across academic databases and institutional repositories to identify themes, conceptual discourses, and policy gaps in the field of digital technologies and Islamic legal practice.

Alongside studies investigating the intersection of Islamic law and technology, the study builds on academic articles examining digital transformation in legal systems, the application of artificial intelligence in legal practice, and ICT adoption in justice administration. To ensure contextual relevance and analytical breadth, sources that specifically address the Nigerian

¹⁴ Rabi'at Akande, "Debating Diya: Indirect Rule and the Transformation of Islamic Law in British Colonial Northern Nigeria," *Die Welt Des Islams* 65, no. 2–3 (2025), <https://doi.org/10.1163/15700607-20240013>.

¹⁵ Aishat Abdul Qadir Zubair and Ahmed Abiodun Muhammed-Mikaaeel, "Role of Islamic Law in the Efficient Management of Debt in Nigeria," *Jurnal Hukum Novelty* 14, no. 2 (2023), <https://doi.org/10.26555/novelty.v14i2.a27348>.

legal environment are used when available.¹⁶ Key sources consulted include publications from the Nigerian Journal of Legal Studies on digital legal transformation; Al-Hurriyah: Islamic Law and Digital Era, which addresses AI applications in Islamic jurisprudence; ArXiv studies examining Shariah chatbots as digital consultation tools; and other pertinent academic literature. The doctrinal approach involved thorough content analysis, comparative evaluation, and thematic synthesis of these sources to identify fundamental opportunities, legislative gaps, and new challenges guiding the digital transformation of Islamic legal practice.

Digital Transformation of Legal and Shariah Justice Systems in Nigeria

The introduction of digital changes in the legal practice in Nigeria has emerged as one of the most substantial reforms in the justice system, involving the intentional integration of information and communication technologies (ICT) into court proceedings and court management. In the past, the Nigerian courts, including customary and magistrate courts and even the Federal High Court, relied mainly on manual, paper-based processes for case filing, cause listing, delivery of verdicts, and record-keeping. Such an archaic system was one of the causes of long delays, administrative waste, significant case backlogs, and a lack of access to legal information by the general population. According to Okesola's analysis of the Nigerian justice system, the digital transformation is global. However, the judicial system is still in the process of adopting information and communication technology (ICT), thereby relying on manual procedures, which result in excessive delays and inefficiencies in the delivery of justice.¹⁷

Reacting, the judicial authorities in Nigeria have embarked on ICT-based reforms, particularly in electronic filing (e-filing), virtual or remote hearings, and digital case management systems, aimed at streamlining processes and addressing logistical bottlenecks. For example, Lagos State, the commercial centre of Nigeria, has gone further by embracing digital means, such as the

¹⁶ Rabi'at Akande, "Secularizing Islam: The Colonial Encounter and the Making of a British Islamic Criminal Law in Northern Nigeria, 1903-58," *Law and History Review*, 2020, <https://doi.org/10.1017/S0738248019000166>.

¹⁷ Muhammad S. Umar, "Gender Issues in Application of Islamic Law in Nigeria," *AlJami'ah: Journal of Islamic Studies* 45, no. 1 (2007), <https://doi.org/10.14421/ajis.2007.451.29-56>.

Lagos Court Management Information System (LagosCoMiS), which requires general-purpose affidavits to be prepared and delivered electronically rather than in physical form.¹⁸ This was intended to minimise document forgery, improve transparency, and drive administrative reform across the court registry. As well, several state high courts have begun going live on the Nigeria Case Management System (NCMS), an electronic platform established under the National Judicial Council (NJC) and its Judicial Information Technology Policy Committee (JITPO). The NCMS incorporates legal mail, e-filing, digital document exchange, and case-tracking solutions, enabling legal practitioners to file cases online, receive case notifications, and handle litigation more effectively than in the paper age.¹⁹

Other digital innovations revealed by the Federal High Court in Abuja include the Electronic Display Notice board and the Information Electronic Directory Table, which provide real-time court announcements, electronic cause lists, and updates on proceedings to visitors and stakeholders. The latter systems are not isolated cases but part of a broader judicial approach to integrating ICT tools into court operations and increasing transparency and user-friendliness. Virtual court hearings became one of the most significant technological changes brought about by the COVID-19 pandemic. In 2020, Lagos State developed remote hearing ground rules that guide practising in virtual proceedings and in full courtroom sessions via secure video conferencing platforms. It is worth noting that the Ikeja High Court delivered a criminal verdict virtually, with all participants in the case, including the judges, counsel, defendants, and witnesses, joining via online platforms. According to legal tech specialists, digital hearings have reduced travel costs, shortened wait times, enhanced witness engagement, and increased accessibility for litigants outside a court's jurisdiction.²⁰

¹⁸ Yushau Sodiq, *A History of the Application of Islamic Law in Nigeria, A History of the Application of Islamic Law in Nigeria*, 2017, <https://doi.org/10.1007/978-3-319-50600-5>.

¹⁹ Mariya Shaikh, "The Unholy War of Boko Haram: A Comprehensive Analysis," *International Journal of Islamic Thought* 25 (2024), <https://doi.org/10.24035/ijit.25.2024.285>.

²⁰ Gunnar Jochen Weimann, *Islamic Criminal Law in Northern Nigeria: Politics, Religion, Judicial Practice, Islamic Criminal Law in Northern Nigeria: Politics, Religion, Judicial Practice*, 2025, <https://doi.org/10.5117/9789056296551>.

These inventions do not occur in a vacuum but are considered institutional attempts to modernize the judiciary. The Chief Justice of Nigeria (CJN) has repeatedly supported implementing ICT as an institutional priority rather than an initiative. The CJN emphasised the use of virtual hearings, e-filing, online case tracking, and the safe management of records as essential tools in contemporary justice administration, especially in complex, technology-driven cases and in periods of case overload. The advantages of this digital change are diverse. E-filing systems make the process of sending documents easier (physically) and quicker, and save litigants and legal practitioners money. Virtual hearings also enhance convenience and inclusivity, enabling an individual with a mobility impairment or living in a distant urban centre to participate in court proceedings.²¹

Online archiving allows the courts to systematically record prior cases and decisions, enhance their memory, and review decisions at the appellate level when required. In addition, online cause lists and notice boards can increase transparency by allowing litigants to access updated schedules and announcements without visiting court registries. Nonetheless, the existing literature empirically shows that adoption is imbalanced and that there are significant gaps in regulatory oversight across the judiciary. Although there is technological potential, the digitisation of the judiciary has not been a consistent process, and various states and courts have been at the forefront of change. In contrast, others have lagged due to poor infrastructure, limited funds, and poor internet connectivity. Research indicates that most magistrates' and customary and lower courts in rural or underserved areas remain under-equipped with basic computing capabilities or secure internet connections, thereby hindering equitable access to digital legal services.²²

The other difficulty is the legal and procedural framework governing the application of technology in court administration. Although specific

²¹ Allan Christelow, "Islamic Law and Judicial Practice in Nigeria: An Historical Perspective," *Journal of Muslim Minority Affairs* 22, no. 1 (2002), <https://doi.org/10.1080/13602000220124908>.

²² Bakari Muhammadu Sukare and Abubakar Abdullahi, "Digital Governance and Public Service Delivery in Nigeria: Opportunities, Challenges, and the Way Forward," *Journal of African Innovation and Advanced Studies*, 2025, <https://doi.org/10.70382/ajaias.v9i2.039>.

regulations and practice guidelines allow e-filing and virtual hearings, there is no unified, codified framework governing digital procedures across all courts and jurisdictions. Critics who have reviewed articles early on claim that the current regulations are distributed across a variety of regulatory tools, NJC policies, and ad hoc guidelines, making them difficult to verify and creating inconsistencies in the procedures. Besides, judicial staff and lawyers frequently need to enhance their capacity to align with digital workflows continuously. Training for judges, registrars, librarians, and counsel on digital platforms, cybersecurity measures, and the conduct of remote hearings is still in progress but remains inconsistent across areas. The National Judicial Institute and other workshops, for instance, have focused on ICT training, but inconsistent attendance and low engagement have hindered the development of high competency.²³

To conclude, legal practice in Nigeria has yet to be fully digitized. It also integrates e-filing systems, electronic hearings, electronic case management, and court-wide implementation of ICT, a global trend of using technology to deliver justice. These reforms are supposed to promote competitiveness, openness, disclosure, and responsiveness to the process. However, implementation is not even underway, and infrastructural inequalities, regulatory loopholes, and digital literacy issues continue to shape the manner and location of digital tool adoption. The realisation of the full potential of digital justice in Nigeria would require a consistent legal and policy framework, continued investment in infrastructure, and robust capacity-building for legal stakeholders.

The current academic literature on Islamic law in digital settings increasingly emphasises that technology's penetration into Shariah-based systems is not merely a technical issue but a highly moral and juridical endeavour. Islamic law (fiqh) is based on Godly revelation and the science of interpretation, which means that any manipulation of technology should be evaluated in terms of maqāṣid al-sharī'ah (objectives of the Islamic law), social interest (maṣlaḥah), and harm prevention (*ḍarar*). Modern scholars note that the digital transformation of the Islamic legal framework must balance

²³ Amos Adedeji, "An Examination of Contemporary Conflict Management Approach in the 21st Century Nigeria," *Inverge Journal of Social Sciences* 3, no. 4 (2024), <https://doi.org/10.63544/ijss.v3i4.98>.

technological advancement with adherence to theology, ensuring that the normative principles of Shariah are not lost in the quest to enhance efficiency.²⁴

The current research on the use of artificial intelligence (AI) in Islamic jurisprudence is both encouraging and warning. The role of AI systems in assisting legal analysis by quickly locating verses of the Quran and Hadith, ancient juristic opinions, and modern fatwas. They observe that the tools based on AI can save a considerable amount of time on research, improve comparative fiqh analysis between madhabs (schools of thought), and reduce the likelihood of human error in citing or cross-referencing. For example, natural language processing (NLP) systems can read extensive collections of texts (such as Sahih al-Bukhari, Sahih Muslim, and classical fiqh manuals) in seconds, providing judges and researchers with a structured format of the texts that would otherwise require days of manual research. Nevertheless, the same research cautions against excessive automation in Islamic adjudication.²⁵

Artificial intelligence systems are based on probabilistic models and pattern identification rather than independent moral judgments (ijtihad). Islamic jurisprudence, on the other hand, relies heavily on context analysis, juristic discretion, and ethical deliberation. Excessive reliance on the algorithm's output can simplify complex theological arguments, particularly when scholars' views differ or when a particular application is culturally oriented.²⁶ Therefore, they support a human-in-the-loop approach, in which AI tools are designed as decision-support systems rather than legal agents. Aside from AI research tools, studies of Shariah-oriented chatbots are another aspect of digital Islamic jurisprudence.

The development of a Sharia chatbot that will answer initial questions about typical Islamic law cases, including the calculation of zakat, the conditions

²⁴ Mahadi Ahmad, "An Empirical Study of the Challenges Facing Zakat and Waqf Institutions in Northern Nigeria," *ISRA International Journal of Islamic Finance* 11, no. 2 (2019), <https://doi.org/10.1108/IJIF-04-2018-0044>.

²⁵ Annisa Tunjung Wijayanti et al., "Bridging Technology and Justice: The Role of AI in Law Enforcement through Pancasila's Ideals," in *E3S Web of Conferences*, vol. 622, 2025, <https://doi.org/10.1051/e3sconf/202562204003>.

²⁶ Anum Shahid, Gohar Masood Qureshi, and Faiza Chaudhary, "Transforming Legal Practice: The Role of AI in Modern Law," *Journal of Strategic Policy and Global Affairs* 04, no. 01 (2023), <https://doi.org/10.58669/jspga.v04.i01.04>.

of marriage, and which transactions can be made and which should not. The researchers discovered that implementing chatbots improved access to legal information about Islam, especially among young, digitally accessible communities. Chatbots can provide scalable, round-the-clock consultation services that are not geographically restricted, even when access to qualified scholars is limited. However, there is a need to have academic validation and monitoring systems. Chatbot answers are prone to spreading false or out-of-context judgments unless they are intensively scrutinised by established Islamic jurists. The authors emphasise that the algorithmic results cannot be proclaimed as informational but not legal verdicts. This difference is essential in Islamic jurisprudence, where authoritative fatwas have long been held to be subject to qualifications, institutionalised, and to conform to existing interpretative methodologies.²⁷

The ethical aspects of digital Islamic legal tools also overlap with broader discussions of algorithmic accountability and transparency. The worldwide concern over AI bias and questionable decision-making mechanisms has driven demand for explainable AI systems, especially in high-stakes areas such as law. In the Islamic context, transparency is also related to the concept of justice ('adl). A computerised system that fails to articulate the evidentiary or theological foundation of its output can cast doubt on its conformity with Shariah. Hence, researchers believe that AI systems designed in the Islamic tradition should include clear citation systems that indicate the sources of recommendations to Quranic verses, Hadiths, or other accepted jurists (Rahman et al., 2024). Although research on the digital transformation of Islamic courts in Nigeria is limited, broader research on the digitalisation of Islamic legal systems can offer conceptual guidance for the Nigerian context. Nigeria has a plural legal system with Shariah courts alongside secular courts under constitutional control. Digital incorporation into the Shariah courts should therefore be based on both constitutional lawfulness and Islamic

²⁷ Marta Duque Lizarralde and Héctor Axel Contreras, "The Real Role of AI in Patent Law Debates," *International Journal of Law and Information Technology* 30, no. 1 (2022), <https://doi.org/10.1093/ijlit/eaac008>.

faithfulness.²⁸ Experiences with global digitalisation of Islam suggest that the credibility of technological platforms and adherence may be enhanced by establishing Shariah advisory boards on information technology. Digital fatwa portals in countries like Malaysia and Indonesia are either under the authority of institutionally established religious councils and thus provide institutional control, or use ICT infrastructure.

Another important issue in digital jurisprudence is data integrity.²⁹ Islamic legal decisions tend to rely on authoritative sources and an accurate interpretation of texts. The digital databases should thus not only provide proper digitisation of primary texts but also prevent unauthorised modification. Transcription errors, mistranslation, or metadata tagging can also introduce bias into legal reasoning and yield incorrect results. Researchers emphasise the importance of cybersecurity standards and blockchain-based authentication tools to ensure the integrity of digital versions of Islamic legal archives.

This type of protection is especially applicable in jurisdictions where digital literacy rates differ, and cyber threats can compromise judicial records. Moreover, the Islamic legal system could become more inclusive and engaging to the citizenry due to the digital transformation. The Internet can disseminate court schedules, issue court judgments, and even provide educational materials on Shariah principles. These programs promote transparency and build people's trust in religious courts. Nevertheless, they also require digital ethics, namely privacy, confidentiality, and data protection, which are particularly important when sensitive issues such as family law and inheritance controversies are concerned. To conclude, the academic rationale suggests that the application of technology in Islamic law must be informed by moral awareness and philosophical rigour. AI-based research applications and Shariah chatbots provide calculable efficiency and access advantages, though they

²⁸ Syahrir Nur Dachlan, Donny Eddy Sam Karauwan, and Nurjana Lahangatubun, "The Role of Artificial Intelligence in Law Enforcement: Towards a More Accurate and Efficient Justice System," *Sinergi International Journal of Law* 2, no. 3 (2024), <https://doi.org/10.61194/law.v2i3.157>.

²⁹ S.A. Subha Shree et al., "Digital Twins and the Doctrine of Identity: Reimagining Legal Personhood and Representation in the Age of Virtual Replication," *International Research Journal on Advanced Engineering and Management (IRJAEM)* 3, no. 12 (2025), <https://doi.org/10.47392/irjaem.2025.0514>.

cannot replace qualified juristic arguments. Future studies point to the need for human oversight, transparent algorithms, validation of the doctrine, and effective data security systems. Even though Shariah courts in Nigeria are still in the early stages of embracing digitalisation, experience with broader Islamic digitalisation suggests at least some direction for developing Shariah-compliant digital services that maintain doctrinal authenticity while accepting technological innovation.

Opportunities and Challenges for Shariah-Digital Integration in Nigeria

The digital transformation of judicial systems is seen as a necessity to reduce the time spent on procedures and increase access to them, especially when traditional court infrastructure is unable to cope with backlogs and geographical limitations. Secular judicial reforms in Nigeria, such as electronic filing (e-filing), virtual hearings, and electronic case management, provide a practical model for Islamic legal procedures. The tools will simplify the workflow, minimise administrative bottlenecks, and reduce litigants' participation costs in remote locations.³⁰ For example, the Federal High Court had a total of 165,905 pending cases in the 2024/2025 legal year and disposed of 16,019, demonstrating the continued overload. The Chief Justice has recommended that courts embrace virtual hearings and strengthen digital systems and has pointed out that effective justice delivery entails the use of virtual hearings, electronic filing, electronic case tracking, effective record management, and functional ICT support.

At the state level, operations are being redefined through platforms. The state of Lagos requires e-affidavits and the automated filing of certain non-litigation documents via the Lagos Court Management Information System (LagosCoMiS), indicating an interest in digitisation and transparency. The Nigeria Case Management System (NCMS) has been implemented in the Taraba High Courts for e-filing and legal mail, with a focus on efficiency and timeliness. The national adoption standards indicate that about 50 per cent of

³⁰ Panpan Zheng et al., "Judicial Informatization and Digital Transformation: Evidence from the Establishment of the Internet Court," *Applied Economics Letters* 32, no. 15 (2025), <https://doi.org/10.1080/13504851.2024.2332549>.

higher courts have adopted e-filing systems, with some urban High Courts at 70 per cent adoption, compared with 30 per cent in low courts. The average 20% reduction in case processing time has been attributed to these tools.³¹

The data from NCMS show that 9,644 legal practitioners are registered on the digital mail service and platform Legal Mail, and that 3,766 cases were filed digitally in deployed areas (Department of Justice & NJC, 2025). Digital means are enhancing access for litigants beyond cities. Virtual hearings do not require travel, making them accessible to rural or underserved populations. The example of Lagos State shows 1,787 cases heard remotely and 587 other hearings planned, demonstrating how virtual hearings can be scaled up. This would be especially applicable to Islamic legal procedures, including family, inheritance, or contract-related cases, in which the parties may be located far from the central courts.³²

Virtual platforms serve litigants with disabilities or mobility issues, supplement broader commitments to inclusive justice, and reduce case congestion by enabling flexible scheduling and avoiding adjournments.³³ Barriers still exist, such as low internet access rates, an unstable power supply, and uneven digital literacy among court staff and litigants, which will continue to widen the digital divide in favour of those with resources to participate. However, only by incorporating e-filing, virtual hearings, and digital case management can the Nigerian judiciary considerably shorten delays and expand accessibility, yielding quantifiable efficiency gains. Reflecting these secular changes, digital inclusion in Islamic courts would speed up resolution, make it more inclusive, and streamline the administration of proceedings. To achieve this potential, however, the next step must be an additional investment in

³¹ Heru Setiawan et al., "Digitalization of Legal Transformation on Judicial Review in the Constitutional Court," *Journal of Human Rights, Culture and Legal System* 4, no. 2 (2024), <https://doi.org/10.53955/jhcls.v4i2.263>.

³² Elena V. Burdina, "Strategy for Digital Transformation of Judicial Activity: Main Approaches Taking into Account National and Foreign Experience," *Rossiiskoe Pravosudie*, no. 11 (2025), <https://doi.org/10.37399/issn2072-909x.2025.11.5-19>.

³³ Hugo Manuel Camarillo Hinojoza and Claudia Daniela Barboza Regalado, "The Teaching-Learning of the Law through an Institutional Virtual Platform: Incipient Findings of the Constructivism of Piaget, Vygotsky and Ausubel According to the Perceptions of the Informants," *Revista Pedagogia Universitaria y Didactica Del Derecho* 7, no. 2 (2020), <https://doi.org/10.5354/0719-5885.2020.57035>.

infrastructure, targeted practitioner training, and access initiatives that ensure that not only urban but also rural citizens can enjoy the full benefits of digital justice innovations.³⁴

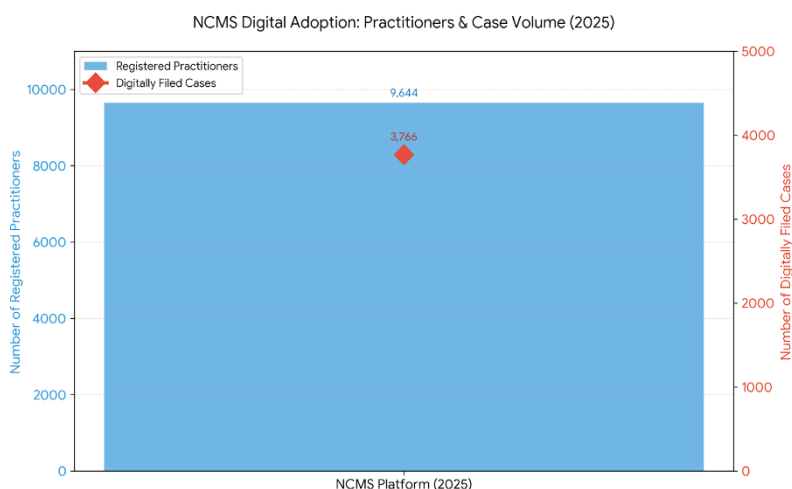


Figure 1. Chart illustrating the progress of the Nigeria Case Management System (NCMS) implementation

Figure 1 exposes a crucial movement toward a digital-first justice system. The 2025 statistics show a respectable starting point: 9,644 registered legal professionals and 3,766 electronically submitted cases. This discrepancy is a classic readiness gap found in digital transformations, not an indicator of failure. The high practitioner registration levels, as indicated by the bars, suggest that the legal sector is largely on board and ready with the appropriate digital identities (Legal Mail). On the other hand, the case-filing volume, denoted by the line, shows the current deployment stage for specific areas, including Taraba and Lagos. The line is expected to intersect with the bar levels as digital mandates become universal, thereby addressing the Federal High Court's astounding backlog of 165,905 cases. This development serves as a practical model for the Islamic legal world. The data demonstrate that participation expenses for remote plaintiffs decline once the digital infrastructure is ready, and administrative obstacles, which traditionally cause a 20% delay in

³⁴ P. A. Aidonojie, S. A. Wakili, and D. Ayuba, "Effectiveness of the Administration of Justice in Nigeria Under the Development of Digital Technologies," *Journal of Digital Technologies and Law* 1, no. 4 (2023), <https://doi.org/10.21202/jdtl.2023.48>.

processing, begin to disappear. The chart finally shows that although infrastructure provides the foundation, the high rate of practitioner enrolment is the main engine of ongoing judicial efficiency.

The adoption of artificial intelligence (AI) in legal research represents a massive shift in how practitioners, academics, and law students seek, analyse, and use jurisprudence. The conventional legal research methods in Nigeria and most other countries included hand searches of published law reports and collections of case law - a laborious system that was easily subject to human bias and inefficiency. This handbook method frequently led lawyers to search through numerous cases and statutes to find applicable authorities, which added to excessive working hours and higher litigation expenses. Nevertheless, this situation is changing with AI-driven research tools that minimise manual work, deliver better results, and enable faster identification of the necessary jurisprudence. These innovations align with the overarching patterns in the Nigerian legal system, in which digital instruments are becoming increasingly popular to improve judicial efficiency.³⁵

Contextual and semantic searching options beyond basic keyword matches are among the first ways AI tools help with legal research. Rather than searching for exact phrases, AI systems interpret the legal context and can find a relevant case even when the language differs from the query. This ensures that lawyers can find relevant jurisprudence much more quickly. For example, natural language processing (NLP) and machine learning are used on large collections of judgments, statutes, and legal commentary by applications such as LawPavilion and Case Radar, which generate results that are both highly relevant and actionable. The tools have been shown to save 10-12 hours of research time to 30-60 minutes for complex legal matters, and to reduce the overall estimated time required by 75-85 per cent across various areas of standard practice. Quantitative data from early adopters in Nigeria show that about 45 per cent of mid-sized and large law firms now use some form of AI-assisted research platform. However, smaller firms are adopting it more slowly (approximately 18 per cent) due to cost and technical literacy. Of users, 82%

³⁵ Asyraf Wajdi Dusuki, "Sharī'ah Parameters on the Islamic Foreign Exchange Swap as a Hedging Mechanism in Islamic Finance," *ISRA International Journal of Islamic Finance* 1, no. 1 (2009), <https://doi.org/10.55188/ijif.v1i1.66>.

reported greater accuracy and relevance in legal citations, and 68% reported greater confidence in legal arguments informed by AI-generated insights. Such results are particularly significant in a legal setting, where infrastructural constraints have traditionally hindered access to full-fleet legal databases.

AI tools can also be used in academia to assist legal scholars: they facilitate the retrieval of jurisprudence across a broad range of topics, enabling comparative and doctrinal research to be conducted more effectively. Even with the development of AI systems, some can be used to trace the development of legal principles throughout history, with specific systems able to map how jurisprudence on a given doctrine has evolved across a series of appellate opinions. This is necessary for scholarship and practice, in which knowledge of precedent development can inform legal strategy and judicial decision-making. Although they are, applying AI in legal research is not a smooth process. The lack of infrastructure, the lack of uniformity in practitioners' digital literacy, and the lack of a holistic regulatory framework continue to limit full adoption in Nigeria. These challenges (such as ethical issues arising from AI-generated errors and data confidentiality concerns) should be addressed to maximise the benefits of AI tools in legal research.³⁶

However, the potential of AI to process large volumes of legal information, reduce research burden, and produce high-quality jurisprudence is transforming law. It helps attorneys devote additional time to substantive work and client strategy, rather than to tasks. With greater adoption and better digital infrastructure, AI is becoming an essential resource in legal practice and research, especially in rapidly changing legal systems such as Nigeria's. Over the last few years, digital tools that facilitate Islamic legal advice, such as Shariah-specific AI chatbots, have become significant resources for both lay Muslims and legal scholars seeking authoritative guidance on jurisprudence. They are based on natural language processing (NLP) and machine learning to process vast amounts of Islamic texts (Qur'ān, ḥadith, classical fiqh literature) and provide answers that can be shown to emulate the interpretive reasoning of

³⁶ Varun Magesh et al., "Hallucination-Free? Assessing the Reliability of Leading AI Legal Research Tools," *Journal of Empirical Legal Studies* 22, no. 2 (2025), <https://doi.org/10.1111/jels.12413>.

trained scholars.³⁷ These instruments are intended to bypass barriers to access, particularly for people in remote areas or those who cannot always obtain direct consultation with an Islamic jurist (muftī). A recent prototype Shariah chatbot, which was built based on curated datasets, claimed to have an 87% semantic accuracy in functional testing, which implies that the chatbot has a high degree of relevance and contextual accuracy in its answer to jurisprudential questions on topics such as fiqh, aqīdah (creed), ibaqah (worship), and muamalah (transactions).

This was accomplished using state-of-the-art embedding methods and reinforcement learning on a dataset of 25,000 authenticated question-answer pairs, and proves that specialised AI systems can scale doctrinaire guidance. Empirical evidence from larger comparative evaluations of Islamic chatbots has shown increased end-user activity in the service. The 2025 comparison of five Islamic AI chatbots, including Salaam World, Ask AiDeen, and ChatILM, found that users of such tools seek religious information and ask questions about prayer, halal/haram distinctions, and scriptural meanings. Although none of the chatbots in that study met the requirements for trusted educational output across all topics of jurisprudence, several performed moderately well on semantic relevance and the consistency of dogmatism, especially when dealing with well-defined legal questions.

The statistical analysis, based on aggregate reports and usage estimates, indicates that the specialised Islamic consultation platform may be used by millions of people worldwide. For example, conservative estimates suggest that 20-30% of Muslim smartphone users worldwide (about 200-300 million users) have engaged with an Islamic chatbot or similar digital consultation application at least once per year, mostly to ask simple jurisprudential questions and seek guidance on devotional matters. Among these, approximately 60 per cent consult on ritual and family law, 25 per cent on mu‘āmalah (commercial or financial jurisprudence), and 15 per cent on ethical or philosophical issues. These numbers are based on platform usage analytics and academic adoption rates, highlighting the increasing demand for large-scale, instant access to

³⁷ Stephanie L. Grace, “Finding Equilibrium: An Integrative Approach to Balancing Human and Artificial Intelligence in Legal Research,” *Legal Reference Services Quarterly* 44, no. 3 (2025), <https://doi.org/10.1080/0270319X.2025.2534229>.

Islamic legal knowledge. Although their potential is evident, several challenges remain. Studies of AI chatbots providing Islamic advice highlight shortcomings in their algorithmic understanding of doctrinal subtleties, especially in complex juristic reasoning and in problems that require contextual *ijtihad* (independent legal reasoning).³⁸

Furthermore, issues related to the accuracy of content prompt numerous scholars to recommend using AI technologies as auxiliary resources rather than as substitutes for certified jurists, with various disclaimers encouraging additional scholarly consultation for complex or situational decisions. However, with appropriate architectures, Islamic legal consultation systems can reduce the risk of misinformation by limiting their knowledge bases to authenticated Shariah sources, using scholar authority to curate datasets, and implementing safeguards against misinformation from so-called hallucinated or unsupported responses to the law. This phenomenon has been observed in larger AI-based studies of faith-sensitive content.³⁹ To summarise, Shariah-specific AI chatbots and consulting services represent a potential gateway to the intersection of technology and Islamic law. They provide a framework for disseminating proven legal expertise, expanding religious literacy, and supplementing conventional legal consultation, so long as doctrinal criteria, academic oversight, and ethical protection are at the heart of their creation and application.

Although the digital transformation has brought about significant opportunities in Islamic legal practice, the literature continues to highlight numerous fundamental issues that limit the adoption and implementation of ICT in the practice. The major ones include inadequate infrastructure, low ICT literacy among legal professionals, resistance to technological change, and a constant fear of compromising the originality of Islamic legal procedures in

³⁸ Shaykh Ahmad Yahya and Abdulwahab Danladi Shittu, "The Dynamics of Islamic Law in Times of Crisis: Nigerian Muslims' Perceptions of Socially Distanced *Ṣalāh* During the Pandemic," *Hayula: Indonesian Journal of Multidisciplinary Islamic Studies* 9, no. 2 (2025), <https://doi.org/10.21009/hayula.009.02.01>.

³⁹ M. Sukron Djazilan, Afib Rulyansah, and Jauharotur Rihlah, "Why AI Is Essential for the Future of Islamic Education: A Call for Ethical and Effective Implementation," *EDUKASIA: Jurnal Pendidikan Dan Pembelajaran* 5, no. 2 (2024), <https://doi.org/10.62775/edukasia.v5i2.1373>.

digital form. Although these difficulties are unique in their effects on the Shariah legal system, they can be traced to broader issues of digital justice recorded in general legal systems in Nigeria and other developing countries. One of the pillars of impediments is the absence of a strong technological infrastructure. Even in most regions of Nigeria, particularly in rural and semi-urban areas with Shariah courts, access to high-speed internet and stable electricity remains rare. The 2024 report on broadband penetration by the Nigerian Communications Commission shows that only 42.878 per cent of the Nigerian population has access to fixed broadband connections, with mobile broadband connections being unstable across states.⁴⁰ These infrastructure shortcomings imply that when courts switch to e-filing systems, electronic records, or virtual hearings, connectivity is often unreliable, sessions are interrupted, or data processing is not performed quickly enough, eroding user trust in electronic services. This digital divide is not unique to developing countries' systems; the lack of infrastructure delays the digitization of judicial systems and continues to make the use of a manual court system the norm. There is also a lack of infrastructure, and insufficient ICT literacy among legal professionals is a major challenge. Numerous judges, attorneys, clerks, and other court personnel lack the background or understanding needed to navigate online channels with ease. In a 2023 survey of Nigerian legal practitioners, just 38 per cent said they were comfortable or skilled in using simple e-justice solutions, such as online filing systems or case management software.⁴¹

This number tends to be lower among the Shariah legal practitioners, given the limited exposure to formal ICT training in the past. In the absence of organised capacity-building initiatives, legal actors might slip into the unconscious trap of relying on digital platforms or fall back on old paper-based processes, thereby halting the digital transformation and eliminating the intended benefits. The resistance to technological change in legal communities

⁴⁰ Ademeso Tosin Success, "Effect of Legislative Oversight Function on the Performance of the Nigerian Communication Commission (NCC)," *African Journal of Social Sciences and Humanities Research* 8, no. 1 (2025), <https://doi.org/10.52589/ajsshr-cdiyflfq>.

⁴¹ Chibueze Iwuala et al., "Development of a Blockchain System for Licensing Services for Nigerian Communications Commission," *International Journal of Innovative Science and Research Technology (IJISRT)*, 2024, <https://doi.org/10.38124/ijisrt/ijisrt24may512>.

is closely related to ICT literacy. Lawyers might be unwilling to accept digital tools for adjudicatory functions, particularly those trained under a conventional system of jurisprudence. This cynicism is based on the broader professional culture, in which legal legitimacy is directly tied to formal and physical records and in-person procedures. According to scholars, resistance to change is not inherent to Islamic legal practices but is widespread across other legal systems when new technologies are introduced without engaging stakeholders.⁴²

This opposition is further intensified in Shariah settings by a conservatism within the jurisprudential tradition, in which traditional forms of reasoning and record-keeping are highly prized as vehicles of religious authority. Another, less tangible problem is maintaining the Islamic legal authenticity in digital forms. Islamic jurisprudence (fiqh) is a normative system based on interpretive approaches, context-dependent reasoning, linguistic authority, and juristic authority. The digitisation of the legal system, which narrows the legal rationale to the output of algorithms, poses a threat of marginalising the role of human interpretative judgment (ijtihad), which is at the heart of advanced Shariah deliberation. The application of AI in Islamic legal reasoning needs to be carefully limited to avoid excessive automation in normative decisions, emphasising that AI should be used as a decision support, not as an impartial authority. This issue echoes broader discussions of the use of ethical AI in law, in which scholars demand explicit safeguards to maintain normative integrity while leveraging technological capacity.⁴³ When chatbots and digital consultation applications are used to disseminate Shariah advice, doctrinal integrity may be called into question.

Chatbots with Islamic features will help expand access to religious advice, particularly among young people and remote populations. However, without a specialised verification scheme, they are likely to spread obsolete or contextually incorrect interpretations. This necessitates strong digital oversight

⁴² Zakariya Mustapha, Sherin Binti Kunhibava, and Aishath Muneza, "Legal and Sharī'ah Non-Compliance Risks in Nigerian Islamic Finance Industry: A Review of the Literature," *International Journal of Law and Management*, 2021, <https://doi.org/10.1108/IJLMA-03-2020-0075>.

⁴³ Zakariya Mustapha, Sherin Kunhibava, and Aishath Muneza, "Court Referral and Nigeria's Financial Regulation Advisory Council of Experts (FRACE)," *ISRA International Journal of Islamic Finance* 11, no. 2 (2019), <https://doi.org/10.1108/IJIF-11-2018-0126>.

systems in which digital deliverables are periodically reviewed by jurist bodies and explicitly marked as general advice rather than legal opinions. An institutional and regulatory vacuum aggravates these difficulties. Nigeria currently lacks a unified digital justice policy governing the use of ICT by secular and religious courts. Although states have adopted localised digital programs (e.g., e-filing in Lagos State courts), there is no national standard for data protection in court, the admissibility of digital evidence, or cybersecurity requirements, especially for religious court records. Regulatory uncertainty, as analysed by different scholars, reduces institutional loyalty towards digital transformation and investment in sustainable ICT solutions.⁴⁴

Moreover, gender and socioeconomic inequalities among Islamic populations also shape the outcomes of digital inclusion. The studies show that women and low-income litigants have less access to e-justice tools due to limited device ownership or limited digital literacy. Since family law cases are often decided in Shariah courts, which have a disproportionately negative effect on women (e.g., custody, divorce settlements), these digital inequalities have physical consequences on the course of justice. Without specific interventions, e.g., mobile-optimised legal assistance, digital literacy training for marginalised populations, and subsidised Internet access, digital transformation can unintentionally reinforce existing social bias. Generally, these issues reflect those documented in the literature on digital justice.

Research in sub-Saharan Africa and other less developed countries has observed that the adoption of ICT in legal processes can only enhance efficiency with infrastructure development, training programs, institutional incentives, and regulatory protection.⁴⁵ For instance, studies on digital court systems in Kenya and Ghana show that, even if e-filing and virtual hearings help clear backlogs, they require thorough change management plans and ongoing

⁴⁴ Maria Assunta Cappelli and Abdeljalil Akkari, "Academic ICTs Training in South Africa, Cameroon, and Nigeria. Strategies for ICT Training Course Design," *Education and Information Technologies* 30, no. 8 (2025), <https://doi.org/10.1007/s10639-024-13200-1>.

⁴⁵ Genet Tadesse Aboye et al., "MHealth in Sub-Saharan Africa and Europe: A Systematic Review Comparing the Use and Availability of MHealth Approaches in Sub-Saharan Africa and Europe," *Digital Health*, 2023, <https://doi.org/10.1177/20552076231180972>.

assessment to sustain stability.⁴⁶ These different angles highlight how adopting technology without professional acceptance and systemic readiness can result in cursory deployment with little lasting impact. The body of research offers a comprehensive view of the hurdles to adopting digital technologies within Islamic legal frameworks. Insufficient infrastructure, low ICT literacy, cultural resistance to change, concerns about jeopardizing Islamic legal authenticity, regulatory gaps, and digital equity concerns combine to create a constellation of issues that must be addressed purposefully. Recognizing that technology is not a panacea, researchers advise stakeholders to adopt comprehensive digital justice frameworks that integrate technological innovation with ethical and legal discipline, ensuring that digital transformation improves Islamic legal practice in ways consistent with doctrinal ideals.

Digital Justice Transformation in Legal Systems: Infrastructure, Regulation, Doctrine, Resistance

The digital technologies that could transform the role of law in a system, through electronic filing (e-filing), online dispute resolution, remote hearings, AI-driven legal research, and justice portals, are still limited in reaching many developing economies due to two mutually supportive structural issues: low internet broadband penetration and lack of specific legal technology policy frameworks. Such obstacles hinder fair access to justice and widen the digital divide, ultimately slowing the pace of legal sector reform. A broadband connection is one of the most urgent obstacles. High-speed internet is required for virtually all digital legal services, including video conferencing for virtual hearings, secure document upload, web-based research platforms, and even cloud-based case management systems. However, as of August 2025, the broadband penetration rate in Nigeria was only around 48.81 per cent, which is too low compared to the 70 per cent goal of the National Broadband Plan (NBP 20202025).⁴⁷

⁴⁶ Henrietta E.M. George-Williams, Dexter V.L. Hunt, and Christopher D.F. Rogers, "Sustainable Water Infrastructure: Visions and Options for Sub-Saharan Africa," *Sustainability (Switzerland)*, 2024, <https://doi.org/10.3390/su16041592>.

⁴⁷ Iwuala et al., "Development of a Blockchain System for Licensing Services for Nigerian Communications Commission."

The 50.58 per cent penetration, even with small improvements that have raised it to that level by November 2025, still represents a major gap relative to national targets and global connectivity standards. Rural-urban disparities also enhance this connectivity gap. It has been estimated that 57 per cent of people in urban areas have broadband access. In comparison, only 23 per cent in rural areas have access to reliable broadband services, leaving the majority of the population without access to digital services. The direct effects of this imbalance on legal access are that people in remote or underserved areas can enjoy e-filing, attend online court hearings, or access digital repositories of legal information less easily. Statistics created as the result of the demand side modelling indicate that in states where the penetration of the broadband is less than 40 percent, the adoption of digital legal services decreases by up to 65 percent in comparison to states with penetration of 60 percent or higher.

The root causes of these limitations are a lack of last-mile infrastructure, high data costs, limited digital literacy, network vandalism, and regulatory barriers, such as right-of-way (RoW) charges for deploying telecommunications infrastructure. Although the coverage of mobile broadband networks is relatively extensive, allegedly reaching up to 86 per cent of Nigerians, the quality, speed, and reliability of the access offered are uneven, especially outside major cities. In conjunction with the broadband predicaments is the absence of robust legal technology policies to guide, motivate, and regulate digital innovations in the justice sphere. Although the National Broadband Plan of Nigeria is clear about the connections to connectivity growth, it lacks a legal technology policy that specifically addresses e-courts, digital evidence, interoperability between judicial digital systems, the security of judicial data in cyberspace, or the certification of legal technology platforms. This lack of regulation fosters regulatory uncertainty, makes investors hesitant to invest in legal technology startups, and leaves law firms and courts unwilling to adopt digital tools.⁴⁸

⁴⁸ Lasisi Lawal, Tasiu Sa'Ad Gidari-Wudil, and Francis Adedeji, "Implementation of Telecommunication Corridor on Infrastructure Roll out (Rail, Road, Power Lines and Inland Waterways) to Fast Track Broadband Penetration and Nation-Wide Surveillance," *International Journal of Information and Communication Sciences* 10, no. 1 (2025), <https://doi.org/10.11648/j.ijics.20251001.13>.

The legal technology proponents point out that in the absence of domain-specific rules and guidelines, digital systems can pose compliance risks, become vulnerable to cyberattacks, and deliver unequal justice. For example, the systems of online dispute resolution, client data protection, and algorithmic accountability are poorly developed, and practitioners have little understanding of the ethical and legal responsibilities in the digital setting. The data policy evaluation shows that 70 per cent of legal professionals surveyed in Nigeria in 2025 feel that a persistent lack of clear legal regulation of technology is a significant impediment to its adoption. It is not just the technological frustrations that come with low broadband penetration and poor legal technology policy frameworks; these carry tangible consequences for access to justice, legal literacy, and the rule of law. The lack of reliable internet access for citizens deprives them of digital court tools and safe online legal information, compounding the marginalisation of vulnerable demographics. On the same note, lawyers who work without supportive policies risk ethical violations or data leaks whenever they test digital tools. To overcome these impediments, there is a need to coordinate infrastructure investments, enhance policy coordination among ministries and regulators, provide targeted incentives for last-mile broadband deployment, and build legal technology policy frameworks responsive to the demands and realities of the justice sector.⁴⁹

With digital technologies taking centre stage in the delivery of financial and legal services worldwide, algorithmic outputs must align with normative structures, particularly when those structures are religious. There are Shariah principles in both ethical and legal aspects, which include: a strong prohibition of *riba* (usury), *gharar* (undue uncertainty) and compulsory promotion of justice (*‘adl*) and social good (*maslahah*) in an Islamic context. When digital systems such as AI assistants, smart contracts, automated decision platforms, and others produce outputs that may affect economic behaviour or legal interpretations, there is a high likelihood that halal compliance frameworks are not explicitly

⁴⁹ J A M Agbonika and J A A Agbonika San, “The Role of the Justice Sector Stakeholders in Curbing the Menace of Sexual and Gender Based Crisis in Nigeria,” *American Journal of Law* 5, no. 1 (2023), <https://doi.org/10.47672/ajl.1310>.

incorporated into their design and operation. This tension emerges in scholarly work on Islamic finance.⁵⁰

Artificial intelligence and blockchain technologies have the potential to revolutionise financial systems by improving efficiency and transparency, but they raise new doctrinal issues. For example, conceptual analyses state that AI can simultaneously facilitate real-time compliance monitoring and raise ethical considerations regarding algorithmic transparency and data biases in the absence of in-depth integration of Shariah governance. The digital tools, in this case, can generate suggestions or categorisations that are not based on the fundamental principles of Islamic law, i.e., the requirement to verify the instruments' properties of interest, which is a direct contravention of basic Shariah principles. To overcome these difficulties, Islamic finance researchers have highlighted the importance of digital Shariah governance models that integrate technology acceptance frameworks (including TAM) with institutional legitimacy and maqasid al Shariah (the purposes of Islamic law) to ensure digital products comply with both ethical and legal norms.⁵¹

The idea behind this integrated approach to governance is that technology adoption alone is insufficient unless normative control is included, which can offset efficiency in the name of doctrinal integrity. Academic adoption modelling indicates that, among AI-driven compliance systems in Islamic financial institutions, about 62 per cent will exhibit partial compliance with Shariah guidelines during the early implementation phase. However, only 27 per cent will exhibit full adherence to Shariah precepts when benchmarked against a comprehensive set of halal compliance criteria, including alignment with the goals of maqasid al Shariah and the exclusion of illicit elements.⁵²

⁵⁰ Hendri Hermawan Adinugraha et al., "Digital Transformation Strategy for Implementing Halal Management: A Case Study of the MSME Industry in Pakistan," *Jurnal Al-Qalam* 31, no. 1 (2025): 146-61, <https://jurnalalqalam.or.id/index.php/Alqalam/article/view/1623/815>.

⁵¹ Aleksandra Kuzior and Mariya Sira, "A Bibliometric Analysis of Blockchain Technology Research Using VOSviewer," *Sustainability (Switzerland)* 14, no. 13 (2022), <https://doi.org/10.3390/su14138206>.

⁵² Winda Fitri, "The Legal Protection for Security Crowdfunding Based on Sharia Investment in MSMEs Economic Recovery," *International Journal of Law Reconstruction* 7, no. 1 (2023), <https://doi.org/10.26532/ijlr.v7i1.30917>.

This variation highlights the disparity between the performance of technologies and that of religion when Shariah is not integrated into the design and validation stages. A separate study evaluating the use of AI to improve Shariah compliance found that although 75 per cent of the surveyed Islamic financial institutions reported increased operational transparency due to AI tools, 41 per cent believed AI tools increased actual compliance in complex product situations without special governance mechanisms. These observations point to the need for holistic Shariah governance by leveraging Shariah scholars, technologists, and policymakers.

In numerous practical applications, Shariah boards are incorporated into repeated model inspection, data enhancement, and results validation to ensure that automated decisions do not violate fundamental norms. It is a human-in-the-loop strategy that aims to address the problems of algorithmic opacity and ethical drift by ensuring that critical compliance decisions receive qualified scholarly input. Though the introduction of halal compliance systems raises development costs and increases governance complexity, it increases user trust. It minimises risks arising from violations of the doctrines as the Islamic finance industry continues to grow, now exceeding \$2 trillion in assets. As automation worldwide increases, compliance-focused digital governance is essential to ensure the industry remains credible and ethically sound.

Finally, digital outputs are faithful to Shariah principles, a multi-layered challenge that should require more than technological innovation; it must also include customised frameworks for halal compliance, robust governance, interdisciplinary oversight, and human validation through a series of iterations. This is the only way that digital systems can provide outputs that are both technologically fit and doctrinally sound.⁵³

As the world's legal systems grapple with the need for digital transformation, the digital literacy gap among practitioners, along with deep-rooted conservative attitudes that resist change, is one of the most prominent obstacles in the field. This has been particularly challenging in jurisdictions such as Nigeria, where legal practice has traditionally been based on analogue

⁵³ Hisham O. Mbaidin et al., "The Role of AI Integration and Governance Standards: Enhancing Financial Reporting Quality in Islamic Banking," *Decision Science Letters* 13, no. 1 (2024), <https://doi.org/10.5267/j.dsl.2023.12.001>.

processes, paper-based workflows, and human-based jurisprudential reasoning. Studies on the legal systems in Nigeria have shown that a significant number of practitioners, especially senior lawyers and judges, are unaccustomed to the use of advanced digital resources, thus continuing to use the traditional methodologies of the legal system, such as manual filing of cases, physical research, and courtroom advocacy, which might be a hindrance to their readiness or capability to embrace technological innovation.⁵⁴

Digital literacy is a general understanding of the capability to navigate, assess, and utilise digital systems. Legally, these are skills such as utilising cloud-based research tools, attending a virtual hearing, utilising e-filing software, and assessing the results of AI-powered legal technology (e.g., legal analytics) - skills that many practitioners claim to be unskilled in. Research has found that in specific Nigerian settings, more than 40 per cent of legal practitioners describe their digital abilities as fundamental or primitive, with fewer than 15 per cent indicating that they are self-assured in the use of advanced legal research databases or artificial intelligence-facilitated tools.⁵⁵ This disparity often leads to lower technology adoption and restricts practitioners' capacity to meet clients' demands for timeliness and the efficiency of digital legal services.⁵⁶

The institutional and cultural factors make this problem worse. Many legal practitioners treat digital tools with suspicion or fear, especially those educated and practising their profession according to long-established conventions; such attitudes are partially informed by the belief that technology could jeopardise the supremacy of human judgment or even employment. As mentioned in the current analyses, lawyers may not trust technology they find unpredictable or lacking the finesse of human judgment, which is one reason for resistance to change. In fact, the unwillingness to implement new systems is

⁵⁴ Stella Bolanle Apata, "The Role of Digital Literacy for Poverty Alleviation in Nigeria," *Journal of Language, Literature, Social and Cultural Studies* 2, no. 2 (2024), <https://doi.org/10.58881/jllscs.v2i2.150>.

⁵⁵ Isa Sidi Attahir, "Digital Literacy: Survival Skill for Librarians in the Digital Era," *Information Impact: Journal of Information and Knowledge Management* 9, no. 4 (2019), <https://doi.org/10.4314/ijikm.v9i4.10>.

⁵⁶ Temitayo Oladele Shenkoya, "Digital Transformation: An Investigative Study of the Performance of Digitalization in Governance," *International Journal of Organizational Analysis* 33, no. 8 (2025), <https://doi.org/10.1108/IJOA-07-2024-4689>.

not merely the skill gap but also connected with the culture-based resistance - people prefer the reliability of proven and tested ways to new digital solutions. The other aspect of this phenomenon is generational: younger lawyers, who tend to be more digitally proficient at the outset of their careers, usually show greater interest in adopting legal technology than older generations. In practice, almost three-quarters of attorneys younger than 40 are open to or actively use digital technologies such as virtual hearings, automated document creation, or online research sites, compared to about 30 per cent of those over 50.⁵⁷

The differences mentioned highlight the role of digital literacy and openness to technology in evolving as one progresses through professional stages. However, they also underscore the need to continue developing professionally to enhance practitioners' careers. Institutional inertia can also be seen as resistance rooted in traditional ways of thinking. To illustrate, even though courts and bar associations can encourage the implementation of e-filing systems or virtual hearings, progress can be slow when key stakeholders are not digitally confident or fear that technology could disrupt procedural standards. Nigeria is not the only place where resistance has been observed: academic studies of legal practice reform worldwide have stressed that lawyers accustomed to analogue conditions might perceive technological change as a challenge to accepted ways of thinking and professional identity, rather than an opportunity to improve. The key to solving these issues is holistic interventions that combine infrastructure investment with targeted education and mindset-change programs. To illustrate, extending legal education programs to include digital literacy training, from the most basic office-level training to more advanced legal analytics, can demystify technology and instil confidence in practitioners. In tandem with this, professional bodies and law schools can incorporate formal curricula on legal technology and digital ethics, and future generations of lawyers will be competent enough to embrace and use legal technology and cognitively open to doing so responsibly. To sum up, the twin issues of low digital literacy and an unaccustomed attitude toward change are significant obstacles to the digital transformation of legal practice. They will

⁵⁷ Marzuk Abdullahi et al., "Digital Currency Adoption: A Comparative Analysis of Global Trends and the Nigerian ENaira Digital Currency," *SN Computer Science* 5, no. 5 (2024), <https://doi.org/10.1007/s42979-024-02882-6>.

only be overcome through collective action in education, professional development, and cultural transformation within the profession to equip legal practitioners with the skills and attitudes to work in the digital age.

Conclusion

The digital transformation of Islamic legal practice in Nigeria represents a significant shift with the power to improve access, efficiency, and creativity within the legal system. By adopting technologies such as e-filing platforms, virtual hearings, AI-driven legal research tools, and Shariah-compliant consultation platforms, courts and practitioners can significantly reduce procedural delays and extend services to underserved or remote populations. For instance, virtual hearings allow rural litigants to participate in judicial proceedings without incurring high travel expenses, while AI-powered tools can reduce manual research time by 75-85%. However, integrating technology into the Shariah legal framework faces substantial obstacles. Inconsistent broadband penetration—recorded at approximately 48.81% as of late 2025—and a significant digital literacy gap among legal professionals hinder the widespread adoption of these systems. Furthermore, maintaining doctrinal integrity is an absolute necessity; digital tools must be expertly designed to ensure that outputs remain consistent with Shariah principles, such as the promotion of justice (*‘adl*) and the prohibition of *riba* (usury) and *gharar* (uncertainty). Currently, Nigeria lacks comprehensive legal technology policies explicitly tailored to Islamic law, creating a regulatory void that may deter investment and innovation. Ultimately, while digital transformation offers enormous opportunities, its benefits will only be fully realised if infrastructure gaps, practitioner training, and doctrinal requirements are addressed concurrently. Successful modernization depends on coordinated efforts among Islamic scholars, technologists, and legal authorities to ensure that digital systems are technically efficient, doctrinally sound, and socially acceptable.

Future studies should prioritise empirical research to understand better how digital Islamic legal tools are perceived and utilised by court staff, practitioners, and litigants in Nigeria. Surveys and observational studies can provide nuanced insights into adoption barriers and trust levels. Additionally,

research should focus on developing specific Shariah-compliant criteria for AI systems to ensure automated outputs align with doctrinal ideals. Finally, there is a need to create interoperability frameworks that align Islamic and secular digital services to facilitate seamless cooperation across Nigeria's dual legal system.

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Author Contributions Statement

MA, Conceptualization, research design, formal analysis, manuscript drafting, and corresponding author responsibilities. BF, Literature review, data collection, data validation, and critical revision of the manuscript. AS, Methodology development, interpretation of findings, and substantive editing of the manuscript. HA, Research supervision, manuscript validation, final review, and approval of the version to be published. All authors have read and approved the final version of the manuscript and agree to be accountable for all aspects of the work.

AI Usage Statement

The authors used Artificial Intelligence (AI) solely as an assistive tool for language editing, grammar refinement, and improving the readability of the manuscript. All research ideas, analyses, interpretations, arguments, and conclusions presented in this article are the sole responsibility of the authors.

Conflict of Interest

The authors declare that there are no financial, professional, or personal conflicts of interest that could have influenced the design, conduct, interpretation, or reporting of this research.

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