

Enhancing Access to Justice Through Technology in Developing Countries: Technology-Based Initiatives, Challenges and Emerging Technologies



International Journal
For Court Administration



**PROFESSIONAL
ARTICLE**

UCHENNA C. OKEKE 



ABSTRACT

Access to justice remains a pressing concern in developing countries, where vulnerable populations often face significant barriers in seeking legal redress. However, the rapid evolution of technology presents opportunities to bridge the gap to access to justice. From digital courts and online dispute resolution platforms to artificial intelligence-powered legal tools, technology is increasingly being utilized to expand access to justice. Yet, despite how promising technology is, significant challenges persist, including issues of regulatory divide, digital divide, and infrastructure limitations. This article aims to contribute to the growing discourse on technology-enabled access to justice by examining its potential, highlighting innovative approaches, reviewing efforts from developing countries, and analyzing emerging technologies that can improve access to justice for all.

CORRESPONDING

AUTHOR:

Uchenna C. Okeke

Independent Researcher

ucokeke19@gmail.com

KEYWORDS:

Access to Justice;
Technology; Developing
Countries; Technology-
Based Initiatives;
Challenges; Emerging
Technologies

TO CITE THIS ARTICLE:

Uchenna C. Okeke,
'Enhancing Access to
Justice Through Technology
in Developing Countries:
Technology-Based
Initiatives, Challenges and
Emerging Technologies'
(2026) 16(3) *International
Journal for Court
Administration* 5. DOI:
[https://doi.org/10.36745/
ijca.635](https://doi.org/10.36745/ijca.635)

1. TECHNOLOGY AND ACCESS TO JUSTICE IN DEVELOPING COUNTRIES: AN OVERVIEW

1.1 ACCESS TO JUSTICE

Access to justice is a fundamental human right recognized by international conventions and treaties, such as the Universal Declaration of Human Rights (UDHR)¹ and the International Covenant on Civil and Political Rights (ICCPR).²

Justice, as a concept, is often linked to fairness, equality, and equity. John Rawls propounds the idea of “justice as fairness”, asserting that “justice is the first virtue of social institutions.”³ This means that justice is the most important and fundamental principle that should guide the design and functioning of social institutions, such as governments, laws, and social systems. Ultimately, justice refers to the impartial and fair application of laws, rules, and principles in an equitable manner, regardless of individuals or groups involved.

The concept of “access to justice” is “one with an elusive and long-debated definition.”⁴ It has been said that “the term “access to justice” defies precise definition.”⁵ Though it is a fundamental principle of judicial effectiveness, “it remains less clear exactly what constitutes an adequate degree of access to justice.”⁶ The Organisation for Economic Co-operation and Development (OECD) defines access to justice as “the ability of people, businesses and communities to prevent conflicts and obtain effective, fair, equitable and timely resolution of their legal and justice-related needs.”⁷ The United Nations Development Programme (UNDP) defines it as the “ability of people to seek and obtain a remedy through formal or informal institutions of justice for grievances in compliance with human rights standards.”⁸

Although access to justice can be understood in different ways, this article adopts a narrower perspective. In this context, access to justice refers specifically to “how easy or difficult it is to set the justice system in motion and force it to make a decision.”⁹

1 See Universal Declaration of Human Rights, (United Nations General Assembly, 1948), article 10, <https://digitallibrary.un.org/record/666853?v=pdf> (assessed December 09, 2024).

2 See International Covenant on Civil and Political Rights, (1966), article 14, <https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-civil-and-political-rights> (assessed December 09, 2024).

3 John Rawls, *A Theory of Justice* (Cambridge, MA: Harvard University Press, 1971; rev. ed., 1999), 3.

4 World Bank Group, *Increasing Access to Justice in Fragile Settings* (Washington, DC: World Bank, 2023), 11.

5 Michael J. Wolf, *Collaborative Technology Improves Access to Justice*, New York University Journal of Legislation and Public Policy 15, no. 3 (Fall 2012): 765, 766.

6 Ibid.

7 OECD, *Recommendation on Access to Justice and People-Centred Justice Systems* (2023), <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0498> (assessed December 09, 2024).

8 United Nations Development Programme, *Programming for Justice: Access for All: A Practitioner's Guide to Human Rights-Based Approach to Access to Justice* (Bangkok: UNDP, 2005), 5.

9 Zsolt Zodi, “Legal Technology in the Service of Access to Justice,” *Hungarian Journal of Legal Studies* 64, no. 3 (September 2023): 323, 324, <https://doi.org/10.1556/2052.2024.00001>.

It involves individuals' ability to engage with the justice system, including courts, tribunals, and dispute resolution methods, as well as access to legal resources, services, representation, research, and education, allowing them to assert their rights and resolve disputes.

Goal 16 of the United Nations' Sustainable Development Goals focuses on promoting peaceful societies, ensuring access to justice for all, and building accountable and inclusive institutions.¹⁰ However, many, especially the poor and marginalized, face barriers in accessing justice. In fact, people from the world's poorest countries are often the most affected by serious injustices and have the least access to justice.¹¹ To address these challenges, institutions must leverage technology to improve access to justice.

1.2 TECHNOLOGY

The concept of technology defies a simple, universal definition due to its multifaceted nature. Thomas P. Hughes notes, "Technology is messy and complex. It is difficult to define and to understand."¹² This complexity highlights the need for a more balanced understanding of technology. Various definitions of technology highlight its creative, scientific, and practical aspects. For instance, Hughes defined technology as "a creative process involving human ingenuity."¹³ Another notable definition comes from Richard Rhodes, who defines technology as "the application of science, engineering and industrial organization to create a human-built world."¹⁴ Richard Li-Hua views technology as "state power to both developing and developed countries."¹⁵ To him, "Technology is regarded as a strategic instrument in achieving economic targets and in the creation of wealth and prosperity in the developing countries."¹⁶

In the context of access to justice, technology refers to tools and systems like computers, software, and the internet, which can improve access to legal information, resources, and the justice system.

Undoubtedly, an increasing number of technological tools that can enhance access to justice exist now.¹⁷ These innovations greatly impact the ordinary functioning of

10 United Nations, *Goal 16: Peace, Justice and Strong Institutions, Sustainable Development Goals*, <https://www.un.org/sustainabledevelopment/peace-justice/> (assessed December 09, 2024).

11 Vladyslav Teremetskyi et al., "Access to Justice and Legal Aid for Vulnerable Groups: New Challenges Caused by the Covid-19 Pandemic," *Journal of Legal, Ethical and Regulatory Issues* 24, no. 15 (2021). ISSN: 1544-0036 (Print), 1544-0044 (Online).

12 P. Thomas Hughes, *Human Built World: How to Think about Technology and Culture*, ed. Steven Shapin (Chicago: University of Chicago Press, 2004), 1.

13 Ibid. 3.

14 Richard Rhodes, ed., *Visions of Technology: A Century of Vital Debate about Machines, Systems, and the Human World* (New York: Simon & Schuster, 1999; first Touchstone ed., 2000), 19.

15 R. Li-Hua, "Definitions of Technology," in *A Companion to the Philosophy of Technology*, ed. Jan Kyrre Berg Olsen, Stig Andur Pedersen, and Vincent F. Hendricks (Chichester, UK: Wiley-Blackwell, 2009), 18.

16 Ibid.

17 James E. Cabral et al., "Using Technology to Enhance Access to Justice," *Harvard Journal of Law & Technology* 26, no. 1 (2012): 241–324.

law and affect how individuals interact with the law in their everyday lives.¹⁸ They help ordinary citizens to engage with the law, obtain legal support, understand legal provisions, assert their rights and fulfil their responsibilities more easily.¹⁹ It is essential that these tools are leveraged effectively to maximize access to justice, particularly in developing countries.

1.3 DEVELOPING COUNTRIES

Access to justice is a global concern, affecting not only developing countries but also nations worldwide.²⁰ Around 1.5 billion people cannot access justice for civil, administrative, or criminal issues, even in areas with functioning legal systems. Additionally, 4.5 billion people lack key legal tools like identity documents, land rights, and formal work arrangements. Finally, 253 million people live in extreme injustice. Altogether, these figures show that 5.1 billion people, or about two-thirds of the world's population, face challenges to access to justice.²¹ These statistics reveal that even developed countries struggle with this issue despite these problems being exacerbated for developing countries as indicated by the limited or unequal access to technological advancements.

The United Nations (UN) classifies countries into developed, transitioning, and developing economies through the World Economic Situation and Prospects (WESP) system.²² Developing countries face unique challenges, including ensuring access to justice, due to disparities in resources, infrastructure, and institutional capacity. It is little wonder; then, that the UN has emphasized the need to close the technology gap present in less developed countries, highlighting the importance of science, technology, and innovation (STI) for transforming economies and driving sustainable development.²³ This is particularly important for marginalized groups in developing countries particularly affected by the lack of access to justice. The term “marginalized refers to those individuals and groups of people who are limited in their capacity to get full recognition as participants within mainstream society praxis.”²⁴ It refers to individuals or groups who are disadvantaged or excluded from fully participating or being recognized within the normal activities and structures of society. This includes,

18 Siddharth Peter de Souza and Maximilian Spohr, eds., *Technology, Innovation and Access to Justice: Dialogues on the Future of Law* (Edinburgh: Edinburgh University Press, 2021), 1.

19 Zodi, “Legal Technology,” 324.

20 World Justice Project, *Measuring the Justice Gap: A People-Centered Assessment of Unmet Justice Needs around the World* (2019), 27, <https://worldjusticeproject.org/our-work/research-and-data/access-justice/measuring-justice-gap#:~:text=When%20viewed%20in%20the%20aggregate,many%20confronted%20by%20multiple%20injustices>, (assessed September 15, 2024).

21 Ibid.

22 United Nations Department of Economic and Social Affairs, *Country Classification*, https://www.un.org/en/development/desa/policy/wesp/wesp_current/2014wesp_country_classification.pdf (assessed September 21, 2024).

23 United Nations Technology Bank for Least Developed Countries, *UN Technology Bank's New Report Reveals the State of Science, Technology and Innovation in the World's Least Developed Countries*, September 14, 2022, <https://www.un.org/technologybank/news/un-technology-bank%E2%80%99s-new-report-reveals-state-science-technology-and-innovation-world%E2%80%99s-least> (assessed September 24, 2024).

24 International Commission of Jurists, *Access to Justice for Africa's Marginalized: Impediments and Opportunities in Eleven Countries*, Baseline Report (Kenyan and Swedish Sections of the ICJ African Human Rights and Access to Justice Program, 2009), 7.

but is not limited to, the uneducated, the unemployed, women, and other vulnerable populations.

In many fragile and conflict-affected states (FCS), many people do not have access to tech-based legal resources. Even professionals such as “lawyers and judges lack access to a complete and searchable collection of laws and regulations, leading to potentially low-quality legal advice and decisions.”²⁵ As a result, people in these regions often turn to traditional leaders²⁶ and customary systems for justice.²⁷ Research from the World Bank Group in 2023 shows that 71% of people in fragile African states rely on traditional leaders for justice, compared to 59% in more stable states. This reliance is especially high in countries like Burundi, Ethiopia, Gambia, Mali, Nigeria, and Sierra Leone,²⁸ indicating a lack of trust in formal courts and widespread issues accessing justice in developing countries.

2. THE ROLE OF TECHNOLOGY IN ENHANCING ACCESS TO JUSTICE

The twenty-first century has seen the rise of some ground breaking information technologies that have transformed modern life.²⁹ There is no area in today's world where technology is not being used to some extent.³⁰ From the internet to mobile devices, to artificial intelligence, it is without a doubt that technology has greatly impacted numerous aspects of modern life, and access to justice is no exception. In fact, technology has been recognized as a key enabler of justice, as highlighted in Kenya's Judicial Transformation Framework (2012–2016).³¹ The adoption of technology has bridged gaps in accessing justice in developing countries through:

- **Improved Accessibility:** Technology facilitates remote access to judicial services, thereby enhancing the accessibility of the justice system.³² Online platforms and video-conferencing have made it easier for people, especially

25 Erica Bosio, *Increasing Access to Justice in Fragile Settings* (Washington, DC: World Bank Group), 18, <http://documents.worldbank.org/curated/en/099101123141530374/P17955108fb2a104e0a55e04b0257738ea3> (assessed December 10, 2024).

26 Traditional leaders, are individuals who hold authority within a community by virtue of lineage, inheritance, or community recognition, and who are entrusted with upholding traditions, mediating conflicts, and maintaining order.

27 The customary justice system are usually traditional leaders, community elders or chiefs who resolve disputes based on local customs and norms, often in informal, accessible, and culturally familiar ways. Their legitimacy is often rooted in tradition rather than legal qualifications, and their practices vary widely across regions. While these systems can offer faster and more culturally accepted resolutions, they may lack consistency, legal safeguards, or protections for vulnerable groups, especially women.

28 Bosio, *Increasing Access to Justice*, 18.

29 M. Yamin, “Information Technologies of 21st Century and Their Impact on the Society,” *International Journal of Information Technology* 11 (2019): 759–66, <https://doi.org/10.1007/s41870-019-00355-1>.

30 Sriya Shubhalaxmi Mishra, “The Advent of Technology and Its Impact on the Society” (November 14, 2019), SSRN, (November 14, 2019), <https://doi.org/10.2139/ssrn.3598962>.

31 Judicial Transformation Framework (2012–2016), <https://kenyalaw.org/kl/fileadmin/pdfdownloads/JudiciaryTransformationFramework.pdf>, (assessed December 15, 2024).

32 N. Llagami, “The Use of Technology in the Justice System,” *Global Journal of Politics and Law Research* 12, no. 4 (2024): 79, <https://doi.org/10.37745/gjplr.2013/vol12n46682>.

those in marginalized or remote areas, to access justice from anywhere, at any time.

- **Enhanced Efficiency:** Globally, it has been noted that the greatest advantage of technology is that it increases efficiency and helps organizations improve their administration.³³ In the judicial sector, technology has streamlined court processes through electronic filing systems, digital case management tools, and online payment platforms, minimizing paperwork and administrative burdens. For instance, in Nigeria, some judges confirmed that technology has enhanced their job performance as it allows them to communicate and share information and experiences with their colleagues.³⁴
- **Legal Information and Education:** Technology has increased access to legal information and education. Online resources, such as legal websites and mobile apps, provide easy-to-understand information about rights and responsibilities. Legal websites increase brand exposure, attract clients, and provides value to both current and potential clients,³⁵ by providing easy access to legal information and education. Mobile apps also offer various functions, including providing legal information and advice, creating documents, and collecting evidence.³⁶
- **Reducing costs and delays:** The use of technology in the justice system implies the elimination of unnecessary delays³⁷ associated with traditional legal processes; and has led to increased efficiency. For instance, virtual courts eliminate the need for physical infrastructure, travel, and accommodation costs, making justice more accessible and affordable.

3. TECHNOLOGY-BASED INITIATIVES TO ENHANCE ACCESS TO JUSTICE IN DEVELOPING COUNTRIES

3.1. VIRTUAL COURTS

Virtual courts provide a conceptual idea of a judicial forum that has no physical presence but still provides the same justice services that are available in courtrooms.³⁸ Virtual hearings could be fully virtual, hybrid, or remote witness testimony.

33 Halima Doma, "Enhancing Justice Administration in Nigeria through Information and Communications Technology," *John Marshall Journal of Information Technology & Privacy Law* 32, no. 2 (2016): 97, <https://repository.law.uic.edu/jitpl/vol32/iss2/2>, (assessed on December 15, 2024).

34 Ibid.

35 Lawyerist, "Purpose of a Law Firm Website," <https://lawyerist.com/law-firm-websites/purpose/#::~text=Today's%20legal%20websites%2C%20though%2C%20serve,proposition%E2%80%94to%20your%20target%20client>, (assessed on December 15, 2024).

36 Jena McGill, Suzanne Bouclin, and Amy Salyzyn, "Mobile and Web-Based Legal Apps: Opportunities, Risks and Information Gaps," *Canadian Journal of Law and Technology* 15, no. 2 (2017): 230, <https://ssrn.com/abstract=2960207>, (assessed on December 15, 2024).

37 C.S. Ibekwe and C. Onwuatuegwu, "ICT in the Administration of Justice: Challenges and Prospects for Labor and Productivity," *Nnamdi Azikiwe University Awka Journal of Commercial and Property* 8, no. 1 (2021): 7, <https://journals.unizik.edu.ng/jcpl/article/download/646/614/1557>, (assessed September 23, 2024).

38 Keith Kaplan, "Will Virtual Courts Create Courthouse Relics?" *The Judges' Journal* 52, no. 2 (2013): 32.

Fully virtual hearings involve all parties, including the judge, connecting virtually, while hybrid hearings refers to some participants attending court remotely and others attending in person.³⁹ Some developing countries have leveraged this technology. For instance, in **Nigeria**, the Lagos State Judiciary has pioneered the use of virtual court sessions.⁴⁰ In a landmark case,⁴¹ a judge sentenced an individual to death for murder, during a Zoom session. A decision approved by the Chief Judge under the Lagos State Judiciary's Remote Hearing Practice Direction.⁴² The Enugu State Judiciary has also conducted virtual court sittings, showcasing the innovative use of technology in the administration of justice.⁴³

Uganda has implemented a video-conferencing system to improve efficiency, lower costs, and enhance access to justice. As part of the Judiciary's "e-justiceforall" vision, it allows remote testimony and court proceedings, easing the burden of transporting prisoners. With two virtual courts in Luzira Prison, this technology helps reduce case backlogs and frees up judicial resources for full trials.⁴⁴

The other type of virtual hearing is remote witness testimony, which allows witnesses to connect virtually to provide testimony from a convenient location. This approach is particularly useful for vulnerable witnesses, such as victims of domestic violence or sexual assault. For instance, **Namibia** has introduced an innovative approach, replacing examination-in-chief [the questioning of a witness in court by a party who called them] with video recordings, to create safer spaces for witnesses to share their testimonies. The Criminal Procedure Act allows the use of CCTV for testimony involving a "vulnerable witness."⁴⁵ By leveraging CCTV, video links, and video recordings, Namibia has demonstrated how technology can enhance the criminal justice system, prioritizing vulnerable witnesses' well-being, while maintaining fair trial principles.⁴⁶

Similarly, **Pakistan** has also made significant innovations in leveraging technology to enhance its justice system. The country's judiciary launched its first e-court system in

39 **Rights of Women**, *Remote Hearings in the Family Court*, <https://www.rightsofwomen.org.uk/get-advice/family-law-information/remote-hearings-in-the-family-court-2/>, (assessed December 21, 2024).

40 **"Nigeria Holds First Online Court Sitting; Lagos Man Sentenced to Death for Murder," Sahara Reporters**, <https://saharareporters.com/2020/05/04/nigeria-holds-first-online-court-sitting-lagos-man-sentenced-death-murder> (assessed September 23, 2024).

41 *State of Lagos v. Olalekan Hameed*, Unreported Charge No.ID/9006C/2019.

42 Order 16 Lagos State Judiciary Remote Hearing of Cases (Covid-19 Pandemic Period) Practice Direction.

43 **"Enugu State Judiciary Commences Virtual Court Hearing, Records Three Virtual Sittings," The Nigeria Lawyer**, <https://thenigerialawyer.com/enugu-state-judiciary-commences-virtual-court-hearing-records-three-virtual-sittings/>, (assessed September 23, 2024).

44 **"Uganda's Judicial System: Virtual Courts are Here, but No Laws to Regulate them," Unwanted Witness**, <https://www.unwantedwitness.org/ugandas-judicial-system-virtual-courts-are-here-but-no-laws-to-regulate-them/>, (assessed September 21, 2024).

45 See Section 158A of the *Criminal Procedure Act* of Namibia, No. 51 of 1977, as amended by No. 24 of 2003.

46 Sabine Katharina Witting, "Leveraging Technology to Enhance Access to Justice for Children in Africa," (June 15, 2018), <https://www.leidenlawblog.nl/articles/leveraging-technology-to-enhance-access-to-justice-for-children-in-africa>, (assessed September 23, 2024).

July 2019,⁴⁷ with a three-member bench adjudicating the country's first online case.⁴⁸ The Pakistan Supreme Court has also accepted video-link testimony as a valid means of facilitating a fair hearing. This is evident in the case of *Justice Qazi Faez Isa & 9 Ors v. The President of Pakistan & Anor*,⁴⁹ where the Court's actions implied acceptance of video-link testimony. In another case, *Meera Shafi v. Ali Zafar*⁵⁰ the Court utilized video-conferencing for witness evidence in civil cases.⁵¹

3.2 ONLINE DISPUTE RESOLUTION (ODR)

Online dispute resolution (ODR) refers to the use of digital technologies to facilitate the resolution of disputes through methods commonly known as Alternative Dispute Resolution (ADR).⁵² It is essentially the adaptation of existing forms of ADR, such as mediation, arbitration or negotiation, using the internet.⁵³ In essence, when these processes occur without the physical presence of the parties and rely instead on digital communication, they are classified as ODR.⁵⁴

ODR enables parties to settle disputes early, freeing up court resources for more complicated cases. It simplifies processes and reduces reliance on extensive physical court infrastructure.⁵⁵ In **India**, a variety of ODR platforms have been launched to facilitate the resolution of disputes across different sectors, including consumer complaints, matrimonial disputes, and commercial disputes. These platforms have proven to be both feasible and convenient.⁵⁶

3.3 ELECTRONIC SERVICES (E-SERVICES)

E-services use information and communication technologies (ICTs) to deliver services through multiple channels, connecting providers and receivers. In public e-services, government agencies engage with citizens and businesses through the internet, telephone, and mobile platforms. These online platforms make it easy for citizens

⁴⁷ Abida Naurin and Asad Ullah, "E-Court System: A Dire Need," (Pakistan Institute of Development Economics, 2023), <https://pide.org.pk/research/e-court-system-a-dire-need/>, (assessed September 16, 2024)

⁴⁸ Supreme Court of Pakistan, *Press Release: E-Court System Successfully Launched in Supreme Court*, (Supreme Court of Pakistan, 2019), <https://www.supremecourt.gov.pk/e-court-system-successfully-launched-in-supreme-court/> (assessed September 16, 2024).

⁴⁹ PLD 2021 SC 639, 17–19.

⁵⁰ PLD 2023 SC 211, 5, 10.

⁵¹ See Article 202 of the *Constitution of the Islamic Republic of Pakistan*, 1973.

⁵² Karolina Mania, "Online Dispute Resolution: The Future of Justice," *International Comparative Jurisprudence* 1, no. 1 (November 2015): 76–86, <https://doi.org/10.1016/j.icj.2015.10.006>.

⁵³ Resolution Systems Institute, *Online Dispute Resolution*, <https://www.aboutrsi.org/special-topics/online-dispute-resolution>, (accessed September 19, 2024).

⁵⁴ Pablo Cortes, "Using Technology and ADR Methods to Enhance Access to Justice," *International Journal of Online Dispute Resolution* 5, no. 1–2 (2018): 103–121: <https://hdl.handle.net/2381/46092>, (accessed September 19, 2024).

⁵⁵ Peter Cashman and Eliza Ginnivan, "Digital Justice: Online Resolution of Minor Civil Disputes and the Use of Digital Technology in Complex Litigation and Class Actions," *Macquarie Law Journal*, 41, https://www.mq.edu.au/_data/assets/pdf_file/0012/866289/Digital-Justice.pdf, (assessed December 21, 2024).

⁵⁶ Ayush Gupta, "ODR: An Emerging Solution to Disputes," *Corpzo*, July 29, 2024, <https://www.corpzo.com/odr-an-emerging-solution-to-disputes>, assessed December 21, 2024

to access judicial services.⁵⁷ Rwanda's judiciary stands out with its Integrated Electronic Case Management System, offering a comprehensive online platform for case management. The system provides clear guidelines, user manuals, and video tutorials, ensuring easy access for citizens.⁵⁸

Kenya's Judiciary has also introduced an e-filing system with a user guide, enabling e-case registration, e-payments, automated fee assessments, e-calendars, and e-case searches. The e-judiciary system aims to speed up judicial processes, improve service delivery, and reduce paper-based backlogs.⁵⁹

3. 4 VIRTUAL LAW OFFICE

A Virtual Law Office refers to the digital infrastructure that allows legal professionals to deliver services without a physical office. It provides clients and lawyers with secure, online access to a shared portal from any location with internet connectivity.⁶⁰ Unlike platforms that offer only form-generated or automated legal documents, a Virtual Law Office supports a full virtual law practice, enabling direct, personalized interaction between lawyer and client.⁶¹ Through this model, clients can receive tailored legal services such as legal advice, document review, mediation, and legal education through video conferencing, secure messaging, or phone consultations. This setup enhances accessibility, flexibility, and efficiency in the delivery of legal services, especially for clients who may not be able to attend in-person meetings

LawRato, based in India, exemplifies a hybrid approach to online legal services in developing countries. While it offers online legal consultations and document review with real lawyers, it also incorporates chatbot features to provide quick answers to common legal queries. This blend of automated and personalized services helps expand access to justice and demonstrates how Virtual Law Offices can evolve to meet diverse client needs.⁶²

4. CHALLENGES OF TECHNOLOGY-BASED INITIATIVES IN DEVELOPING COUNTRIES

4.1 REGULATORY DIVIDE AND DIGITAL LITERACY CONCERNS

The implementation of digital legal processes in developing countries is constrained by regulatory limitations. In Africa, some countries have comprehensive legal

57 Africa Law Tech, Lawyers Hub, *An Analysis of Virtual Courts in Africa*, https://www.lawyershub.org/Digital%20Resources/Reports/virtual_courts_report.pdf, (assessed September 19, 2024).

58 Adam Watson, Regis Rukundakuvuga, and Khachatur Matevosyan, "Integrated Justice: An Information Systems Approach to Justice Sector Case Management and Information Sharing – Case Study of the Integrated Electronic Case Management System for the Ministry of Justice in Rwanda," *International Journal for Court Administration* 8, no. 3 (2017), <https://ssrn.com/abstract=3028664>.

59 Africa Law Tech, *Virtual Courts in Africa*.

60 Ibrahim Sule, Femi Olorunyomi, Joseph Ajah, and Adama Usman, "Virtual Court Proceedings in Nigeria: Some Legal Matters Arising," *European Journal of Law and Political Science* 3, no. 3 (2024): 17–22, <https://doi.org/10.24018/ejpolitics.2024.3.3.91>.

61 Anastasia Selkova, "Would Online Legal Services Guarantee the Availability of Justice and Legal Aid?" in *Euro-Asian Law Congress 2021, SHS Web of Conferences* 134 (2022): 00035, <https://doi.org/10.1051/shsconf/202213400035>.

62 LawRato, <https://lawrato.com/>, (assessed December 29, 2024).

frameworks governing virtual courts,⁶³ whilst others⁶⁴ operate without any such rules.⁶⁵ Among the developing countries that have made significant progress in establishing comprehensive legislation governing virtual courts is Kenya. **Kenya** has established a regulatory framework for virtual courts, gazetting the Electronic Case Management Practice Directions in 2020.⁶⁶ These guidelines outline procedures for electronic filing, virtual hearings, and the management of digital evidence, ensuring a smooth transition to virtual courts.⁶⁷ **Zimbabwe** has also taken steps towards establishing virtual courts, drafting the Judicial Laws Amendment Bill in 2016.⁶⁸ This bill aims to enable virtual sittings, allowing the country to harness the benefits of technology in its judicial system. The country's commitment to judicial reform has positioned it well for the adoption of virtual courts.⁶⁹

Differently, several countries struggle with insufficient provisions for virtual courts in their judicial systems. In **Ghana**, the existing laws do not provide a clear framework for virtual courts. While *Order 38 Rule 3A* of the *C.I. 87*⁷⁰ allows for hearings via video links or other means, this provision is limited to civil cases, leaving a gap for virtual court sessions in criminal proceedings. Furthermore, the Chief Justice's practice direction on virtual court hearings, which applies to both civil and criminal cases, is considered an administrative directive rather than substantive law,⁷¹ reducing its legal weight. Additionally, *Article 1, Clause 2* of Ghana's Constitution⁷² states that any law inconsistent with the Constitution is void, raising concerns about the legality of the current framework for virtual hearings.

Similarly, in **Nigeria**, in the cases of *Attorney General of Lagos State v. Attorney General of the Federation & National Assembly*⁷³ and *Attorney General of Ekiti State v. Attorney General of the Federation & 2 Ors*,⁷⁴ the legality of virtual hearings was challenged on constitutional grounds, particularly regarding the requirement for public court

⁶³ Countries such as Algeria, Tanzania, Uganda, Zimbabwe, Tunisia, Mauritius, and Eswatini, have established legal frameworks that support the operation of virtual courts. Others rely on practice directions or relevant provisions embedded within existing laws and procedures. These include Ghana, Nigeria, South Africa, Kenya, Zambia, Rwanda, Sierra Leone, Namibia, Gambia, Botswana, Lesotho and Seychelles.

⁶⁴ Countries such as Ethiopia, Egypt, Democratic Republic of Congo, Sudan, Angola, Morocco, Malawi, Burundi, South Sudan, Libya, Liberia, were, at the time of writing, characterised by limited or unclear formal guidance on the operation of virtual court proceedings.

⁶⁵ Africa Law Tech, *Virtual Courts in Africa*.

⁶⁶ See *Electronic Case Management Practice Directions*, 2020 (Kenya).

⁶⁷ Africa Law Tech, *Virtual Courts in Africa*.

⁶⁸ See *Judicial Laws Amendment (Ease of Settling Commercial and Other Disputes) Bill*, 2016 H.B. 4, 2016 (Zimbabwe).

⁶⁹ Africa Law Tech, *Virtual Courts in Africa*.

⁷⁰ *High Court (Civil Procedure) (Amendment) Rules*, 2014 (C.I. 87) (Ghana).

⁷¹ Sampson Anomah and Enoch Kwabena Amoah, "Balancing Justice in Pixels: Legal and Constitutional Implications of Virtual Court Sessions in Ghana," *E-Journal of Humanities, Arts and Social Sciences (EHASS)* 5, no. 3 (March 2024): 271–283, <https://doi.org/10.38159/ehass.20245310>.

⁷² *The Constitution of the Republic of Ghana*, 1992.

⁷³ *Unreported suit number SC/CV/260/2020*, ruling delivered by Hon. Justice Rhodes Vivour JSC on July 14, 2020.

⁷⁴ *Unreported suit number SC/CV/261/2020*, ruling delivered by Hon. Justice Rhodes Vivour JSC on July 14, 2020.

proceedings.⁷⁵ The Supreme Court dismissed the cases as speculative and premature, affirming that virtual hearings are not unconstitutional, but also emphasized that rights must be actively infringed before challenging such hearings.⁷⁶ Although this ruling allowed virtual hearings to continue, it highlighted the need for constitutional amendments to create a clear legal framework for digital justice initiatives.⁷⁷

Another key challenge in developing countries is the lack of IT skills amongst judges, magistrates, judicial staff, and legal practitioners.⁷⁸ This makes it difficult for them to adopt and effectively use digital legal tools. Furthermore, lawyers and other stakeholders may resist adopting digital technologies, a phenomenon known as “irrational rejectionism,” where technological solutions are dismissed without valid justification.⁷⁹ To overcome this, training should be provided to improve digital skills for judges, magistrates, and legal professionals.⁸⁰

4.2 INFRASTRUCTURE AND CONNECTIVITY CONSTRAINTS

Infrastructure challenges pose significant barriers to digitalization efforts in developing countries.⁸¹ In the 21st century, a significant portion of the population, especially those in rural areas, still lacks access to electricity.⁸² In Least Developed Countries (LDCs), only 35% have internet access, while in Landlocked Developing Countries (LLDCs), the figure is just 39%.⁸³ A study in Nigeria revealed that inadequate infrastructure is a significant concern, with 85% of respondents citing challenges such as unreliable electricity and limited internet connectivity as major obstacles to effective Virtual Court Proceedings (VCP).⁸⁴ In addition, the availability of legal information to many in

⁷⁵ Section 36 (1), (3), (4) of the *Constitution of the Federal Republic of Nigeria*, 1999.

⁷⁶ Adama Usman, Joseph Ajah, Femi Olorunyomi, and Ibrahim Sule, “Virtual Court Proceedings in Nigeria: Some Legal Matters Arising” (August 26, 2024), SSRN, <https://ssrn.com/abstract=4937330> or <https://doi.org/10.2139/ssrn.4937330>.

⁷⁷ Abimbola Davies, Olubukola Olugasa, and Dorcas A. Odunaike, “Experimental Trials of the Virtual Court Proceedings in Nigeria: An Empirical Perspective,” *International Journal for Court Administration* 15, no. 2 (2024): 4, <https://doi.org/10.36745/ijca.550>.

⁷⁸ CA Aniekwe, “Legal Framework for the Use of Information and Communications Technology (ICT) in the Nigerian Justice System: A Call for Review,” *International Journal of Comparative Law and Legal Philosophy* 1, no. 3 (2019): 130, <https://www.nigerianjournalonline.com/index.php/IJOCLLEP/article/viewFile/1098/1082>, (assessed December 26, 2024).

⁷⁹ Richard Susskind, “*Online Courts and the Future of Justice*” (Oxford University Press 2019), 3.

⁸⁰ Nacereddine Mazari and Siham Bensalem, “Developing Judges’ and Lawyers’ Skills in the Digital Age: A Comparative Study (Singapore-USA-UK),” *Journal of Law and Humanities Sciences* 17, no. 3 (2024): 49–63.

⁸¹ Chukwunonso Joseph Nosike, “Digitalization in Developing Countries: Opportunities and Challenges,” *Nigerian Journal of Arts and Humanities* 4, no. 1 (2024): 5, <https://nigerianjournalonline.com/index.php/NJAH/article/download/4443/4307>, (assessed December 26, 2024).

⁸² Anam Azam, Muhammad Rafiq, Muhammad Shafique, and Jiahai Yuan, “Renewable Electricity Generation and Economic Growth Nexus in Developing Countries: An ARDL Approach,” *Economic Research-Ekonomska Istraživanja* 34, no. 1 (2021): 2423–46, doi:10.1080/1331677X.2020.1865180.

⁸³ International Telecommunication Union (ITU), “Global Internet Use Continues to Rise but Disparities Remain, Especially in Low-Income Regions” (2024), <https://www.itu.int/en/mediacentre/Pages/PR-2024-11-27-facts-and-figures.aspx> assessed, (December 26, 2024).

⁸⁴ Africa Law Tech, *Virtual Courts in Africa*.

developing countries is limited either by cost, the secrecy of that information, or both.⁸⁵ Other challenges include limited computer/electronics availability and maintenance capacity, high cost of internet networks, inadequate funding, and limited internet access.⁸⁶

To address these challenges, governments should invest in affordable renewable energy, expand internet access, and make legal information more affordable. Additionally, international support and funding can help develop infrastructure and build capacity, ensuring that everyone can access digital legal services.⁸⁷

4.3 DIGITAL DIVIDE AND ACCESSIBILITY CONCERNS

The “term digital divide refers to “the gap between individuals, households, businesses, and geographic areas at different socio-economic levels with regard both to their opportunities to access information and communication technologies (ICTs) and to their use of the Internet for a wide variety of activities.”⁸⁸ This divide is a significant concern, particularly in developing countries, where many people lack the skills to effectively navigate digital platforms. In fact, only 27% of the populations in LDCs have internet access, compared to the global average of 63%.⁸⁹ This disparity is further heightened by the limitations of 2G and 3G networks in low-income countries, which hinder the adoption of advanced technologies like 5G.

The 2021 Uganda Inclusive Digital Economy Scorecard highlights significant deficiencies in both basic and digital skills as key challenges to building an inclusive digital economy. It also emphasizes that until these skill gaps are addressed, ICT sector initiatives will be unable to achieve their full development impact.⁹⁰

The digital divide can cause confusion and frustration, preventing people from getting the help they need. For example, someone may have difficulty filling out online forms, understanding legal terms, or navigating complex websites, making it harder to find legal information or seek assistance.

Accessibility concerns, such as language barriers, can prevent people from using online legal platforms. Many platforms are only available in dominant languages, excluding marginalized communities that speak other languages. In countries with indigenous languages, platforms in only the dominant language can make it harder for people to access legal resources or seek justice. A study conducted in Zambia highlights this issue, noting that “the translation of essential legal documents into the many local

⁸⁵ Marc Masson and Ovais Tahir, “The Legal Information Needs of Civil Society in Zambia,” *Journal of Open Access to Law* (2016): 8, <https://ojs.law.cornell.edu/index.php/joal/article/download/45/61/194>, (assessed December 26, 2024).

⁸⁶ Ibid.

⁸⁷ United Nations, *World’s Poorest Nations Need International Support, Experts Tell Preparatory Committee, as E-Commerce, Global Market Access Take Centre Stage*, press release, May 27, 2021 <https://press.un.org/en/2021/dev3440.doc.htm>, (assessed December 29, 2024).

⁸⁸ OECD, *Understanding the Digital Divide*, OECD Digital Economy Papers, no. 49 (Paris: OECD Publishing, 2021), <https://doi.org/10.1787/236405667766>.

⁸⁹ United Nations General Assembly, *Second Committee, Widening Digital Gap between Developed, Developing States Threatening to Exclude World’s Poorest from Next Industrial Revolution, Speakers Tell Second Committee*, 78th Session, 10th & 11th Meetings, <https://press.un.org/en/2023/gaef3587.doc.htm>, (assessed on September 21, 2024).

⁹⁰ UNCDF, *Inclusive Digital Economy Scorecard Report*, Uganda 2021, (July 2021).

languages in Zambia would be very useful in truly opening up legal information to all.”⁹¹ This reflects the challenge of making legal resources available to people who speak different languages, especially in countries with many local languages.

To overcome these challenges, online legal platforms must be inclusive. This means offering services in multiple languages and creating easy-to-use interfaces. Additionally, features like text-to-speech and sign language interpretation can help make digital legal services accessible-to-everyone.

The Constitution of the Republic of Kenya provides a basis for promoting inclusivity in online legal services by mandating that the state promote and protect the diversity of languages spoken by the people of Kenya. According to *Chapter 2, Article 7* of the Constitution,⁹²

(3) *The State shall--*

(a) *promote and protect the diversity of language of the people of Kenya; and*

(b) *promote the development and use of indigenous languages, Kenyan Sign language, Braille and other communication formats and technologies accessible to persons with disabilities.*

The above provisions emphasize the importance of promoting and protecting language diversity. India has made a significant advancement in this area with the creation of the Indian Supreme Court Vidhik Anuvaad Software (SUVAS), which uses AI to translate English judicial documents into nine vernacular languages, making justice more accessible to non-English speakers.⁹³ Other developing countries should take inspiration from this initiative by making online legal platforms multilingual, thereby empowering citizens to access justice in their own languages.

4.4 CYBERSECURITY AND DATA PROTECTION

In the context of using technology to access justice, cybersecurity and data protection issues are among the top challenges facing developing countries. In Indonesia, for example, the cybersecurity system is not yet fully optimized, making the country vulnerable to frequent cyber-attacks.⁹⁴ According to the National Cyber Agency of Indonesia (BSSN), there were approximately 888 million cyber-attacks recorded between January and August 2021.⁹⁵

Beyond direct cyber-attacks, other forms of digital threats also pose serious challenges to justice systems. The manipulation of digital content, such as the creation of fake

⁹¹ Masson and Tahir, “Legal Information Needs,” 47.

⁹² *The Constitution of Kenya* 2010, Chapter 2, Article 7.

⁹³ “AI Help Translate Judicial Documents into Vernacular Languages under eCourts Project: Law Ministry,” *India Today*, December 21, 2022, <https://www.indiatoday.in/law/story/ai-help-translate-judicial-documents-into-vernacular-languages-under-ecourts-project-law-ministry-2311933-2022-12-21>, (assessed September 19, 2024).

⁹⁴ Ethan Martupa Sahat Marune Abraham and Brandon Hartanto, “Strengthening Personal Data Protection, Cyber Security, and Improving Public Awareness in Indonesia: Progressive Legal Perspective,” *International Journal of Business, Economics and Social Development* 2, no. 4 (2021): 143–52, <https://doi.org/10.46336/ijbesd.v2i4.170>, (assessed December 26, 2024).

⁹⁵ “Indonesia Probe Police Hack in Latest Cyber Breach,” *Reuters*, November 19, 2021, <https://www.reuters.com/world/asia-pacific/indonesia-probe-police-hack-latest-cyber-breach-2021-11-19/>, (assessed December 26, 2024).

images and videos, can compromise the integrity of evidence presented in court.⁹⁶ These malicious activities undermine the confidentiality, integrity, and availability of sensitive information, potentially disrupting the administration of justice. Cybercrime ranging from fraud and identity theft to threats and intimidation,⁹⁷ further exacerbates these risks.

Given these threats, robust data privacy and cybersecurity measures are important to prevent unauthorized access and protect sensitive information.⁹⁸ Cybersecurity, together with data protection, offers complementary strategies and tools that help secure individuals' personal data and uphold their privacy.⁹⁹

To safeguard the justice system against cyber threats, governments and legal institutions need to enhance cybersecurity by securing data through encryption, enforcing robust password protocols, and consistently updating security systems to anticipate and prevent potential threats.¹⁰⁰ Additionally, improving data protection laws is vital for transparency and accountability. These laws safeguard sensitive data and help build trust in digital systems. Furthermore, working with cybersecurity experts and international collaboration are key to fighting cybercrime and protecting justice systems.

5. EMERGING TECHNOLOGIES

5.1 ARTIFICIAL INTELLIGENCE (AI)

Artificial intelligence (AI) is “the capacity of a machine to imitate intelligent human behavior.”¹⁰¹ In the legal field, AI is applied to tasks such as drafting, negotiating, and reviewing contracts; analyzing litigation documents; predicting case outcomes; recommending legal strategies; streamlining legal research; time-keeping; and much more.¹⁰²

AI technologies are revolutionizing the delivery of legal services by automating routine tasks, enhancing the accuracy of legal research, and offering real-time assistance through virtual assistants and chatbots.¹⁰³ Chatbots and other AI tools are

⁹⁶ Halima Doma, “Enhancing Justice Administration in Nigeria through ICT,” *J. Marshall J. Info. Tech. & Privacy L.* 32 (2016): 8.

⁹⁷ J. Hawdon, “Cybercrime: Victimization, Perpetration, and Techniques,” *American Journal of Criminal Justice* 46, no. 6 (2021): 837–842, <https://doi.org/10.1007/s12103-021-09652-7>.

⁹⁸ Kamshad Mohsin, “Data Privacy and Cybersecurity,” December 11, 2022, SSRN, <https://ssrn.com/abstract=4299439> or <https://doi.org/10.2139/ssrn.4299439>.

⁹⁹ Wojciech Wiewiórowski, “Cybersecurity and Data Protection: A Necessary and Powerful Duo,” *European Data Protection Supervisor*, September 28, 2023, https://www.edps.europa.eu/press-publications/press-news/blog/cybersecurity-and-data-protection-necessary-and-powerful-duo_en, (assessed December 24, 2024).

¹⁰⁰ Mohsin, “Data Privacy and Cybersecurity.”

¹⁰¹ Bemology Unity Ogoniba, “AI and Access to Justice: Improving Legal Services and Equality,” *Nigerian Bar Journal* 13, no. 1 (2023): 54, <https://www.ajol.info/index.php/nba/article/view/254148>, (assessed December 24, 2024).

¹⁰² Noah Waisberg, *AI for Lawyers* (John Wiley & Sons 2021), 7.

¹⁰³ Rajesh Kanna Rajendran et al., “The Role of AI in Enhancing Access to Justice and Legal Services,” in *Exploration of AI in Contemporary Legal Systems*, ed. Halim Bajraktari (Hershey, PA: IGI Global, 2025), 139–162, <https://doi.org/10.4018/979-8-3693-7205-0.ch008>.

also widely used by courts or authorities, for tasks such as information discovery, data analysis, technical support, and, in some instances, assisting with decision-making.¹⁰⁴ In advanced legal markets, virtual assistants powered by machine learning (ML) and natural language processing (NLP) further support legal professionals by streamlining processes like document automation, predictive legal analysis, case management, and even marketing.¹⁰⁵

In developing countries, although AI services have become increasingly widespread, many people remain unaware of their benefits and therefore devices which can support AI application are used in basic ways, without utilizing the AI features.¹⁰⁶ This highlights some of the challenges these countries face in fully leveraging AI's potential. In contrast, some developing countries are adopting and integrating AI technologies with varying degrees of progress.¹⁰⁷ In India, a significant initiative is the Supreme Court Portal for Assistance in Court's Efficiency (SUPACE),¹⁰⁸ an AI-based tool designed to enhance judicial productivity by analyzing case files, identifying key information, drafting documents, and streamlining administrative processes.¹⁰⁹ This innovation is making the legal system more efficient and effective, substantially benefiting both stakeholders and the justice system.

The integration of AI in the legal field raises concerns. They include potential bias and fairness issues,¹¹⁰ threats to confidentiality and data privacy, and concerns over transparency and accountability.¹¹¹ To address such concerns, a multi-faceted approach is needed.

AI systems should be transparent and explainable, providing clear reasons for their decisions to build trust and accountability. Additionally, to ensure fair access to justice, AI tools need to be trained on data that reflects the legal challenges faced by people from diverse socioeconomic, educational, and geographic backgrounds, rather

¹⁰⁴ Daniel Necz, "Rules over Words: Regulation of Chatbots in the Legal Market and Ethical Considerations," *Hungarian Journal of Legal Studies* 64, no. 3 (2024): 472–485, doi.org/10.1556/2052.2023.00472.

¹⁰⁵ Irene Pietropaoli, "Use of Artificial Intelligence in Legal Practice," (British Institute of International and Comparative Law, 2023), 2.

¹⁰⁶ K. Kahn, R. Megasari, E. Piantari, and E. Junaeti, "AI Programming by Children Using Snap! Block Programming in a Developing Country," in *Thirteenth European Conference on Technology Enhanced Learning*, vol. 11082 (Springer, 2018).

¹⁰⁷ M.N. Demaidi, "Artificial intelligence national strategy in a developing country," *AI & Society* (2023). <https://doi.org/10.1007/s00146-023-01779-x>.

¹⁰⁸ "CJI Launches Top Court's AI-Driven Research Portal," *The Indian Express*, April 7, 2021, <https://indianexpress.com/article/india/cji-launches-top-courts-ai-driven-research-portal-7261821/>, (assessed September 21, 2024).

¹⁰⁹ Sweety Kumar, and Priya Shukla, "Access to Justice through Use of Legal Technology," *Journal of Research in Humanities and Social Science*, 12, no. 3 (2024): 245. ISSN 2321-9467.

¹¹⁰ Emilio Ferrara, "Fairness and Bias in Artificial Intelligence: A Brief Survey of Sources, Impacts, and Mitigation Strategies," *Sci* 6, no. 1 (2024): 3, <https://doi.org/10.3390/sci6010003>.

¹¹¹ A. Zafar, "Balancing the scale: Navigating Ethical and Practical Challenges of Artificial Intelligence (AI) integration in legal practices," *Discovery Artificial Intelligence* 4, 27 (2024), <https://doi.org/10.1007/s44163-024-00121-8>.

than only those from average or more privileged groups.¹¹² Lastly, governments and regulators must create clear rules for AI in the legal field, focusing on ethics, data privacy, and accountability. These regulations should ensure AI is used responsibly, protecting individuals' rights and maintaining confidentiality.

5.2 BLOCKCHAIN TECHNOLOGY

Blockchain means “a digital system for executing and recording transactions, which can be visualized as a building block constructed from intelligent algorithms and collected data, and secured by cryptography.”¹¹³ It is a method of recording information in a way that makes it nearly impossible to alter, hack, or manipulate the system. It enhances security, reduces the risk of fraud, and introduces an unprecedented level of transparency.¹¹⁴

Notably, Blockchain technology plays an important role in property registration, particularly in underdeveloped and developing countries, where it can help establish secure, tamper-proof land records.¹¹⁵ Countries like Ghana and India are leading the way in using blockchain technology to improve their judicial and political systems. Ghana has created a blockchain-based land registry, which helps ensure transparency and security in land ownership.¹¹⁶ Similarly, India has introduced a blockchain-based voting system, demonstrating the technology's potential to strengthen democratic processes.¹¹⁷ Since blockchain technology is resistant to hacking, developing countries can adopt it to securely document vital legal records, such as court registries, land documents, company records, and intellectual property rights, ensuring that they are protected from tampering or unauthorized alterations.¹¹⁸

5.3 ADOPTION OF FIFTH GENERATION (5G) NETWORKS

The fifth generation (5G) is a cutting-edge mobile technology that is already transforming connectivity. 5G can be a hundred times faster and has a capacity

¹¹² Cas Laskowski, Christopher L. Griffin, Jr., and Samuel A. Thumma, *Generative Artificial Intelligence And Access to Justice: Possibilities, Concerns, Best Practices, and How to Measure Success*, Arizona Summit on Artificial Intelligence Law and the Courts, December 1, 2023, 6, <https://nacmnet.org/wp-content/uploads/AI-and-Access-to-Justice-Final-White-Paper.pdf>, (accessed December 28, 2024).

¹¹³ T. Justinia, “Blockchain Technologies: Opportunities for Solving Real-World Problems in Healthcare and Biomedical Sciences,” *Acta Inform Med.* 27, no. 4 (2019): 284–291, <https://doi.org/10.5455/aim.2019.27.284-291> (PMID: 32055097; PMCID: PMC7004292).

¹¹⁴ Gousia Habib, Sparsh Sharma, Sara Ibrahim, Imtiaz Ahmad, Shaima Qureshi, and Malik Ishfaq, (2022), “Blockchain Technology: Benefits, Challenges, Applications, and Integration of Blockchain Technology with Cloud Computing,” *Future Internet* 14, no. 11: 341, <https://doi.org/10.3390/fi14110341>.

¹¹⁵ Tom Gillpatrick, Semra Boğa, and Oncel Aldanmaz, “How Can Blockchain Contribute to Developing Country Economies? A Literature Review on Application Areas,” *Economics and International Relations* 4, no. 1 (2022): 1–?, <https://doi.org/10.2478/eoik-2022-0009>.

¹¹⁶ Kwabena Mintah, Festival Godwin Boateng, Kingsley Tetteh Baako, Eric Gaisie, and Gideon Kwame Otchere, “Blockchain for Stool Land Acquisition: Lessons from Ghana for Strengthening Land Tenure Security Other Than Titling,” *Land Use Policy* 105 (2021): 105635, <https://doi.org/10.1016/j.landusepol.2021.105635>.

¹¹⁷ “IIT Madras Conducts India's First Blockchain-Based Elections, Plans to Scale Up,” *India Today*, May 6, 2024, <https://www.indiatoday.in/education-today/news/story/iit-madras-conducts-indias-first-blockchain-based-elections-plans-to-scale-up-2535987-2024-05-06>, (assessed September 23, 2024).

¹¹⁸ Africa Law Tech, *Virtual Courts in Africa*.

up to a thousand times greater than the previous generation technologies.¹¹⁹ This means that 5G networks can support a vast number of devices, enabling seamless communication and efficient data exchange. With super-fast delivery, low latency, and high reliability, 5G can reshape data transmission and sharing across industries.¹²⁰

However, many developing countries still rely primarily on older network technologies, such as 2G and 3G, limiting their ability to fully benefit from these advancements. In fact, nearly 90% of Sub-Saharan Africa, 70% of the Middle East and North Africa, and 52% of Latin America and Southeast Asia continue to use these outdated technologies.¹²¹

The adoption of 5G networks in judicial systems can transform the delivery of justice, especially in developing countries. Brazil has taken a significant step forward by officially launching the 5G Standalone (SA) network, an autonomous fifth-generation network, across the country.¹²² With faster data speeds and greater connectivity, 5G enables smoother communication, faster court proceedings, and increased transparency, offering a promising model for other developing nations.

6. RECOMMENDATIONS AND CONCLUSION

Technology has the potential to transform access to justice in developing countries by making legal processes more efficient, affordable, and accessible. Encouragingly, many developing countries are already exploring innovative ways to leverage technology to enhance access to justice. However, despite these efforts, significant gaps remain, and more needs to be done to fully harness the potential of technology. The existing digital divide, inadequate infrastructure, and insufficient digital literacy, among other challenges, hinder the effective use of technology in the justice system. Therefore, to bridge these gaps and ensure that technology truly enhances access to justice, governments should prioritize creating comprehensive legislation and strong data protection policies to ensure virtual courts and digital legal services uphold constitutional rights and comply with international standards. These regulations should address technological challenges, promote fairness, and ensure accessibility by offering multilingual support, user-friendly interfaces, and digital literacy training.

Investing in reliable internet infrastructure, affordable renewable energy, and making legal information more accessible are also key steps. Additionally, governments should collaborate with cybersecurity experts and private sector stakeholders to stay ahead of digital threats. Training for judges, magistrates, and legal professionals is also essential to improve their digital skills and ensure effective use of technology in the justice system.

¹¹⁹ Rumana Ahmed, Moira Whelan, and Elizabeth Sutterlin, *5G and the Future Internet: Implications for Developing Democracies and Human Right*, (National Democratic Institute, July 2021), 5.

¹²⁰ Georgios Gkagkas, Dimitrios J. Vergados, Angelos Michalas, and Michael Dossis, (2024), "The Advantage of the 5G Network for Enhancing the Internet of Things and the Evolution of the 6G Network," *Sensors* 24, no. 8: 2455, 7, <https://doi.org/10.3390/s24082455>.

¹²¹ Ahmed, Whelan, and Sutterlin, *5G and the Future Internet*, 9.

¹²² TV BRICS, "5G Network Becomes Available Throughout Brazil," *TV BRICS*, December 4, 2024, <https://tvbrics.com/en/news/5g-network-becomes-available-throughout-brazil/>, (assessed December 28, 2024).

Ultimately, while technology can promote justice, equality, and human rights, it is vital to balance its benefits with clear regulations to protect individuals' rights. By embracing technology and innovative solutions, developing countries can enhance access to justice, fostering a more equitable and just society for all.

COMPETING INTERESTS

The author has no competing interests to declare.

AUTHOR AFFILIATIONS

Uchenna C. Okeke  orcid.org/0009-0002-3454-202X

Independent Legal Researcher

REFERENCES

BOOKS

- Ahmed, Rumana, Moira Whelan, and Elizabeth Sutterlin. *5G and the Future Internet: Implications for Developing Democracies and Human Rights*. National Democratic Institute. July 2021.
- De Souza, Siddharth Peter and Maximilian Spohr, eds. *Technology, Innovation and Access to Justice: Dialogues on the Future of Law*. Edinburgh: Edinburgh University Press. 2021. DOI: <https://doi.org/10.1515/9781474473880>
- Hughes, P. Thomas. *Human Built World: How to Think about Technology and Culture*. Edited by Steven Shapin. Chicago: University of Chicago Press. 2004. DOI: <https://doi.org/10.7208/chicago/9780226120669.001.0001>
- Kahn, K., R. Megasari, E. Piantari, and E. Junaeti. *AI Programming by Children Using Snap! Block Programming in a Developing Country*. In Thirteenth European Conference on Technology Enhanced Learning, vol. 11082. Springer. 2018.
- Li-Hua, Richard. *Definitions of Technology. A Companion to the Philosophy of Technology*. Wiley-Blackwell. 2009. DOI: <https://doi.org/10.1002/9781444310795.ch2>
- Rajendran, Rajesh Kanna, Ashok Immanuel V., Mohana Priya T., S. Vetrivel, and Wilfred Blessing N. R. *The Role of AI in Enhancing Access to Justice and Legal Services*. In *Exploration of AI in Contemporary Legal Systems*, edited by Halim Bajraktari, 139–162. Hershey, PA: IGI Global. 2025. DOI: <https://doi.org/10.4018/979-8-3693-7205-0.ch008>
- Rawls, John. *A Theory of Justice*. Harvard University Press. 1971 (rev. ed. 1999). DOI: <https://doi.org/10.4159/9780674042605>
- Rhodes, Richard, ed. *Visions of Technology: A Century of Vital Debate about Machines, Systems, and the Human World*. Simon & Schuster. 1999 (First Touchstone edition, 2000).
- Susskind, Richard. *Online Courts and the Future of Justice* (Oxford University Press 2019). DOI: <https://doi.org/10.1093/oso/9780198838364.001.0001>

JOURNALS

- Abraham, Ethan Martupa Sahat Marune and Brandon Hartanto. “Strengthening Personal Data Protection, Cyber Security, and Improving Public Awareness in Indonesia: Progressive Legal Perspective.” *International Journal of Business, Economics and Social Development* 2, no. 4 (2021). Assessed December 26, 2024. DOI: <https://doi.org/10.46336/ijbesd.v2i4.170>

- Aniekwe, C.A. "Legal Framework for the Use of Information and Communications Technology (ICT) in the Nigerian Justice System: A Call for Review." *International Journal of Comparative Law and Legal Philosophy* 1, no. 3 (2019): 130. Nigerian Journals Online. Accessed December 26, 2024.
- Anomah, Sampson, and Enoch Kwabena Amoah. "Balancing Justice in Pixels: Legal and Constitutional Implications of Virtual Court Sessions in Ghana." *E-Journal of Humanities, Arts and Social Sciences (EHASS)* 5, no. 3 (March 2024). DOI: <https://doi.org/10.38159/ehass.20245310>
- Azam, Anam, Muhammad Rafiq, Muhammad Shafique, and Jiahai Yuan. "Renewable Electricity Generation and Economic Growth Nexus in Developing Countries: An ARDL Approach." *Economic Research-Ekonomska Istraživanja* 34, no. 1 (2021). DOI: <https://doi.org/10.1080/1331677X.2020.1865180>
- Cabral, James E., Abhijeet Chavan, Thomas M. Clarke, et al. 2012. "Using Technology to Enhance Access to Justice." *Harvard Journal of Law & Technology* 26 (1).
- Cashman, Peter and Eliza Ginnivan. "Digital Justice: Online Resolution of Minor Civil Disputes and the Use of Digital Technology in Complex Litigation and Class Actions." *Macquarie Law Journal*. 41. https://www.mq.edu.au/_data/assets/pdf_file/0012/866289/Digital-Justice.pdf. Assessed December 21, 2024.
- Davies, Abimbola, Olubukola Olugasa, and Dorcas A. Odunaike. 2024. "Experimental Trials of the Virtual Court Proceedings in Nigeria: An Empirical Perspective." *International Journal for Court Administration* 15 (2): 4. DOI: <https://doi.org/10.36745/ijca.550>
- Demaidi, M.N. "Artificial intelligence national strategy in a developing country." *AI & Society* (2023). DOI: <https://doi.org/10.1007/s00146-023-01779-x>
- Doma, Halima. "Enhancing Justice Administration in Nigeria through Information and Communications Technology." 32 *J. Marshall J. Info. Tech. & Privacy L.* 89 (2016). *UIC Repository*.
- Ferrara, Emilio. Fairness and Bias in Artificial Intelligence: "A Brief Survey of Sources, Impacts, and Mitigation Strategies." *Sci* 6, no. 1 (2024): 3. DOI: <https://doi.org/10.3390/sci6010003>
- Gkakgas, Georgios, Dimitrios J. Vergados, Angelos Michalas, and Michael Dossis. "The Advantage of the 5G Network for Enhancing the Internet of Things and the Evolution of the 6G Network." *Sensors* 24, no. 8 (2024): 2455. DOI: <https://doi.org/10.3390/s24082455>
- Habib, Gousia, Sparsh Sharma, Sara Ibrahim, Imtiaz Ahmad, Shaima Qureshi, and Malik Ishfaq. "Blockchain Technology: Benefits, Challenges, Applications, and Integration of Blockchain Technology with Cloud Computing." *Future Internet* 14, no. 11 (2022): 341. DOI: <https://doi.org/10.3390/fi14110341>
- Hawdon, J. "Cybercrime: Victimization, Perpetration, and Techniques." *American Journal of Criminal Justice* 46, no. 6 (2021). DOI: <https://doi.org/10.1007/s12103-021-09652-7>
- Ibekwe, C.S., and Onwuatuegwu C. "ICT in the Administration of Justice: Challenges and Prospects for Labor and Productivity." *Nnamdi Azikiwe University Awka Journal of Commercial and Property* 8, no. 1 (2021): 8. *UNIZIK Journals*. Accessed September 23, 2024.
- Justinia T. "Blockchain Technologies: Opportunities for Solving Real-World Problems in Healthcare and Biomedical Sciences." *Acta Inform Med.* 27, no. 4 (2019). DOI: <https://doi.org/10.5455/aim.2019.27.284-291>
- Kaplan, Keith. "Will Virtual Courts Create Courthouse Relics?" *The Judges' Journal* 52, no. 2 (2013): 32.
- Llagami, N. "The use of technology in the justice system." *Global Journal of Politics and Law Research* 12, no. 4 (2024). DOI: <https://doi.org/10.37745/gjplr.2013/vol12n46682>

- Mania, Karolina. "Online Dispute Resolution: The Future of Justice." *International Comparative Jurisprudence* 1, no. 1 (November 2015). DOI: <https://doi.org/10.1016/j.icj.2015.10.006>
- Masson, Marc, and Ovais Tahir. "The Legal Information Needs of Civil Society in Zambia." *Journal of Open Access to Law* (2016): 8, 47. *Cornell Law*. Accessed December 26, 2024.
- Mazari, Nacereddine, and Siham Bensalem. "Developing Judges' and Lawyers' Skills in the Digital Age: A Comparative Study (Singapore-USA-UK)." *Journal of Law and Humanities Sciences* 17, no. 3 (2024).
- McGill, Jena, Suzanne Bouclin, and Amy Salyzyn. "Mobile and Web-Based Legal Apps: Opportunities, Risks and Information Gaps." *Canadian Journal of Law and Technology* 15, no. 2 (2017): 229. Ottawa Faculty of Law Working Paper No. 2017-17. *SSRN*. Accessed December 15, 2024.
- Mintah, Kwabena, Festival Godwin Boateng, Kingsley Tetteh Baako, Eric Gaisie, Gideon Kwame Otchere. "Blockchain for Stool Land Acquisition: Lessons from Ghana for Strengthening Land Tenure Security Other Than Titling." *Land Use Policy* 105 (2021): 105635. DOI: <https://doi.org/10.1016/j.landusepol.2021.105635>
- Mishra, Sriya Shubhalaxmi. "The Advent of Technology and Its Impact on Society" (November 14, 2019). *SSRN*. DOI: <https://doi.org/10.2139/ssrn.3598962>
- Mohsin, Kamshad. "Data Privacy and Cybersecurity." December 11, 2022. *SSRN*. <https://ssrn.com/abstract=4299439> or DOI: <https://doi.org/10.2139/ssrn.4299439>
- Nosike, Chukwunonso Joseph. "Digitalization in Developing Countries: Opportunities and Challenges." *Nigerian Journal of Arts and Humanities* 4, no. 1 (2024): 5. *Nigerian Journals Online*. Accessed December 26, 2024.
- Ogoniba, Bemology Unity. "AI and Access to Justice: Improving Legal Services and Equality." *Nigerian Bar Journal*, 54. *AJOL*. Accessed December 24, 2024.
- Pablo Cortes. "Using Technology and ADR Methods to Enhance Access to Justice." *International Journal of Online Dispute Resolution* 5, no. 1-2 (2018). DOI: <https://doi.org/10.5553/IJODR/235250022018005102011>
- Sule, Ibrahim, Femi Olorunyomi, Joseph Ajah, and Adama Usman. "Virtual Court Proceedings in Nigeria: Some Legal Matters Arising." *European Journal of Law and Political Science* 3 (3) (2024). DOI: <https://doi.org/10.24018/ejpolitics.2024.3.3.91>
- Sweety Kumaru, and Priya Shukla. "Access to Justice through Use of Legal Technology." *Journal of Research in Humanities and Social Science* 12, no. 3 (2024): 245. ISSN 2321-9467.
- Teremetskyi, Vladyslav, Yevheniia Duliba, Olena Drozdova, et.al. "Access to Justice and Legal Aid for Vulnerable Groups: New Challenges Caused by the Covid-19 Pandemic." *Journal of Legal, Ethical and Regulatory Issues* 24, no. 1S (2021). ISSN: 1544-0036 (Print), 1544-0044 (Online).
- Watson, Adam, Regis Rukundakuvuga, and Khachatur Matevosyan. "Integrated Justice: An Information Systems Approach to Justice Sector Case Management and Information Sharing – Case Study of the Integrated Electronic Case Management System for the Ministry of Justice in Rwanda." *International Journal for Court Administration*, Vol. 8, No. 3, 2017. *SSRN*. DOI: <https://doi.org/10.18352/ijca.233>
- Wolf, Michael J. "Collaborative Technology Improves Access to Justice." *New York University Journal of Legislation and Public Policy* 15, no. 3 (Fall 2012).
- Yamin, M. "Information technologies of 21st century and their impact on society." *International Journal of Information Technology* 11 (2019). DOI: <https://doi.org/10.1007/s41870-019-00355-1>

- Zafar, A. "Balancing the scale: Navigating Ethical and Practical Challenges of Artificial Intelligence integration in legal practices." *Discovery Artificial Intelligence* 4, 27 (2024). DOI: <https://doi.org/10.1007/s44163-024-00121-8>
- Zodi, Zsolt. "Legal Technology in the Service of Access to Justice, Hungarian Journal of Legal Studies" 64, no. 3 (September 2023). DOI: <https://doi.org/10.1556/2052.2024.00001>

REPORTS

- Africa Law Tech, Lawyers Hub. *An Analysis of Virtual Courts in Africa*. https://www.lawyershub.org/Digital%20Resources/Reports/virtual_courts_report.pdf. Assessed September 19, 2024.
- Bosio, Erica. *Increasing Access to Justice in Fragile Settings*. Washington, DC: World Bank Group. <http://documents.worldbank.org/curated/en/099101123141530374/P17955108fb2a104e0a55e04b0257738ea3>.
- International Commission of Jurists. *Access to Justice for Africa's Marginalized: Impediments and Opportunities in Eleven Countries, Baseline Report*. Kenyan and Swedish Sections of the ICJ African Human Rights and Access to Justice Program. 2009. 7.
- International Covenant on Civil and Political Rights. 1966. Article 14, <https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-civil-and-political-rights>. Assessed December 09, 2024.
- International Telecommunication Union (ITU). *Global Internet Use Continues to Rise but Disparities Remain, Especially in Low-Income Regions*. 2024. <https://www.itu.int/en/mediacentre/Pages/PR-2024-11-27-facts-and-figures.aspx>. Accessed December 26, 2024.
- Judicial Transformation Framework (2012–2016). <https://kenyalaw.org/kl/fileadmin/pdfdownloads/JudiciaryTransformationFramework.pdf>. Assessed December 15, 2024.
- Laskowski, Cas, Christopher L. Griffin, Jr., and Samuel A. Thumma. *Generative Artificial Intelligence and Access to Justice: Possibilities, Concerns, Best Practices, and How to Measure Success*. Arizona Summit on Artificial Intelligence Law and the Courts. December 1, 2023. <https://nacmnet.org/wp-content/uploads/AI-and-Access-to-Justice-Final-White-Paper.pdf>. Accessed December 28, 2024.
- OECD. *Recommendation on Access to Justice and People-Centred Justice Systems*. 2023. <https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0498>.
- OECD. *Understanding the Digital Divide*. OECD Digital Economy Papers, no. 49. 2021. DOI: <https://doi.org/10.1787/236405667766>
- Resolution Systems Institute. *Online Dispute Resolution*. <https://www.aboutrsi.org/special-topics/online-dispute-resolution>. Accessed September 19, 2024.
- Rights of Women. *Remote Hearings in the Family Court*. <https://www.rightsofwomen.org.uk/get-advice/family-law-information/remote-hearings-in-the-family-court-2/>. Accessed December 21, 2024.
- Supreme Court of Pakistan. *Press Release: E-Court System Successfully Launched in Supreme Court*. Supreme Court of Pakistan. 2019. <https://www.supremecourt.gov.pk/e-court-system-successfully-launched-in-supreme-court/>. Accessed September 16, 2024.
- UNCDF. *Inclusive Digital Economy Scorecard Report*. Uganda 2021. July 2021.
- United Nations. *Goal 16: Peace, Justice and Strong Institutions, Sustainable Development Goals*. <https://www.un.org/sustainabledevelopment/peace-justice/>. Assessed December 09, 2024.

- United Nations. *World's Poorest Nations Need International Support, Experts Tell Preparatory Committee, as E-Commerce, Global Market Access Take Centre Stage*, press release. May 27, 2021. <https://press.un.org/en/2021/dev3440.doc.htm>. Assessed December 29, 2024.
- United Nations Department of Economic and Social Affairs. *Country Classification*. https://www.un.org/en/development/desa/policy/wesp/wesp_current/2014wesp_country_classification.pdf. Assessed September 21, 2024.
- United Nations Development Programme. *Programming for Justice: Access for All: A Practitioner's Guide to Human Rights-Based Approach to Access to Justice* (Bangkok: UNDP, 2005). 5.
- United Nations General Assembly. Second Committee. *Widening Digital Gap between Developed, Developing States Threatening to Exclude World's Poorest from Next Industrial Revolution, Speakers Tell Second Committee*. 78th Session, 10th & 11th Meetings, <https://press.un.org/en/2023/gaef3587.doc.htm>. Assessed on September 21, 2024.
- United Nations Technology Bank for Least Developed Countries. *UN Technology Bank's New Report Reveals the State of Science, Technology and Innovation in the World's Least Developed Countries*. September 14, 2022. <https://www.un.org/technologybank/news/un-technology-bank%E2%80%99s-new-report-reveals-state-science-technology-and-innovation-world%E2%80%99s-least>. Assessed September 24, 2024.
- Universal Declaration of Human Rights. United Nations General Assembly. 1948. Article 10. <https://digitallibrary.un.org/record/666853?v=pdf>. Assessed December 09, 2024.
- World Bank Group. *Increasing Access to Justice in Fragile Settings*. 2023. 11.
- World Justice Project. *Measuring the Justice Gap: A People-Centered Assessment of Unmet Justice Needs around the World*. 2019. 27. <https://worldjusticeproject.org/our-work/research-and-data/access-justice/measuring-justice-gap#:~:text=When%20viewed%20in%20the%20aggregate,many%20confronted%20by%20multiple%20injustices>. Assessed September 15, 2024.

INTERNET SOURCES

- "AI Help Translate Judicial Documents into Vernacular Languages under eCourts Project: Law Ministry." *India Today*. December 21, 2022. <https://www.indiatoday.in/law/story/ai-help-translate-judicial-documents-into-vernacular-languages-under-ecourts-project-law-ministry-2311933-2022-12-21>. Accessed September 19, 2024.
- Ayush Gupta. "ODR: An Emerging Solution to Disputes." *Corpzo*, July 29, 2024. <https://www.corpzo.com/odr-an-emerging-solution-to-disputes>. Assessed December 21, 2024.
- "CJI Launches Top Court's AI-Driven Research Portal." *The Indian Express*. April 7, 2021. <https://indianexpress.com/article/india/cji-launches-top-courts-ai-driven-research-portal-7261821/>. Accessed September 21, 2024.
- "Enugu State Judiciary Commences Virtual Court Hearing, Records Three Virtual Sittings." *The Nigeria Lawyer*. <https://thenigerialawyer.com/enugu-state-judiciary-commences-virtual-court-hearing-records-three-virtual-sittings/>. Accessed September 23, 2024.
- "IIT Madras Conducts India's First Blockchain-Based Elections, Plans to Scale Up." *India Today*. May 6, 2024. <https://www.indiatoday.in/education-today/news/story/iit-madras-conducts-indias-first-blockchain-based-elections-plans-to-scale-up-2535987-2024-05-06>. Accessed September 23, 2024.

- "Indonesia Probe Police Hack in Latest Cyber Breach." *Reuters*. November 19, 2021. <https://www.reuters.com/world/asia-pacific/indonesia-probe-police-hack-latest-cyber-breach-2021-11-19/>. Accessed December 26, 2024.
- LawRato. Accessed December 29, 2024.
- Lawyerist. "Purpose of a Law Firm Website." [https://lawyerist.com/law-firm-websites/purpose/#:~:text=Today's%20legal%20websites%2C%20though%2C%20serve,proposition%E2%80%94to%20your%20target%20client](https://lawyerist.com/law-firm-websites/purpose/#:~:text=Today's%20legal%20websites%2C%20though%2C%20serve,proposition%E2%80%94to%20your%20target%20client.). Accessed on December 15, 2024.
- Naurin, Abida and Asad Ullah. "E-Court System: A Dire Need." (Pakistan Institute of Development Economics. 2023. <https://pide.org.pk/research/e-court-system-a-dire-need/>. Accessed September 16, 2024.
- "Nigeria Holds First Online Court Sitting; Lagos Man Sentenced to Death for Murder." *Sahara Reporters*. <https://saharareporters.com/2020/05/04/nigeria-holds-first-online-court-sitting-lagos-man-sentenced-death-murder>. Accessed September 23, 2024.
- TV BRICS. "5G Network Becomes Available Throughout Brazil." *TV BRICS*. December 4, 2024. <https://tvbrics.com/en/news/5g-network-becomes-available-throughout-brazil/>. Accessed December 28, 2024.
- "Uganda's Judicial System: Virtual Courts are Here, but No Laws to Regulate them." *Unwanted Witness*. <https://www.unwantedwitness.org/ugandas-judicial-system-virtual-courts-are-here-but-no-laws-to-regulate-them/>. Accessed September 21, 2024.
- Witting, Sabine Katharina. "Leveraging Technology to Enhance Access to Justice for Children in Africa." (June 15, 2018). <https://www.leidenlawblog.nl/articles/leveraging-technology-to-enhance-access-to-justice-for-children-in-africa>, Accessed September 23, 2024.
- Wojciech Wiewiórowski. "Cybersecurity and Data Protection: A Necessary and Powerful Duo." *European Data Protection Supervisor*. September 28, 2023. https://www.edps.europa.eu/press-publications/press-news/blog/cybersecurity-and-data-protection-necessary-and-powerful-duo_en. Accessed December 24, 2024.

TO CITE THIS ARTICLE:

Uchenna C. Okeke,
 'Enhancing Access
 to Justice Through
 Technology in Developing
 Countries: Technology-
 Based Initiatives,
 Challenges and Emerging
 Technologies' (2026) 16(3)
*International Journal
 for Court Administration*
 5. DOI: [https://doi.
 org/10.36745/ijca.635](https://doi.org/10.36745/ijca.635)

Published: 05 February
 2026

COPYRIGHT:

© 2026 The Author(s).
 This is an open-access
 article distributed under
 the terms of the Creative
 Commons Attribution
 4.0 International License
 (CC-BY 4.0), which
 permits unrestricted
 use, distribution, and
 reproduction in any
 medium, provided the
 original author and source
 are credited. See [http://
 creativecommons.org/
 licenses/by/4.0/](http://creativecommons.org/licenses/by/4.0/).

*International Journal for
 Court Administration* is
 a peer-reviewed open
 access journal published by
 International Association
 for Court Administration.



A stylized globe in shades of blue and white, with a network of lines connecting various points across its surface, suggesting global connectivity.

Across 82 countries, courts trust For The Record to capture every voice, every word, and every detail—accurately and securely.

Now, with FTR Justice Cloud, your court gains the world's most advanced digital platform for capturing, managing, and accessing the official court record.

Our latest FTR Justice Cloud innovation—multi-language speech-to-text—instantly generates content in 137 languages and counting. Judges, clerks, litigants, and attorneys can review the record during proceedings, for enhanced accuracy, accessibility, and efficiency.

Whether your court is modernizing recording, streamlining transcript workflows, or expanding access to justice, FTR Justice Cloud delivers:

- ✓ Real-time speech-to-text
- ✓ Multi-language detection
- ✓ Secure cloud storage with NIST-level controls
- ✓ Annotations, audit logs, and case labeling
- ✓ Hybrid and remote-hearing support

[**Learn More**](#)

Modern justice is global. Let your technology reflect it.