Journal Of Integrated Engineering And Management Sciences
ISSN: **3139-5511,** Volume-1 Issue-2, April-June 2026 | **JIEMS-1206**
DOI:https://doi.org/10.5281/zenodo.22337828

TECHNOLOGY AND SPEEDY JUSTICE IN INDIAN COURTS A SOCIO LEGAL ANALYSIS

Dr. SANJAY KUMAR BURRA,** *Associate Professor,**
MAHATMA GANDHI LAWCOLLEGE, L B NAGAR, HYDERABAD

ABSTRACT: This research uses the socio-legal method to look at how technology can help the Indian court system run better. Online dispute resolution processes, electronic filing, online court hearings, digital case management systems, and AI-supported legal research have improved access to justice, reduced delays, and increased judicial efficiency. Judicial efficiency has been enhanced by numerous other technological advancements. This investigation investigates the potential impact of technological advancements on the transparency, accountability, and efficacy of justice from a legal and social standpoint. Equal justice access may be impeded by technology for a variety of reasons. Infrastructure issues, cybersecurity hazards, digital literacy gaps, and the digital divide are among them. The investigation determined that technological advancements have enhanced the administration of justice in India. Nevertheless, in order to be sustainable, this development necessitates comprehensive regulations, training, robust legal protections, and equitable technological access. Only then can we fulfill the constitutional obligation to ensure that justice is accessible and timely for all.

Keywords: *Technology, Speedy Justice, Indian Courts, e-Courts, Digital Justice, Virtual Courts, Access to Justice, Socio-Legal Analysis, Judicial Reforms, Artificial Intelligence.*

1. INTRODUCTION

The rule of law and constitutional rights are safeguarded by the Indian court. Justice has been impeded by a growing backlog, difficult procedures, and long case decision times. Court reform is necessary due to the fact that Paper 21 of the Indian Constitution guarantees prompt justice.

The Indian court system has been employing technology to resolve these issues, such as the e-Courts Project, electronic filing, online dispute settlement, digital case management, and virtual hearings. The following are a few examples. By increasing the efficiency, transparency, accessibility, and speed of the judicial system, recent technological advancements have the potential to revolutionize it for litigants across the country.

This paper presents a socio-legal analysis of the mechanisms by which technology expedites Indian court proceedings. The regulations that permit technological advancements, the impediments to India's justice system, and the ways in which digital transformation is facilitating progress are all examined in this paper. Infrastructure, cybersecurity, and the digital divide are concerns.

Journal Of Integrated Engineering And Management Sciences
ISSN: **3139-5511,** Volume-1 Issue-2, April-June 2026 | **JIEMS-1206**
DOI:https://doi.org/10.5281/zenodo.22337828

2. CONSTITUTIONAL, STATUTORY AND INSTITUTIONAL FRAMEWORK

CONSTITUTIONAL FRAMEWORK

In the cases of Hussainara Khatoon v. State of Bihar and Abdul Rehman Antulay v. R.S., a speedy trial was declared an essential privilege under Paper 21 of the Constitution. I am Nayak. By increasing the accessibility of legal aid and technology, Paper 39A expands the justice system to a broader range of individuals.

STATUTORY FRAMEWORK

Lok Adalats, electronic files, e-FIRs, evidence, online dispute settlement, and video conferencing are all legal forms of electronic paperwork and communication. The Information Technology Act of 2000, the Code of Civil Procedure of 1908, the Commercial Courts Act of 2015, the Arbitration and Conciliation Act of 1996, and the Legal Services Authorities Act of 1987 are the sources of these electronic documentation and communication formats.

INSTITUTIONAL FRAMEWORK

e-Courts Mission Mode Project: The e-Courts Project is the most extensive judicial digitization initiative in India. The objective of Phase III is to establish paperless courts that facilitate electronic filing, video conferencing, and payments. Furthermore, there are digital tribunals.

National Judicial Data Grid (NJDG): The most recent case information is available in the digital repository of NJDG. It promotes transparency, accountability, and data-driven management within the judicial system.

Virtual Courts: In order to reduce costs, wait periods, and the necessity of appearing in court, virtual courts, particularly those that handle traffic fines and other minor violations, operate online.

Electronic Filing (e-Filing) and e-Payments: Online case submission, electronic document delivery, digital signatures, and online court fee payment expedite court operations in the e-Filing system.

e-Lok Adalats: The resolution of disputes is made simple, rapid, and cost-effective through online mediation and conciliation services such as e-Lok Adalats.

Crime and Criminal Tracking Network and Systems (CCTNS): Police stations throughout India can electronically share criminal data, investigate, and record FIRs by utilizing the Central Computerized Crime Reporting System.

Indian Cybercrime Coordination Centre (I4C): The Internet Crime Center (I4C) is the official national agency responsible for the investigation and response of cybercrime. Additionally, it oversees the National Cybercrime Reporting Portal and an online fraud hotline (1930).

Inter-Operable Criminal Justice System (ICJS): The International Criminal Justice System (ICJS) is a computerized system that combines police, courts, jails, forensic labs, and prosecution offices in order to enhance collaboration and eliminate delays.

e-Sakshya Application: The e-Sakshya App expedites criminal investigations and verifies evidence by digitally recording, archiving, and transferring crime scene evidence.

National Automated Fingerprint Identification System (NAFIS): By facilitating the rapid identification of perpetrators, NAFIS, a state-wide digital

ISSN: **3139-5511,** Volume-1 Issue-2, April-June 2026 | **JIEMS-1206**
DOI:https://doi.org/10.5281/zenodo.22337828

fingerprint repository, facilitates criminal procedures and forensic investigations.

Facial Recognition Technology (AFRS) Utilizing facial photo matching, the Automated Facial Recognition System (AFRS) expedites investigations by identifying criminals and locating missing individuals, despite privacy concerns.

3. COMPARATIVE GLOBAL PERSPECTIVES: TECHNOLOGY IN JUSTICE DELIVERY

Singapore – Electronic Filing System (EFS) and eLitigation

2000 marked the establishment of the Electronic Filing System (EFS) in Singapore. It was renamed eLitigation in 2013. The system's digital case management features include automatic alerts, electronic filing, monitoring, and hearing scheduling. It decreased the number of cases awaiting a hearing and served as an inspiration for paperless justice systems across the globe.

Canada – Civil Resolution Tribunal (CRT)

In the near future, the Civil Settlement Tribunal (CRT) will implement an online public dispute resolution mechanism. Online mediation, adjudication, and negotiation are employed to resolve property and minor claims disputes. The tribunal emphasizes the provision of justice that is legally enforceable, affordable, and accessible to self-represented plaintiffs.

England and Wales – Money Claim Online (MCOL)

Money Claim Online enables enterprises and individuals to electronically submit and manage small financial claims. It simplifies court procedures, reduces litigation expenses, and broadens access to justice. The proposed Online Civil Court would encourage the resolution of disputes in a digital and user-friendly manner.

Chile – Platform Conecta

During the COVID-19 pandemic, Conecta was created as a digital court communication instrument. The courts are now more accessible to individuals with limited computer skills, as they can be contacted through video calls, messaging, and WhatsApp. It demonstrates that justice accessibility can be facilitated through common communication.

4. INTERNATIONAL NORMATIVE FRAMEWORK

Technical Notes on Online Dispute Resolution (UNCITRAL, 2016):

In 2016, UNCITRAL implemented Technical Notes on Online Dispute Resolution. This descriptive normative statement, which is not prescriptive, underscores the importance of responsibility, impartiality, transparency, and due process in online dispute resolution (ODR) systems. The UN General Assembly passed Resolution A/RES/71/138 in December 2016, which includes the Technical Notes, to assist states, particularly developing nations and economies, in the development and implementation of ODR.

an unparalleled global appreciation for ODR a dispute resolution method that is supported and encouraged by the community. India regards them as valuable because they establish the ethical foundation for established alternative dispute resolution standards. It is noteworthy that India's legal system lacks such a structure.

ISSN: **3139-5511,** Volume-1 Issue-2, April-June 2026 | **JIEMS-1206**
DOI:https://doi.org/10.5281/zenodo.22337828

National and regional initiatives have filled the normative void that was left by the UNCITRAL Working Group III's failure to establish a legally enforceable international ODR framework. According to Professor Ronald Brand of the University of Pittsburgh, this failure was the result of the inherent incompatibility between pre-dispute enforceable ODR agreements and judicial access. When establishing India's statutory ODR legal framework, it is imperative to take these concepts into account. It is also necessary to resolve the nation's digital literacy, enforceability, and linguistic accessibility concerns.

UN Sustainable Development Goal 16.3

The Sustainable Development Agenda's Goal 16.3 mandates that progress be expedited.

ensuring that justice is served to all and that legal standards are upheld on a global scale for all individuals. Accessibility to informal and official justice is evident in the SDG framework. Over time, mechanisms can eliminate poverty, promote gender equality, and expand the economy. Consequently, in order to evolve in accordance with international law, India's legal system must incorporate technology, not merely for the purpose of court administration.

OECD Frameworks on People-Centred Justice

The OECD presents a vision of justice that is facilitated by technology in its 2023 Recommendation on Access to Justice and People-Centered Justice Systems and 2024 ODR Framework. Additionally, these texts underscore institutional consistency, equal access, and user expectations. The ODR mechanism should be regarded as an integral component of a justice ecosystem, as opposed to a standalone technology solution, in accordance with the OECD framework. The Indian government is contemplating the adoption of this concept to establish an e-Courts initiative that encompasses paralegal services, legal support programs, and community involvement.

5. VISIBLE GAPS AND RECOMMENDATIONS

Four knowledge gaps that necessitate legislative action were identified in a comprehensive assessment of India's leading legal works on technology and justice.

Absence of Empirical Outcome-Based Research

The e-Courts initiative is primarily described in legal studies, rather than evaluated. The majority of India's caseload is managed by subordinate courts; however, there is limited understanding of the impact of electronic courts on justice outcomes, access, and disposal. The absence of any empirical assessment regarding the operational efficacy of the reported applications is the primary deficiency of this information, as noted by academics papering court automation in Europe. This critique is prevalent in the region.

The Law Commission of India and the Supreme Court e-Committee should collaborate on longitudinal empirical investigations. The primary focus of this research should be on subordinate tribunals in rural and semi-urban areas. These studies investigate the impact of e-Courts Phases I, II, and III on respondent satisfaction, access to justice, and case resolution.

ISSN: **3139-5511,** Volume-1 Issue-2, April-June 2026 | **JIEMS-1206**
DOI:https://doi.org/10.5281/zenodo.22337828

Inadequacy of Judicial Data Governance and Cybersecurity Framework

The authors assert that "the risks and harms associated with incomplete or biased datasets are recognized and recorded." They also contend that "the datafication of judicial systems may result in an excessive dependence on quantifiable elements, impede the evolution of legal theory, and facilitate the commodification of case data." The NJDG aggregates significant quantities of sensitive judicial information, which enhances accountability.

In India, there is no comprehensive law that regulates the utilization of court information.

The NJDG offers information that is detailed, customized, and specific, which is why this discrepancy is even more alarming.

confidential information that could potentially impact the participants. The Digital Personal Data Protection Act, 2023 does not address legal system data governance issues, despite the fact that it provides a comprehensive foundation for data protection. A Judicial Data Governance Act from the legislature would enable:

I. classified judicial documents that contain sensitive information;
II. essential cybersecurity measures for all NJDG-affiliated tribunals;
III. limitations on the availability of judicial records for market purposes;
IV. Individuals who are in delicate personal situations, such as POCSO, marital issues, and protective order proceedings, may have their records expunged.
V. The operations of the court data system will be supervised by a distinct agency.

The Digital Divide and Procedural Fairness

Only 27% of trial courtrooms have a computer on the judge's dais, and 10% lack the minimum internet access required for virtual operations, according to the most recent research, which includes a report from the Chief Justice of India. 90% of campaigners were aware of electronic submission technologies. Indians are disproportionately affected by the lack of internet connectivity, which affects 48% of the population. This encompasses the elderly, infants, rural residents, women, and disabled individuals. 48% of Indians are without internet access, as indicated by the 2024 State of India's Digital Economy (SIDE) Report.

The Harvard Journal of Law and Technology paper by Cabral et al. and the influential Hastings Law Journal paper by Galanter and Krishnan demonstrate that technology-enabled justice reform can exacerbate inequalities if intentional digital inclusion initiatives are not implemented. The issue is further exacerbated in India when an electronic registration system is mandated without adequate funding for e-Sewa Kendras, mobile accessibility, and legal comprehension. This attributes technological complications to litigants who are vulnerable.

In order to facilitate the electronic filing and payment of court fees by gram panchayats, the courts are expected to implement Common Service Centers (CSCs) in the near future. A universal internet connectivity scheme that is time-bound should be implemented by the government through BharatNet. Court

ISSN: **3139-5511,** Volume-1 Issue-2, April-June 2026 | **JIEMS-1206**
DOI:https://doi.org/10.5281/zenodo.22337828

complexes should also be required to satisfy technical infrastructure standards under the Right to Justice Infrastructure Act. Another recommendation is to establish one eSewa Kendra for every 10,000 rural residents.

Absence of a Unified Statutory Framework for Virtual Courts

The absence of a comprehensive legislative framework is identified as a significant legislative defect in the current analysis.

The autonomous Indian regulations that regulate online tribunals and the official sanction of the video The High Court now employs video conferencing in addition to conferences.

In multi-state conflicts, procedural vulnerability, inconsistency, and jurisdictional ambiguity are exacerbated by judicially inferred authority under the Criminal Procedure Code and Civil Procedure Code, as well as administrative circulars and norms that differ by jurisdiction.

There is currently no comprehensive framework in place to address the rights of self-represented litigants in digital proceedings, cross-border ODR enforcement, participant identification, or virtual hearing evidence standards. The Bharatiya Nagarik Suraksha Sanhita, 2023, made progress by establishing a standardized protocol for video conferencing in criminal proceedings. This represents advancement. The Electronic Transactions Act of Singapore and the Civil Resolution Tribunal Act of Canada establish comprehensive and consistent legal frameworks for technology-assisted processes. These regulations were enacted in Canada and Singapore.

The Virtual Courts and Online Dispute Resolution Act has the potential to accomplish the following objectives: (i) to establish a statutory ODR scheme for civil disputes below a certain threshold; (ii) to establish minimal procedural standards for virtual hearings, including rights to participate, means of confirming evidence, and recording duties; and (iii) to establish uniform rules for all courts and tribunals regarding virtual court proceedings.

6. CONCLUSION

According to Paper 21 of the Constitution, the judicial system has been enhanced in terms of efficiency and transparency by the implementation of e-Courts, NJDG, virtual courts, electronic filing, and online dispute resolution techniques. Nevertheless, numerous initiatives are unable to realize their full potential due to the digital divide, inadequate digital literacy, and the absence of a robust legal framework.

India should enhance its judicial data governance, construct its digital infrastructure, enact a comprehensive statute for virtual courts and online dispute resolution, expand stakeholder digital training, and implement regular review mechanisms to incorporate lessons from Singapore, Canada, England, and Chile. This will enable India to fulfill its constitutional obligation to provide accessible, effective, and timely justice in light of the most recent technological advancements.

REFERENCES

[1] Department of Justice, Government of India. (2023). eCourts Mission Mode Project Phase III. Government of India. Department of Justice – eCourts Mission Mode Project

ISSN: **3139-5511,** Volume-1 Issue-2, April-June 2026 | **JIEMS-1206**
DOI:https://doi.org/10.5281/zenodo.22337828

[2] Mahibha, G., & Balasubramanian, P. (2020). A critical analysis of the significance of the eCourts information systems in Indian courts. Legal Information Management, 20(1), 47–53. https://doi.org/10.1017/S1472669620000092

[3] Mathew, D. (2024). Technology-enabled justice in Indian courts: New dilemmas and way forward. Indian Law Review. https://doi.org/10.1177/24551333241262892

[4] Sharma, Y., Shukla, M. S., Bhardwaj, P., & Sharma, A. (2024). Modernizing the Indian judicial system: Integrating technology for faster and transparent justice delivery. Library Progress International, 44(3).

[5] United Nations Development Programme (UNDP). (2026). AI for Justice: Ethical, Fair and Robust Adoption in India's Courts. UNDP – AI for Justice Report

[6] Solanki, T., & Pareek, A. (2026). AI and technology in the Indian judiciary: A step toward enhancing efficiency and equity. Legal Reference Services Quarterly, 45(1), 85–98.

[7] Arora, M. K., Lal, S., & Singh, B. (2024). Role of artificial intelligence in the Indian judicial system. Journal of Constitutional Law and Jurisprudence.

[8] Verma, K. (2023). Analyzing the endeavours of the Supreme Court of India to transcribe and translate court arguments in light of the proposed EU AI Act. arXiv.

[9] Supreme Court of India. (n.d.). e-Committee, Supreme Court of India. Supreme Court e-Committee

[10] National Judicial Data Grid. (n.d.). NJDG Dashboard. National Judicial Data Grid

[11] Press Information Bureau. (2026). From Digitisation to Intelligence: How AI is Enhancing Access to Justice in India. Government of India. Press Information Bureau paper

[12] Malik, N. (2026). The role of technology in protection of human rights, access to justice, and legal aid in India. Indian Journal of Law, 4(1), 83–96.

[13] K. K. Gajula, "Cloud-Powered Data Analytics: Transforming Healthcare Solutions," NeuroQuantology, vol. 20, no. 17, pp. 2486–2492, 2022.

[14] K. K. Gajula, "Blockchain and the Cloud of Things Integration: Architecture, Applications, and Challenges," Material Science and Technology, vol. 21, no. 6, 2021.

[15] K. K. Gajula, "An Adaptive Framework to Prevent Fake News in Social Networks Using Blockchain Technology," 2017.

[16] K. K. Gajula, Y. K. Sharma, and R. Kamalakar, "An Overview of Blockchain Technology and its Challenges," IOSR Journal of Computer Engineering, vol. 21, no. 3, pp. 40–45, 2019.

CC BY NC