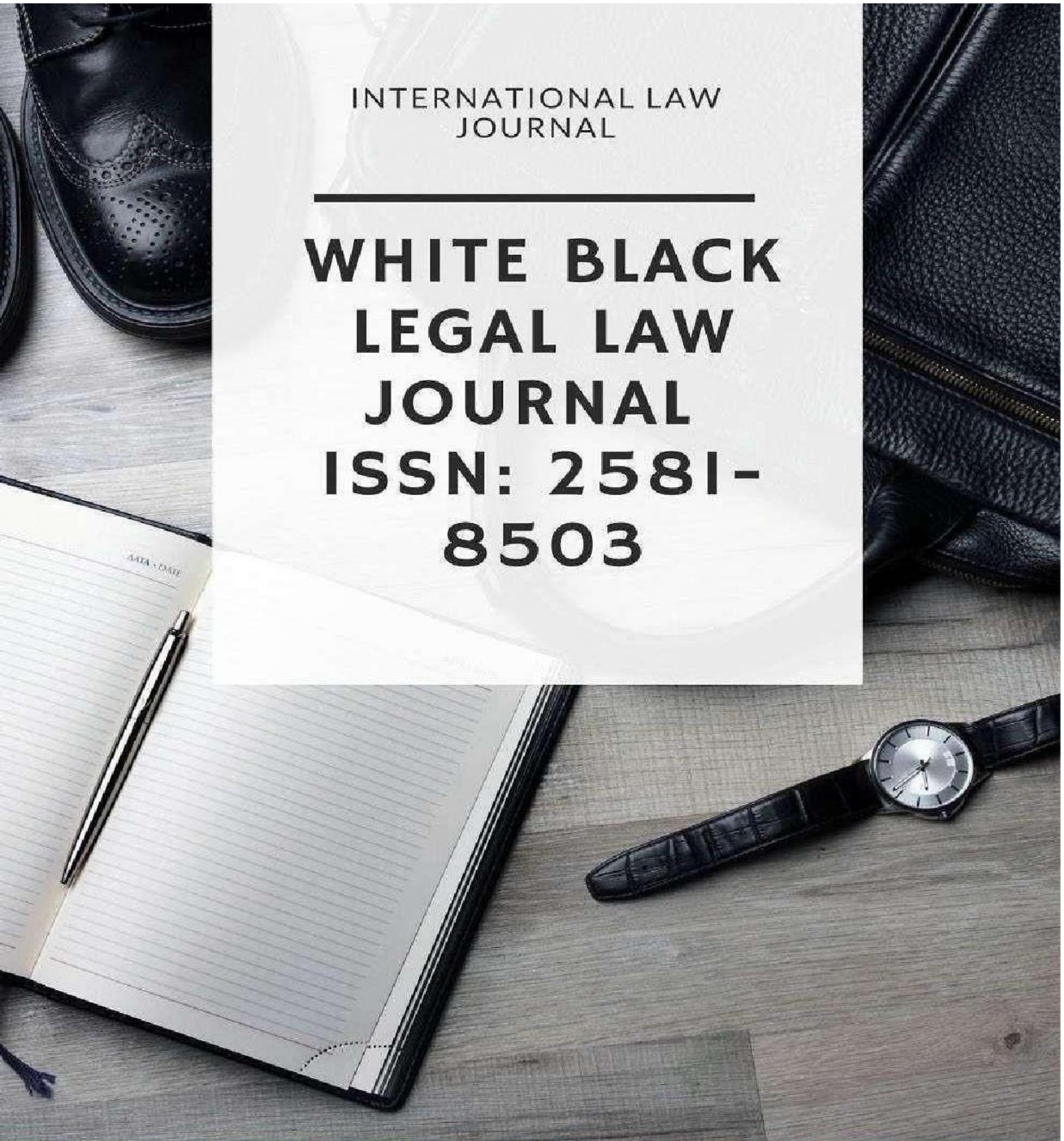




INTERNATIONAL LAW
JOURNAL

**WHITE BLACK
LEGAL LAW
JOURNAL**
**ISSN: 2581-
8503**

Peer - Reviewed & Refereed Journal

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AI IN THE INDIAN JUDICIARY: OPPORTUNITIES, RISKS, AND THE NEED FOR ETHICAL REGULATION

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Abstract

The Indian judiciary, one of the world's largest legal systems, faces an ever-mounting caseload, delays in justice delivery, and resource constraints that have led to a substantial justice gap. This paper explores a transformative solution that has gained momentum globally - the introduction of Artificial Intelligence (AI) into the Indian judiciary. As the second-most populous country on Earth, India's legal system is grappling with millions of cases pending in courts across the nation. This has not only impeded access to justice but also raised concerns about the efficiency and effectiveness of the judicial process. In this context, AI technologies, including Natural Language Processing, Machine Learning, and Predictive Analytics, offer the potential to revolutionize the Indian legal landscape. This paper embarks on a comprehensive journey, delving into the applications, benefits, and challenges of AI integration in the Indian judiciary. It examines the existing literature, both global and regional, and highlights successful AI implementations in legal systems around the world. Additionally, the paper addresses critical legal and ethical considerations that accompany the adoption of AI in the judiciary, such as bias mitigation, transparency, and accountability. It also discusses current AI initiatives and implementations in various Indian jurisdictions, evaluating their effectiveness and identifying lessons learned. Through this exploration, this research paper aims to shed light on the transformative capabilities of AI in the Indian judiciary. It will offer recommendations for policymakers, judiciary officials, and legal professionals on how to responsibly harness AI's potential. By doing so, it aspires to pave the way for a more efficient, accessible, and just legal system in India, ultimately bridging the prevailing justice gap.

Keywords: Indian judiciary, legal systems, critical legal and ethical considerations, adoption of AI in the judiciary, current AI initiatives and implementations, etc.

1. Introduction

The Indian judicial system, renowned for its rich legal heritage and commitment to justice, stands at a pivotal juncture in its history. As one of the world's most populous nations, India faces an unparalleled challenge - delivering swift and equitable justice to its diverse and burgeoning population. With millions of cases pending in courts across the country, the need for innovative solutions has never been more pressing.¹

In this era of rapid technological advancement, the introduction of Artificial Intelligence (AI) emerges as a compelling response to the multifaceted challenges that beset the Indian judiciary. AI, with its ability to process vast amounts of data, analyze complex legal documents, and assist in decision-making, holds the promise of not only accelerating the judicial process but also enhancing its accuracy and accessibility.²

The introduction of AI in the Indian judicial system is not merely an adoption of modern technology; it represents a profound shift in the way justice is delivered and experienced. It has the potential to reduce the staggering backlog of cases, improve the quality of legal research, and promote transparency in decisionmaking. Moreover, it can democratize access to justice, ensuring that even the most marginalized and remote communities have a fair chance to avail themselves of the legal system's protections.³

However, this transformative journey is not devoid of complexities and challenges. As we embrace AI, questions about ethics, bias, and data privacy arise. The responsible and ethical use of AI in the judiciary becomes paramount, requiring thoughtful considerations and safeguards.

This study embarks on an exploration of these facets - the promise, the challenges, and the ethical considerations - as we delve into the potential of AI in the Indian judicial system. It seeks to provide a comprehensive understanding of AI's role in transforming the justice delivery process and aims to contribute to the ongoing discourse on modernizing one of the

¹ Bajpai, M., & Chand, M. (Eds.). (2020). Artificial Intelligence and Law in India: Theoretical and Practical Perspectives. Springer.

² Singh, S., & Gupta, R. (2021). The Role of Artificial Intelligence in Legal Decision-Making: A Case Study of Indian Courts. *Journal of Artificial Intelligence and Law*, 29(2), 123-142.

³<https://m.economictimes.com/news/india/integrationof-ai-in-modern-processes-raises-complex-ethical-legalpractical-considerations-sayscji/articleshow/109267540.cms>

cornerstones of Indian democracy.

As we navigate this transformative landscape, we recognize that the integration of AI into the Indian judicial system represents not just a technological shift, but a profound commitment to justice, equity, and the betterment of society as a whole. This paper aims to serve as a guidepost on this transformative journey, illuminating the path towards a more efficient, accessible, and just legal system for the people of India.

2. AI Technologies for the Indian Judiciary

AI technologies have the potential to significantly enhance various aspects of the Indian judiciary. Here are some key AI technologies applicable to the Indian judiciary.

1. Natural Language Processing (NLP)

- NLP can be used to analyze and understand legal documents, case law, and statutes written in multiple languages.
- It aids in summarizing lengthy legal texts, making legal research more efficient.

2. Machine Learning (ML)

- ML algorithms can assist in predicting case outcomes based on historical data, helping judges and lawyers make informed decisions.
- ML can also identify patterns in legal documents and assist in contract analysis.

3. Predictive Analytics:

- Predictive analytics models can forecast case workload and assist in resource allocation, reducing case backlog.
- They can also be used to predict litigation trends and help in strategic decision-making.

4. Document Automation:

- AI-powered document automation tools can generate legal documents, contracts, and petitions quickly and accurately.
- This technology streamlines administrative processes in the legal system.

5. Chatbots and Virtual Assistants:

- Chatbots can provide legal information and assistance to the public, making legal services more accessible.
- Virtual assistants can help with scheduling court dates and managing administrative tasks.

7. Facial Recognition and Biometrics:

- These technologies can be employed for security and authentication purposes within court premises.
- They can help ensure the integrity of court proceedings and access control.

8. Cybersecurity Solutions:

- Given the sensitive nature of legal data, AI-based cybersecurity systems can protect against data breaches and ensure the confidentiality of legal information.

9. Voice Recognition:

- Voice recognition technology can be used for transcribing court proceedings accurately and efficiently.
- It reduces the need for manual transcription services.

3. Interface between technology and the Indian justice system

To expand access to justice through a technology-driven approach, the Government of India introduced the e-Courts project in 2005 with the primary goal of improving judicial efficiency. It focused on making the system more affordable, transparent, cost-effective, and accessible. It has initiated the process of digitized judicial administration. The project has already completed its initial two phases, during which networking infrastructure has been installed and updated across India. Phase I focused on establishing digital infrastructure by installing hardware, providing network connectivity, and digitizing case records, with limited online services.

Phase II focused on shifting toward litigant-centric “monolithic systems” by establishing a linkage between the judiciary and other institutions.⁴ The case information system, National

⁴ *Id.* at 21

Judicial Data Grid (hereinafter NJDG)⁵ is such a service portal that emerged out of Phase II and offered a single window access to the entire body of information relating to cases and courts starting from the Taluka-level courts (lowest court in hierarchy) to the Supreme Court of India in a searchable manner; similarly, e-filing and e-payment systems were introduced to make the judicial process expeditious. However, many limitations were identified during implementation, such as the need to revise systems to accommodate evolving user needs and to scale to enable data sharing across courts and institutions within the justice delivery system.⁶ Phase III of the e-Courts initiative began in 2023 to accelerate digitisation and AI integration. It aims to improve court-inquiry cooperation with police and the CBI. This collaborative method reduces redundancy and facilitates seamless data sharing by exchanging police investigation reports and other case information between agencies and the court. Phase III envisions a digital, tech-driven, AI-powered judicial system. It intends to move from monolithic systems to a modular microservices architecture,⁷ which creates interchangeable and replaceable technological elements without redesigning the infrastructure.

This lets the courts' services adapt and expand depending on user input and technologies like better encryption and identity verification. It includes creating judicial digital repositories (JDRs)⁸ to enable seamless data sharing, case tracking, and service integration; intelligent scheduling of cases using AI to improve efficiency and reduce adjournments; an Interoperable Criminal Justice System (ICJS) to process data sharing among police, prisons, courts, and others; and making documents machine readable.

Moreover, Phase III aims at improving digital case management systems for quick court document access and coherent sharing of data within the justice system. Virtual hearings are promoted to reduce travel, cost, and time. Moreover, e-filing is promoted to reduce paperwork and other delays. A technology-oriented transcription of court proceedings system is

⁵ National Judicial Data Grid, https://njdg.ecourts.gov.in/njdg_v3/?p=home&app_token= (last visited Dec. 15, 2025).

⁶ Ministry of Law and Justice, Government of India, e-Court Mission Mode Project, <https://www.pib.gov.in/Pressreleaseshare.aspx?PRID=1848737> (last visited July 22, 2025).

⁷ Think of microservices/modular architecture as a house. It is built using bricks, steel, windows, doors, and a host of other inputs independently created that can be assembled together as per our unique requirements. In the case of windowpane that shatters, this is replaceable without having to take down the entire house to its constituent elements. This is the essence of modularity. For more discussion, see E- Committee, Supreme Court of India, *supra* note 11 at 44.

⁸ India Department of Justice, Digitisation of Records, <https://doj.gov.in/digitisation-of-records> (last visited Dec. 15, 2025).

introduced to improve transparency, and a help desk service is established to provide digital assistance, ensure equitable access to services, and bridge the digital divide.

Today, technology is a powerful tool. AI is anticipated to expedite the delivery of justice. Its integration into the legal system is a significant step in the right direction.⁹ The Supreme Court of India has established an Artificial Intelligence Committee to examine the use of AI in the judiciary. The committee has primarily identified the application of AI technologies in the translation of judicial documents, legal research assistance, and process automation.¹⁰

The Honorable Chief Justice of Delhi High Court, during the IBA International Conference in Mexico City, 2024, announced that the Supreme Court of India was going to introduce an AI tool known as AI Saransh.¹¹ It was developed by the National Informatics Centre (NIC) to generate concise summaries of pleadings and to simplify the identification of a case's contentious issues.¹²

The Indian judiciary is undergoing digitization to incorporate the benefits of AI and a tech-driven justice system through the extensive implementation of AI technologies such as SUVAS and SUPACE. However, these tools must be used with due caution to address inevitable challenges, such as accuracy and bias.

4. Ethical consideration

The administration of justice is primarily a human process, though its efficiency can be supported and enhanced by the prudent use of technology. The use of AI-driven technologies raises ethical concerns regarding data privacy, security, bias, and many other potential liability issues. It is undeniable that AI lacks human understanding; certain judgments, involving complex facts such as prevailing customs, demand subjective evaluations or consideration of

⁹ Hasan Mohammed Jinnah, AI-Powered Courts Can Rewrite Future of Judiciary, (Nov. 3, 2023) <https://www.newindianexpress.com/opinions/2023/Nov/02/ai-powered-courts-can-rewrite-future-of-judiciary-2629474.html>.

¹⁰ Government of India, Ministry of Law and Justice, Department of Justice, Lok Sabha Unstarred Question No. 147, Use of Artificial Intelligence Tools in Judicial System, <https://sansad.in/getFile/loksabhaquestions/annex/1710/AS147.pdf?source=pqals#:~:text=Under%20the%20supervision%20of%20the,High%20Courts%20and%20District%20Courts>(last visited July 25, 2025).

¹¹ Vasudha Mukherjee, Supreme Court to Use AI to Generate Summaries for Pleadings: ACJ Manmohan (Sept. 20, 2024), https://www.business-standard.com/india-news/supreme-court-to-use-ai-to-generate-summaries-for-pleads-justice-manmohan-124092000644_1.html.

¹² NIC, National Cloud, AI-Saransh, https://cloud.gov.in/user/services_ai_saransh.php (last visited July 27, 2025).

moral and ethical dimensions, where AI may struggle to accurately replace human judgment.¹³ For example, it is essential to train AI systems by feeding more data, including diverse case facts and other information, to reduce the risk of biased and unfair results.

Technology must promote justice that respects the rule of law, human dignity, and legal system ideals. Thus, the digital transformation of the Indian court system using new technology must uphold fair and swift justice.¹⁴ Modern technology should support the judiciary's fundamental duty to promote impartiality, openness, and accountability. Since technology should remove obstacles to justice, the technical design should be people-centric so that all users may participate in the digital court system and suit their demands. Judicial AI systems must also safeguard sensitive data and be trustworthy enough to meet changing needs.¹⁵

Another concern is information security, because any unauthorized access to data, phishing attacks, or any other server network threats could harm the integrity of data and lead to information loss and thereby infringe on privacy. Therefore, appropriate protection of privacy, which became a fundamental right that came from the apex court's decision in *Justice K.S. Puttaswamy v. Union of India*,¹⁶ by appropriate guidelines regulating technological advancements taking place, is crucial at this stage. Furthermore, it is imperative to collect user feedback to evaluate the extent to which the project objectives are being executed and to identify other areas for potential improvement.

5. Recent initiative of AI in Indian judiciary

As of my last knowledge update in September 2021, several initiatives were underway in India to incorporate Artificial Intelligence (AI) into the judiciary system. These initiatives aimed to improve the efficiency and effectiveness of legal processes. Please note that the status and details of these initiatives may have evolved since then. Here are some of the key initiatives:

5.1 SUPACE (Supreme Court Portal for Assistance in Courts Efficiency)

- Overview: SUPACE is an AI-driven portal introduced by the Supreme Court of India.

¹³ Dr. N Prabhavathi, Kavitha Durai, Role of Artificial Intelligence in Access to Justice and Justice Delivery in India, 44 BPAS J. Libr. Sci. 12335 (2024).

¹⁴ INDIA CONST. art. 39A, Hussainara Khatoon & Ors vs Home Secretary, State of Bihar, 1979 AIR 1369 (India).

¹⁵ INDIA CONST. art. 21.

¹⁶ *Justice K.S. Puttaswamy vs. Union of India* (2017) 10 SCC 1 (India).

It focuses on case management, document search, and data analysis to streamline court proceedings.

- Impact: SUPACE aims to reduce case backlog and enhance the efficiency of the Supreme Court by providing judges and lawyers with quick access to relevant legal documents and case histories.

5.2 Tele-Law

- Overview: Tele-Law is a government initiative that uses AI-driven chatbots and video conferencing to provide legal information and assistance to citizens, particularly in rural areas, through Common Service Centers (CSCs).
- Impact: Tele-Law aims to improve access to legal services, particularly in underserved regions, by leveraging AI and technology to connect citizens with legal professionals.

5.3 eCourts Project

- Overview: The eCourts project, an ongoing initiative by the Indian government, aims to digitize and modernize the judicial system. AI technologies, including case management systems and data analytics, are part of this project.
- Impact: The eCourts project seeks to enhance the efficiency of lower courts, reduce paperwork, and provide better access to case information for litigants and legal professionals.

5.4 Training and Capacity Building

- Overview: Some initiatives focus on training judges and legal professionals in AI technologies and their application in the legal domain.
- Impact: Training programs aim to equip legal professionals with the knowledge and skills needed to leverage AI effectively in their work.

The impact and success of these initiatives can vary based on their specific objectives and implementation. Metrics for evaluation may include the reduction in case backlog, improvements in case processing times, enhanced access to justice, and user feedback from legal professionals and citizens.

To obtain the most current information on AI initiatives in the Indian judiciary, it is advisable to refer to official government announcements and reports or reach out to relevant authorities in the Indian judicial system for updates and insights.

6. Advantages of digitalization, AI, and other technologies in the justice system of India

In the wake of the recent COVID-19 pandemic, the adoption of technology in courts accelerated. To continue functioning during this significant health crisis, Indian courts adopted virtual hearings via videoconferencing, which not only reduced physical contact but also saved time and other resources associated with in-person hearings.¹⁷ The shift toward a digitally advanced system underscores the steps taken by the Indian judiciary toward transformation and modernization, as well as the need to further strengthen the digitalization of courts.

AI technologies can be used to predict case outcomes and, thus, help legal teams develop more effective strategies for settling or pursuing a case. These technologies can also be used to analyze contracts, documents submitted as evidence, and police investigation reports.

A digital workflow can make the navigation of the court process smoother, for instance, for trivial cases related to the Motor Vehicle Act of 1988,¹⁸ and related claims can be simulated through the use of transformative technology because such cases primarily involve the calculation of compensation and are more likely to settle. A technology-driven process can help lawyers and litigants determine compensation rationally, thereby reducing disputes.¹⁹ Furthermore, the seamless filing of documents, service of summons, and prior notice to the parties through electronic means can be highly resource-efficient for the judicial system.²⁰ The ability of the Indian judicial system to fulfill the object of imparting justice can be sufficiently enhanced by leveraging technologies like AI and its digital brains.

7. Conclusion

In the journey toward a more efficient, accessible, and equitable legal system, the incorporation of Artificial Intelligence (AI) is not merely an option but a necessity. This transformative technology holds immense potential to address longstanding challenges while ushering in a new era of legal practices in India.

The introduction of AI in the Indian court raises serious problems that need our constant

¹⁷ Department of Justice, Video Conferencing, <https://doj.gov.in/video-conferencing> (last visited Dec. 12, 2025).

¹⁸ The Motor Vehicles Act, 1988, No. 59, Acts of Parliament, 1988 (India)

¹⁹ E- Committee, Supreme Court of India, *supra* note 11 at 42.

²⁰ *Id.* at 36.

attention, as with any major change. We must handle these issues consistently in accordance with openness, fairness, and accountability. As this study report has shown, these considerations include data protection, bias mitigation, ethical AI usage, and human judgement. Policymakers, court officials, and legal experts must work together to reconcile innovation with legal standards.

AI offers significant advantages and prospects to the Indian courts. There is great promise for improving case backlogs, access to justice, legal research, and court efficiency. Modernising our judicial system using AI respects tradition. It gives legal professionals with tools to serve justice more efficiently, helping them to traverse the intricacies of our legal world with better efficiency and understanding.

We stand at the threshold of a transformative era in the Indian judiciary, one where AI acts as an indispensable ally in upholding the principles of justice. By proactively addressing concerns and responsibly harnessing the capabilities of AI, we have the opportunity to create a legal system that is not only more efficient but also more equitable and accessible to all citizens. In the process, we honor our commitment to the ideals of justice and the pursuit of a brighter future for the Indian legal system.

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