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Assessing The Impact Of Artificial Intelligence On Justice Administration In India

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ABSTRACT

The rapid advancement of Artificial Intelligence (AI) and Machine Learning (ML) is transforming criminal justice systems worldwide. In India, the integration of AI into policing, judicial administration, and correctional systems presents both significant opportunities and complex challenges. AI-driven technologies are increasingly deployed in judicial processes, case management, legal research, and law enforcement, enhancing efficiency, improving decision-making, reducing delays, and expanding access to justice. These developments are particularly relevant in addressing persistent issues such as case backlogs, language barriers, and the urgent need for digital modernisation. AI-powered tools—including machine learning, natural language processing (NLP), optical character recognition (OCR), predictive analytics, legal chatbots, and translation software—enable automation of repetitive tasks and rapid processing of large datasets. This reduces the time required for investigation and adjudication, minimizes human error in evidence analysis, and assists courts in managing caseloads more effectively, thereby reducing pendency and improving the quality of justice delivery. This paper critically examines the impact of AI on judicial administration in India through a doctrinal and analytical methodology based on secondary sources, including statutory frameworks, government reports, and academic literature. While AI enhances efficiency, accuracy, and accessibility, it also raises concerns relating to privacy, algorithmic bias, transparency, and accountability. AI systems may reflect biases embedded in training data, potentially leading to discriminatory outcomes and undermining judicial discretion. Additionally, the increased use of surveillance technologies raises concerns regarding the right to privacy. The study highlights the absence of a dedicated AI regulatory framework in India and emphasizes the need for capacity building, ethical safeguards, and legal regulation. It concludes that AI must function as an assistive tool, with human oversight remaining central, to ensure alignment with constitutional principles and the goals of justice.

KEYWORDS

Artificial Intelligence, Judicial System, Impact Assessment, Supreme Court, Justice Administration

1. INTRODUCTION

The judicial system plays a crucial role in maintaining law, order, and social stability. Traditionally, it has relied on human judgment, procedural safeguards, and institutional mechanisms. However, with the emergence of technologically sophisticated crimes and increasing pressure on justice delivery systems, the need for structural and functional transformation has become evident. The judiciary in India faces persistent and multifaceted challenges, including massive case backlogs, language barriers, and an urgent need for technological modernization. As of May 2025, approximately 54 million cases were pending across courts in India, with a substantial proportion remaining unresolved for over five years. Such prolonged delays not only impose financial burdens on litigants but also cause significant emotional and psychological distress, thereby eroding public trust in the justice system. A victim who approaches the court seeking redressal and accountability often faces a paradox wherein delays in adjudication lead to a form of re-victimization by the system itself.[1] The integration of Artificial Intelligence (AI) and Machine Learning (ML) into judicial administration has emerged as a significant development. AI-powered technologies—including Machine Learning, Natural Language Processing, Optical Character Recognition, and predictive analytics—are increasingly being deployed to automate administrative processes, improve case management, and enhance investigative capabilities. These technologies offer the potential to address systemic inefficiencies such as delays and pendency, while also improving accessibility and transparency in justice delivery.

At the same time, the adoption of AI is not without challenges. While technological integration may bring transformative improvements, the use of inadequately trained or biased AI systems has raised concerns regarding fairness, accuracy, and accountability. Instances of algorithmic bias and translation inaccuracies highlight the need for cautious and responsible implementation.

Thus, the evolving role of AI in criminal justice administration reflects a complex interplay between technological advancement and legal safeguards. It necessitates a careful

[1] Taruna Solanki & Animesh Pareek,, *AI and Technology in the Indian Judiciary: A Step Toward Enhancing Efficiency and Equity*. *45*(1) Legal References Servs. Q. 85–98 (2026)

assessment of its impact to ensure that the pursuit of efficiency does not come at the cost of justice, equity, and constitutional values.

2. CONCEPTUAL UNDERSTANDING OF ARTIFICIAL INTELLIGENCE

Artificial Intelligence (AI), a term coined by John McCarthy, who is widely regarded as the father of AI, refers to "the science and engineering of making intelligent machines." AI involves the use of computational systems to perform tasks that typically require human intelligence, such as learning, reasoning, problem-solving, and decision-making. From a theoretical perspective, AI enables the automation of complex and repetitive tasks through advanced data processing and algorithmic computation, often without the need for continuous human intervention. These systems are designed to simulate human cognitive functions by utilizing techniques such as planning, pattern recognition, and knowledge representation. AI programs are capable of analyzing large volumes of data, identifying patterns, and adapting based on user behavior, preferences, and interactions. Artificial Intelligence refers to the simulation of human intelligence by machines, enabling them to perform tasks such as learning, reasoning, and decision-making. Machine Learning, a subset of AI, involves algorithms that improve automatically through experience and data.[2]

The scope of AI extends across multiple sectors, including agriculture, industry, education, healthcare, finance, and communication. Its growing integration into everyday life highlights its transformative potential as a general-purpose technology. The integration of AI into criminal justice reflects a shift from human-centric processes to algorithm-assisted systems, raising important questions about accountability and control.

3. ROLE OF AI IN INDIAN JUDICIAL SYSTEM

The integration of Artificial Intelligence (AI) into the Indian judicial system represents a significant shift towards modernization, efficiency, and accessibility in the administration

[2]Sneha Mahawar, *AI and Indian Criminal Justice System*, IPLEADERS POWERED BY LAWSIKHO (Dec. 15, 2022), https://blog.ipleaders.in/ai-and-indian-criminal-justice-system/#Application_of_Artificial_Intelligence_in_the_legal_industry.

of justice. AI is not intended to replace judicial decision-making but to act as a facilitative tool that enhances the overall functioning of courts and judicial institutions. A crucial turning point in the adoption of technology within the judiciary was witnessed during the COVID-19 pandemic, which necessitated an immediate shift from traditional paper-based functioning to digital and online systems. Courts across India rapidly transitioned to virtual hearings, e-filing of cases, and digital documentation. This period highlighted the importance of AI and allied technologies in ensuring continuity of judicial functions even during unprecedented disruptions.

In its press release dated 25 February 2025, the Ministry of Law and Justice also confirmed that AI is being used for assistance in filing first information reports, and for tools to examine and enhance witness testimony and courtroom evidence. As of September 2025, AI use in Indian courts is focused on improving efficiency and reducing time spent on routine tasks. In India's judiciary, there are over 50 million cases backlogged (including but not limited to criminal matters), which would take human judges more than 300 years to resolve at the current pace.[3]

Digital systems enable easier transfer of files and documents between courts, reducing delays and lowering costs associated with physical movement of records. Moreover, reduced paper usage contributes to minimizing the environmental impact of judicial processes, making the system more sustainable. One of the primary roles of AI lies in enhancing judicial efficiency through intelligent case management, automated scheduling, and streamlined administrative processes. Additionally, AI supports legal research, improves access to justice through language translation tools, and ensures greater accuracy through real-time transcription systems.

At the same time, the role of AI must be balanced with constitutional safeguards and ethical considerations. Issues such as algorithmic bias, lack of transparency, and potential infringement of privacy require careful regulation and oversight.

[3] *India- AI Justice Atlas*, Oxford Institute of Technology and Justice, Sept. 2025, https://www.techandjustice.bsg.ox.ac.uk/hubfs/India-AI%20Justice%20Atlas-pdf.pdf?hsLang=en

4. AREAS OF AI DEPLOYMENT IN INDIAN JUDICIAL ADMINISTRATION

The integration of Artificial Intelligence (AI) within the Indian Judiciary marks a significant step towards enhancing efficiency, accessibility, and modernization of justice delivery. Various AI-enabled tools and platforms have been developed and deployed to assist judges, streamline court processes, and reduce case pendency.

One of the notable initiatives is the Supreme Court Vidhik Anuvaad Software (SUVAS), an AI-based translation tool launched in November 2019. It utilizes machine-assisted translation to convert judicial documents and orders from English into multiple regional languages, including Hindi, Tamil, Marathi, Bengali, and Kannada. SUVAS has successfully translated over 31,000 Supreme Court judgments into 16 regional languages, thereby improving accessibility for litigants and legal practitioners. However, translated outputs are accompanied by disclaimers, indicating that the Supreme Court does not assume responsibility for potential inaccuracies.

Another important tool is the Supreme Court Portal for Assistance in Court Efficiency (SUPACE), which functions as an AI-driven research assistant. It aids judges by summarizing case files, extracting relevant facts, and presenting structured information to facilitate informed decision-making. While it does not replace judicial reasoning, it significantly enhances efficiency in handling complex cases. In addition to these, the Supreme Court, in collaboration with the Indian Institute of Technology (IIT) Madras, is actively developing AI prototypes aimed at resolving filing defects, extracting data and metadata, and integrating these capabilities into e-filing systems and case management software. These innovations are expected to contribute to smart scheduling and the reduction of judicial backlog.

The judiciary has also adopted platforms such as Nyaay AI, a commercial AI solution co-developed with judicial stakeholders to align with practical courtroom requirements. This platform is currently being utilized by the Supreme Court and several High Courts across India, indicating a broader institutional acceptance of AI tools. Further, initiatives like Adalat AI, a legal-tech non-profit platform, provide real-time transcription of court proceedings, including witness statements, cross-examinations, and judicial orders. By

converting spoken proceedings into text instantly, such tools assist and augment the work of human stenographers, thereby improving accuracy and efficiency.[4]

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.[5]. However, their effective implementation requires continuous monitoring to ensure accuracy, fairness, and adherence to legal standards.

5. IMPACT OF AI ON JUDICIAL SYSTEM

AI significantly reduces the time required for investigation and adjudication by automating repetitive tasks and processing large volumes of data quickly, helping courts to manage caseloads more effectively, thereby reducing pendency. AI tools such as legal chatbots and translation software minimize human errors in evidence analysis, improving the quality of justice delivery and decision-making, leading to more accurate outcomes and decision-making.

However, AI systems are not free from inherent limitations, as they often mirror the biases embedded in their training data, which may result in discriminatory outcomes, particularly affecting marginalized communities. Such reliance on algorithmic outputs may also undermine human judgment and judicial discretion, both of which are essential to ensuring fair and equitable justice. Furthermore, the increasing use of surveillance technologies and extensive data collection practices raises serious concerns regarding the protection of the right to privacy. In addition, AI technologies are susceptible to misuse by both authorities and malicious actors, potentially leading to abuse of power and violation of fundamental rights.

6. LEGAL AND REGULATORY FRAMEWORK

The regulation of Artificial Intelligence (AI) in India is currently governed through a combination of existing legal frameworks that are largely technology-agnostic. While

[4] *India AI Justice Atlas* (Bennett Inst. for Applied Data Sci. & Tech. & Justice Program, Univ. of Oxford 2024), https://www.techandjustice.bsg.ox.ac.uk/hubfs/India-AI%20Justice%20Atlas-pdf.pdf.

[5] Vasudha Mukherjee, *Supreme Court to Use AI to Generate Summaries for Pleadings: ACJ Manmohan*, BUS. STANDARD (Sept. 20, 2024, 3:05 PM), https://www.business-standard.com/india-news/supreme-court-to-use-ai-to-generate-summaries-for-pleads-justice-manmohan-124092000644_1.html.

there is no standalone legislation specifically addressing AI, several statutory provisions indirectly regulate its development, deployment, and use, particularly in the context of criminal justice administration.

- **Data Protection and Privacy Framework**

  A key aspect of AI regulation relates to the protection of personal data, especially given the reliance of AI systems on large datasets. The Information Technology (Sensitive Personal Data and Information) Rules, 2011 (SPDI Rules), framed under the Information Technology Act, 2000, regulate the collection, processing, and disclosure of sensitive personal data. These rules define sensitive personal data to include biometric information such as facial patterns and fingerprints, as well as financial information. The SPDI Rules primarily apply to "body corporates" engaged in handling such data. Although law enforcement agencies may not be directly governed by these rules, their applicability may arise where third-party entities are engaged in processing or storing sensitive personal data on behalf of such agencies. This becomes particularly relevant in the context of AI systems relying on outsourced data analytics and storage.

- **Information Technology Act, 2000**

  The Information Technology Act, 2000 serves as the principal legislation governing cyber activities in India. In the context of AI, the Act becomes relevant where unauthorized access, misuse, or dissemination of data occurs through AI platforms. Any breach involving user data—whether through hacking, unauthorized processing, or illegal sharing—may attract liability under the provisions of the IT Act. Thus, while the Act does not explicitly regulate AI, it plays a crucial role in addressing legal consequences arising from its misuse.

- **Digital Personal Data Protection Act, 2023**

  The enactment of the Digital Personal Data Protection Act, 2023 (DPDP Act) marks a significant development in India's data protection regime. The Act establishes a comprehensive framework for safeguarding personal data in the digital environment.

  The primary objectives of the DPDP Act include Ensuring lawful and transparent processing of personal data, Protecting the privacy and rights of individuals, Granting individuals control over their personal data, including rights to access, correction, and erasure, Imposing accountability on data controllers and processors, Enhancing data

security and preventing unauthorized access, Providing remedies in cases of data breaches, Promoting trust in digital technologies while facilitating innovation.

In the context of AI, the DPDP Act assumes particular importance as it governs how data used for training and operating AI systems is collected, processed, and stored. It also aligns Indian standards with global data protection practices, thereby facilitating secure and ethical use of AI technologies.

- **Evidentiary and Criminal Law Provisions**

  Although AI is not explicitly addressed in criminal statutes, several provisions under India's evidentiary and criminal laws indirectly regulate its use. The Bharatiya Sakshya Adhiniyam, 2023, which governs the law of evidence, provides for the admissibility and proof of electronic records. Section 63 lays down the framework for establishing the authenticity of such records, which is particularly relevant for AI-generated or AI-processed evidence. The Bharatiya Nyaya Sanhita, 2023, under Section 72, prohibits disclosure of the identity of victims of sensitive offences, especially in cases involving sexual offences. Similarly, Section 23 of the Protection of Children from Sexual Offences Act, 2012 (POCSO Act) restricts disclosure of identity-related information of child victims. These provisions impose limitations on the type of data that can be collected, processed, or used in AI systems, particularly in criminal justice contexts.

- **Procedural Framework and Investigative Powers**

  The Bharatiya Nagarik Suraksha Sanhita, 2023, which governs criminal procedure, also has implications for AI. Section 94 empowers courts and investigating authorities to require the production of documents or other material during investigations or proceedings. Since the definition of "document" includes electronic records, this provision extends to data generated or stored by AI systems. Consequently, law enforcement agencies and courts may compel the production of AI-related records, thereby ensuring accountability and transparency in their use.

7. CRITICAL ASSESSMENT

The integration of Artificial Intelligence (AI) into criminal justice administration presents a complex and nuanced landscape. On one hand, AI has significantly enhanced efficiency, accuracy, and accessibility within the system. On the other hand, it raises serious concerns relating to fairness, transparency, accountability, and the protection of fundamental rights.

AI-driven tools have undeniably improved procedural efficiency by expediting investigations, assisting judicial research, and reducing case backlogs through better case management systems. However, an overemphasis on efficiency may inadvertently compromise substantive justice, which requires careful human deliberation, contextual understanding, and application of legal principles. Justice is not merely about speed, but about fairness and equity, which cannot always be captured through algorithmic processes. A major concern in this regard is the issue of algorithmic bias. AI systems are trained on historical data, which may itself reflect existing societal biases and inequalities. As a result, such systems may perpetuate or even amplify discrimination, particularly against marginalized communities. This raises serious concerns under constitutional principles of equality and non-discrimination, and may undermine the legitimacy of judicial outcomes.

Another critical issue is the lack of transparency and explainability in AI systems, often referred to as the "black-box problem." Many AI models operate in a manner that is not easily interpretable, making it difficult to understand how decisions or recommendations are generated. In a system where accountability and reasoned decision-making are fundamental, such opacity poses a significant challenge. These concerns are not merely theoretical but have already manifested in practice. The Supreme Court of India has expressed serious institutional concerns regarding the use of AI-generated content in judicial proceedings. In one instance, a trial court in Vijayawada dismissed a case by citing four Supreme Court judgments, which were later found to be entirely non-existent. This incident highlights the dangers of unverified reliance on AI-generated outputs.

Further, the Supreme Court's White Paper on AI and Judiciary (November 2025) identified "fabrication of cases" and "hallucination" as major risks associated with AI tools. It observed that AI systems may generate fictitious judgments, incorrect citations, or even refer to non-existent legislation, thereby posing a direct threat to the integrity of judicial decision-making.[6]

At the institutional level, concerns have also led to regulatory responses. In July 2025, the Kerala High Court issued one of the first formal guidelines in India governing the use of AI by the district judiciary, laying down safeguards to ensure responsible and cautious

[6] Gaurav Gupta, *AI in Judiciary – Significance, Challenges Explained, Pointwise*, FORUMIAS BLOG (March 3, 2026), https://forumias.com/blog/ai-in-judiciary-significance-challenges-explained-pointwise/

adoption of such technologies. In this context, judicial opinion has consistently emphasized the limited and supportive role of AI. Justice Rajesh Bindal of the Supreme Court has observed that AI and digital tools must be used only as assistive mechanisms and should not override human judicial reasoning. He further raised concerns regarding the use of open-source AI platforms, particularly highlighting risks to data confidentiality and security. These observations were made during a national conference on "Judicial Process Re-engineering and Digital Transformation" held in April 2026 under the aegis of the Supreme Court's e-Committee in collaboration with the Department of Justice.[7]

8. RECOMMENDATIONS AND WAY FORWARD

The integration of Artificial Intelligence (AI) into the judicial system must be guided by a balanced approach that ensures technological advancement while safeguarding constitutional values and principles of justice. In this regard, the following recommendations are proposed:

- There is a pressing need to undertake nationwide capacity-building initiatives aimed at enhancing AI literacy among judges, court staff, and legal practitioners. Training programs should not only focus on the operational use of AI tools but also on understanding their limitations, risks, and ethical implications. Judicial academies and bar associations, in collaboration with AI governance experts, should play a central role in designing and implementing such programs.
- AI must function strictly as an assistive tool rather than a substitute for human decision-making. The ultimate authority in adjudication must remain with judicial officers, in line with the principles of natural justice and judicial independence. Judges should be required to critically review AI-generated recommendations and retain the discretion to override them wherever necessary to ensure fairness and contextual justice. This approach aligns with Article 21 of the Constitution of India, which guarantees the right to fair and just procedure.
- India must move towards establishing a comprehensive legal statute and ethical framework governing the use of AI in the judiciary. Such a framework should clearly define permissible uses of AI, while emphasizing principles of fairness, accountability,

[7] *AI, Digital Tools Must Not Be Allowed to Override Judicial Reasoning: SC Judge*, HINDUSTAN TIMES (Apr. 5, 2026, 11:45 PM IST), https://www.hindustantimes.com/india-news/ai-digital-tools-must-not-be-allowed-to-override-judicial-reasoning-sc-judge-101775996301213.html.

transparency, and penalties, if required. Regular audits and independent ethical reviews of AI systems by senior judicial authorities like portfolio judges should be mandated to ensure compliance with constitutional guarantees, particularly Article 14 (equality before law) and Article 21 (protection of life and personal liberty) for all sections of society.

- To prevent discrimination and ensure equitable outcomes, it is essential to address the issue of algorithmic bias. Continuous monitoring, validation, and retraining of AI models should be undertaken to ensure that they do not perpetuate existing biases. This is crucial to uphold the constitutional mandate of equality and non-discrimination under Article 14.
- Transparency in the use of AI is fundamental to maintaining trust in the judicial system. Litigants and legal practitioners must have the right to be informed when AI tools are used at any stage of the adjudicatory process. Clear guidelines should be developed regarding the use of generative AI in legal research and judgment writing. Additionally, litigants should be given the option to opt out of AI-assisted processes, particularly in pilot or experimental phases, thereby reinforcing procedural fairness and autonomy in line with Article 21 and principles of due process.

9. CONCLUSION

As rightly observed by Hon'ble Prime Minister Mr. Narendra Damodar Modi, "Technology will integrate police, forensics, jail and courts, and will speed up their work as well. We are moving towards a justice system that will be fully future-ready." This vision reflects the growing importance of technological innovation in strengthening and modernizing the administration of justice in India. In recent years, Artificial Intelligence (AI) has emerged as one of the most transformative technologies capable of reshaping the criminal justice system by improving efficiency, accuracy, transparency, and accessibility. AI-driven tools can assist courts and law enforcement agencies in handling large volumes of data, reducing procedural delays, streamlining investigations, enhancing legal research, and improving case management systems. Such technological advancements can significantly contribute towards reducing judicial backlog and ensuring quicker delivery of justice to litigants.

At the same time, the integration of AI into the justice delivery system must be approached with caution and responsibility. While AI offers several advantages, its unchecked or excessive use may give rise to concerns relating to privacy, data protection, algorithmic bias, lack of transparency, and accountability. Judicial decision-making involves human sensitivity, ethical reasoning, and contextual understanding, which cannot be entirely

replicated by machines or automated systems. Therefore, technology should not be viewed as a replacement for judges or human reasoning, but rather as a supportive mechanism designed to assist judicial institutions in performing their functions more effectively.

A balanced and well-regulated approach is therefore essential—one that embraces technological innovation while simultaneously safeguarding constitutional values, procedural fairness, and fundamental rights. The true objective of integrating AI into the judicial system should be to strengthen the administration of justice without compromising the principles of equity, independence, and human dignity. The future of the judicial system lies not in replacing human judgment with artificial intelligence, but in establishing a harmonious and responsible relationship between law and technology, where human oversight remains central to the pursuit of justice.

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