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Balancing Technology and Human Rights: A Critical Examination of the E-Court Mission in India

Article History:

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How to cite this article: Sundaray D, *et al.* Balancing technology and human rights: A critical examination of the E-Court mission in India. *J Int Commer Law Technol.* 2025;6(1):689-694.

Received: 02-09-2025

Revised: 21-09-2025

Accepted: 14-10-2025

Published: 31-10-2025

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Abstract: The E-Court Mission in India aims to modernise the judicial system through digital transformation, with objectives to streamline case handling, improve accessibility, and foster judicial transparency. While this initiative promises greater efficiency, it introduces significant human rights challenges, particularly regarding data privacy, accessibility, and algorithmic transparency. This paper critically examines the E-Court Mission's implications for human rights, analysing its potential benefits alongside risks associated with data management, the digital divide, and the opacity of AI-driven decision-making. Through case studies and international comparisons, the paper highlights the need for a balanced approach that safeguards individual rights. The paper concludes with recommendations for policymakers to enhance privacy protections, bridge digital gaps, and ensure transparency, thereby fostering a digital judiciary that aligns with human rights principles. By addressing these key issues, policymakers can work towards creating a more inclusive and fair justice system that upholds fundamental rights for all individuals. Implementing these recommendations will be crucial in ensuring that the E-Court Mission effectively serves its purpose while minimizing potential harm to vulnerable populations. Overall, prioritizing privacy, accessibility, and transparency in the development of digital judiciary systems is essential for upholding human rights standards. Policymakers must consider the impact of technology on marginalized communities and strive to create a justice system that is equitable and just for all individuals.

Keywords: E-Court, Human Rights, Privacy, Digital Divide, Judicial Transparency, India.

INTRODUCTION

It is no longer news that the judiciary across the world has embraced the use of digital technology and this the E-Court Mission in India is one on the progressive measure to ensure the elimination of case backlog which stands above forty million and other forms of delay that compromises the right to justice. The E-Court Mission launched in 2007 was aimed at enhancing the efficient delivery of justice through computerisation of records, conducting of electronic hearings and enabling citizens to access court services through the internet. This paper finds that digital transformation the judiciary presents

quantum leaps that could lessen bureaucratic procedures, hasten cases' determination, and increase the judiciary's accessibility. Through the efficiency and effectiveness, which has come about through the E-Court Mission, the Indian judicial system stands to benefit a lot in as much as it will make it possible to have delivery of justice to all citizens on time. This is also practice-orientated, in the sense that it may be used to reduce costs and generally enhance the standards of the service delivered by the legal profession.

However, this shift towards a digital judiciary brings

justified human rights concerns such as concerns with data privacy and digital rights and unsustainability of transparent judicial processes entrusted with artificial intelligence algorithms. With the rising usage of data and algorithm by the judiciary, issues concerning the safety and utilisation of judicial data emerge. Thirdly, unequal access to new technologies between the urban and rural populations and the fact that the operation of artificial intelligence in courts is a relatively autonomous process that can potentially violate human rights thus demand protective measures. Hence, as the E-Court Mission aims at developing a modern judiciary, analyzing its effects on human rights and stating a more suitable solution for enhancing individual privacy, improving ubiquity of judicial services, and increasing transparency of judicial decisions. To attain these goals, strong safeguards to data protection and fair processing and independent examination of the AI systems can be employed fully explained guidelines on application of algorithms in the judicial system. By prioritizing these safeguards, the E-Court Mission can not only enhance efficiency and accessibility but also uphold fundamental rights and promote trust in the justice system.

The objectives of this paper are to assess the impact of the E-Court Mission on human rights, to identify areas within the framework that need improvement, and to offer recommendations to align the mission with human rights standards. Through an in-depth review and a comparative analysis with global digital judiciary models, this paper aims to present a comprehensive understanding of the opportunities and risks associated with India's E-Court Mission. By examining the implications of the E-Court Mission on human rights, this paper seeks to provide insights into how technological advancements can be leveraged to enhance access to justice while safeguarding fundamental rights. Additionally, by proposing recommendations for alignment with international human rights standards, this research aims to contribute to the ongoing discourse on digital transformation in the judiciary.

Objectives of the study

This paper seeks to:

1. Examine the E-Court Mission's impact on human rights in India.
2. Identify areas for improvement in the existing framework.
3. Propose recommendations to align the mission with human rights standards.

LITERATURE REVIEW

Digital developments of judicial systems are emerging in many countries such as Singapore and Estonia as best practice models for improving judicial openness, access, and effectiveness. Singapore has implemented an e-court system with transparency it is audited and reported regularly to help gain public trust (Magrath, 2018). There is also Estonia's model which is acknowledged for its stricter data security measures, agreement and

encryption as well as user accessibility protocols that enable the public to access the data while practicing the values of privacy (Härmand, 2023). The following have shown that the technology in the courts decreases court latency and increases citizens' legal justice (Susskind, 2019): Through the implementation of technology a successful way of delivery of virtual justice can be observed through e-courts. In the same way it also added more convenience to the people who wants to seek legal help or get some information online.

Still there are several threats and obstacles which have to be noted, namely, these are the problems connected with the violation of user's privacy. For example, a great number of scholars believe that when judicial systems are digitized, and there is no sufficient protection for personal data, citizens' rights can be violated (Addis & Kutar, 2019). Singapore and Estonia represent that sound privacy laws consisting of data encryption and conformity to the GDPR principles are efficient in shielding judicial data. Estonia model is especially notable for the inclusion of the GDPR-compliant measures governing access to and storing of data, thus presenting Estonia's electronic courts as one of the safest in world (Kharitonova et al., 2023). However, there are still some obstacles which have to be overcome regarding the protection of judicial data in different countries, so that they developed similar standards and practices as the ones described in this article. Therefore, it becomes very important for policy maker in the judicial system to ensure data security and privacy as the legal systems embrace digitization to avoid erode their public credibility. The governments of different countries ought to set the relevant standards as well as alert and cooperate for the development of a secure environment for judicial data. This collaboration will be essential in addressing the evolving threats to data security and privacy in the digital age.

This differs from India's approach to judicial digitisation at least in terms of consolidation or even a well-articulated methodology; while the Indian approach revolves around two main concepts of accessibility and efficiency, it lacks a robust protection of privacy. It should be noted that while following the GDPR standards, India's judicial data systems do not meet the need of data security as well as user consent and this may lead to potential misuse of judicial data (Pimpalkar et al., 2023). Also, while India now has digital courts, its systems lack the specific accountability mechanism in place that the Singapore and Estonia had; the latter has frequent audits and transparent guidelines for data usage and protection (Anand, 2021). Such a gap in protecting judicial data might slow down the growth of confidence in the new digitalized Indian legal system. These issues may be addressed and resolved by enhancing privacy regulations and proxy accountability so as to promote a proper use of digitized judicial data. The Indian government might eliminate these problems and foster higher trust in the approach of digital courts by

strengthening data protection laws and increasing the clarity of how judicial data is processed. Moreover, further cooperation with foreign colleagues, who have developed practices in qualified digital governance, can contribute to the improvement of the methods for ensuring data protection within the Indian legislation.

Other significant problematic in the use of digitization in judicial systems is algorithmic bias. Buolamwini, and Gebru (2018, p. 1296) show that there are Biases Implicit in AI Models and recommend that these influence Judgments if not addressed. In judicial contexts, algorithms drawn from previous data can reinforce society's prejudice can influence the sentence or bail (Kim, 2017). Expanding, scholars say that for fairness to be realized, tremendous auditing of the AI models is needed to address the discriminating pattern, especially in areas such as criminal justice (Veale & Binns, 2017). This was demonstrated by the bias and unfair nature of an AI system in the legal profession to justify constant assessment in order to achieve fairness. Through the enhancement of transparency and accountability, it is possible for stakeholders on the journey towards achieving a fair and impartial justice system. Furthermore, incorporating diverse perspectives and expertise in the development and deployment of AI systems can help identify and address potential biases before they become entrenched. Ultimately, fostering collaboration between technologists, legal experts, and ethicists is crucial for creating AI systems that uphold principles of fairness and justice.

The "black box" nature of AI poses additional challenges to transparency and accountability in judicial systems. Critics emphasize the importance of transparent algorithms to foster public trust, particularly when AI is used in high-stakes legal decisions (Malek, 2021). Ensuring that algorithms are transparent and interpretable is crucial, as opaque AI decisions may hinder fair trial rights and the legal principle of accountability (Ramesh et al., 2022). There is no strict regulatory monitoring on AI in judiciary, especially in countries such as India; it means there is a need to redefine measures which are transparent in the existing policies (Jain, 2018). About the problem of AI algorithms used to work in the Judicial systems: There is evidence that the incorporation of excessive mechanisms for regular audits and independent reviews of AI algorithms generates reduced possibilities of biases and errors in the Judicial system. Further, it enlarges awareness and knowledge regarding the applicability of artificial intelligence in legal decision making and therefore improves the public's confidence in the judiciary. This can in the end promote the ideal of justice in the legal system to enhance recognition of citizens' rights. The steps that were mentioned above will allow to prevent the cases that are based on AI technologies in the judiciary will be unfair or discriminating in relation to someone. Thus, it is essential for policy makers to come up with proper ethical standards and fraternity

recommendations of the legal use of AI in the legal practice to protect justice delivery systems.

Therefore, there are important reasons that digitalization of judicial systems open great opportunities, which is accessibility and efficiency among them: On the other hand, there are theoretical and practical implications concerning data privacy and protection, algorithmic bias, and explaining decisions made by artificial intelligent. As the examples of Estonia and Singapore have shown, where the correct setup is in place, e-courts can improve judicial access for the public without increasing unsafe situations. As for India, the GDPR compliant standards and integrating the transparency mechanism in AI apps can help to increase the reliability and impartiality of the e-court. In turn, India should focus on data privacy and algorithmic bias to establish the judicial system that is effective, integrated with citizen's experience, and more importantly, loyal to fairness and transparency. Adoption of measures such as openness regarding AI processes in applications for digital courts will assist in allowing people to hold digital courts to account for any decision that they arrived at. Taking the right foundation for the development of e-court in India, this country has the opportunity of changing such field for the better and setting an international example of how practicing positive technology while respecting ethicist's concerns at the same time is possible.

METHODOLOGY

This research employs a qualitative approach, drawing on secondary data sources such as government reports, legal journals, and international policy documents. Comparative analysis is a core component of this study, allowing for an evaluation of India's E-Court Mission alongside the e-court systems of Estonia and Singapore, two countries known for their progressive digital judiciary models. Additionally, references to international standards such as the GDPR provide a benchmark against which India's data privacy and security measures are assessed. Through this approach, the paper provides a well-rounded perspective on the E-Court Mission's strengths and limitations and identifies best practices that could enhance India's digital judiciary.

IV. Key Issues in Balancing Technology and Human Rights

Several advantages can be gained through the use of digital systems in the judiciary while at the same time raising considerable human rights issues. They are widely discussed, namely data protection and safety, challenges caused by the digital gap in access to justice, and algorithmic accountability. The chapter has found that the increasing use of technology in the administration of justice in India must be aligned with the safekeeping of human rights in the development of the digital judiciary. Appropriate and required attention should be paid with equality towards maintaining efficiency and protecting rights of individuals. Thus it

will be possible to maintain the further development of the E-Court Mission and preserve the principles of the protection of human rights. It is important that the use of technology to serve justice is done so with that with integrity to avoid a complete loss of faith in the justice system. On these matters, working with professionals in technology, law and human rights can assist with trying to address and work through these issues to find long term solutions.

Data Privacy and Security

Protection of individual data is one of the human rights in digital environment especially within judicial systems as they work with sensitive information. Lack of proper legislation to protect the judicial data in India hold

certain threats because data like personal details or case details can be available to non-protocol individuals or misused. While the GDPR demands data encryption and users' permission to process their data, India's approaches to the data judicature remain quite liberal, which indicates data securities' shortcomings. With increasing cases of cybercrime, it is necessary for the Indian judiciary to adopt strict measure of data protection that enables the enforceable laws and regulation in India through an integral aspect of data protection laws and regulation across the Indian judicial scenario. Measures such as having secure firewalls, and expressing strict security policies can prevent and also reduce the effects of data and unauthorized access.

Table 1: Data Privacy Concerns and Mitigations

Concern	Description	Mitigation
Data Breach	Risk of unauthorised access	Implement end-to-end encryption
Surveillance	Potential for excessive monitoring	User consent protocols
Data Retention	Lack of clear retention policies	Define retention periods explicitly

(Source: Ghosh *et al.*, 2021; Johari, 2020)

Digital Divide and Access to Justice

The digital divide poses a significant barrier to the E-Court Mission's goal of universal access. In rural areas, limited internet connectivity and low digital literacy prevent many individuals from fully engaging with e-court services. Without targeted initiatives, such as digital literacy programs and affordable technology access, the E-Court Mission risks exacerbating inequalities, restricting justice access to technologically capable individuals. To address this issue, policymakers should prioritize bridging the digital divide by investing in infrastructure and educational programs. By ensuring equitable access to e-court services, the justice system can better serve all individuals, regardless of their technological capabilities. This will help promote equal access to justice and ensure that all individuals have the opportunity to utilize e-court services effectively. Additionally, it is important for policymakers to collaborate with community organizations and technology companies to develop innovative solutions that address the barriers faced by technologically disadvantaged individuals.

Table 2: Impact of Digital Divide on Access to Justice

Demographic	Access Issue	Suggested Solution
Rural Population	Limited internet and literacy	Digital literacy programs
Elderly Population	Difficulty with technology	User-friendly interfaces
Low-Income Families	Lack of affordable devices	Subsidised technology initiatives

(Source: Ministry of Electronics and Information Technology, 2021; Johari, 2020)

Algorithmic Transparency

As AI becomes central to e-court processes, algorithmic transparency emerges as a critical issue. The opaque nature of AI decision-making, often referred to as the "black box" problem, poses risks to accountability, as individuals affected by judicial outcomes cannot fully understand or challenge the rationale behind AI-driven decisions. Scholars like Bostrom (2014) argue that transparency in algorithmic processes is essential to maintain fairness, particularly in high-stakes areas such as sentencing. Without transparency, there is a potential for biases to be perpetuated or amplified by AI systems, leading to unjust outcomes. Therefore, efforts to increase algorithmic transparency are crucial in ensuring the integrity and trustworthiness of AI applications in the legal system.

Analysis of E-Court Policies and Human Rights Safeguards

The E-Court Mission in India has focused primarily on improving efficiency and accessibility. However, the current framework lacks comprehensive policies for data privacy, digital accessibility, and transparency. By comparison, Estonia and Singapore have set examples with strong human rights safeguards in their e-court systems. Estonia mandates data encryption and regular audits to protect judicial data, aligning with GDPR principles. Singapore's approach emphasises transparency, requiring frequent audits of AI algorithms and public reports on algorithmic decisions to promote accountability. These countries have also implemented measures to ensure that their e-court systems are user-friendly and accessible to all citizens, regardless of their digital literacy levels. By prioritizing data privacy, accessibility, and transparency in their judicial systems, Estonia and Singapore have set a high standard for other countries to follow in the

digital age.

Table 3: E-Court Policies and Human Rights Comparison (India, Singapore, and Estonia)

Country	Focus Areas	Human Rights Measures
India	Accessibility, Efficiency	Limited data security measures
Singapore	Accountability, Privacy	Regular audits, strict data policies
Estonia	Public Access, Privacy	Data encryption, public access to decisions

(Source: Ministry of Justice, Estonia, 2020; Ministry of Law, Singapore, 2021)

This comparative analysis highlights the need for India to adopt privacy protections and transparency measures similar to those seen in Estonia and Singapore to ensure a human rights-respecting digital judiciary. By implementing stricter data security measures and enhancing accountability measures, India can improve its digital judiciary system to align with international standards. Learning from the practices of Estonia and Singapore can help India strengthen its commitment to protecting human rights in the digital age. By embracing best practices in privacy and transparency, India can build trust with its citizens and ensure that the digital judiciary system operates in a fair and just manner. As technology continues to advance, it is crucial for India to stay ahead of the curve in safeguarding human rights in the digital realm.

Recommendations

1. **Data Protection Framework:** Implement a dedicated data protection framework specific to judicial data, incorporating encryption standards, user consent protocols, and defined retention policies. This would align India's approach with GDPR principles, providing greater security and privacy. Additionally, regular audits and assessments should be conducted to ensure compliance with the data protection framework and identify any potential vulnerabilities. By prioritizing data security and privacy in the digital judiciary system, India can strengthen its reputation as a leader in upholding human rights in the digital age.
2. **Inclusive Digital Literacy Programs:** Launch digital literacy campaigns targeted at rural and underprivileged populations to address access disparities. These programs could involve collaborations with local educational institutions and non-profits to deliver accessible digital training, ensuring the E-Court Mission is equitable across all demographics. Additionally, creating partnerships with technology companies to provide affordable devices and internet access can further enhance the reach of these programs. By focusing on inclusivity and accessibility, India can ensure that all citizens have the opportunity to benefit from the advancements in the digital judiciary system.
3. **Transparency Measures for AI Algorithms:** Introduce mandatory audits of AI algorithms used in judicial processes, with requirements for public reporting on algorithmic decisions. Independent audits would ensure AI-driven processes remain fair and unbiased, particularly in criminal cases where transparency is crucial. Implementing transparency measures for AI algorithms in the judicial system is crucial to maintaining fairness and accountability. By introducing mandatory audits and public reporting on algorithmic decisions, India can

ensure that the use of AI remains unbiased, especially in sensitive criminal cases. These measures will help build trust in the digital judiciary system and ensure that all citizens have equal access to justice.

4. **Public Access to Judicial Data:** Adopting Estonia's model, India could implement a platform allowing public access to non-sensitive judicial data, fostering greater accountability and public trust in the judiciary. However, such access must be accompanied by strict privacy protections to prevent unauthorised data exposure. Implementing a transparent system for public access to judicial data can also enhance the efficiency of the legal system by allowing for greater scrutiny and analysis of court decisions. By balancing transparency with privacy protections, India can strengthen its judiciary while maintaining trust and accountability among its citizens.

CONCLUSION

The E-Court Mission in India is one step ahead in making search for an efficient judiciary easier. However, using technology within the sphere of human rights protection in the judicial system is still delicate. Three challenges are key and should be addressed to ensure that digital transformation of the judiciary does not compromise the rights of the users: Privacy, Access and Black Box issues. With the help of the implemented and further strengthened program of data protection, established programs of digital literacy for minorities, and augmented measures of transparency, India's E-Court Mission can become an example of the human rights perspective of the digital judiciary all over the world. With such measures put into practice the E-Court Mission gives a possibility to maintain the double aim of the modernization of the judiciary itself on the one hand and the protection of the human rights on the other hand. In this paper, the strategy to attain a balanced and internally consistent vision of Indian justice, both productive and protective, will be presented; to provide evidence that digitization of the judicial system does not

take away the protection of rights and justice. The importance that India has given to both, accountability and accessibility within its Digital Judicial System must be very instructive to many nations of the world on the importance of adherence to human rights. Such an approach will go a long way in charting out a new age of justice based on rights and fundamental freedoms of every person that use ICTs. Therefore, India may be able to provide a model of how technology might be used to increase access to justice services for people around the world and ensure that these services do not violate the rights of people in the country. Such progressive attitude is also going to help the Indian population at large and act as a reference point for other countries wishing to transform their judiciary systems. India will be encouraging change of mind set to embrace the adoption of change in judicial system through embracing the application of technology. This leadership in leveraging technology for justice can pave the way for greater transparency and accountability in legal systems worldwide.

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