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Judicial Delay and Digital Delivery: The Role of E-Courts in Addressing India's Case Backlogs

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ABSTRACT

India's judiciary faces an unprecedented backlog of over 5 crore cases, threatening the right to timely justice. In response, the e-Courts Mission Mode Project was launched to digitize court processes through online filing, virtual hearings, and real time case tracking. This paper examines the effectiveness of digital delivery in addressing judicial delays by analyzing Phase I, Phase II, and Phase III of the e-courts initiative. Drawing on government data, judicial statistics, expert views, and international comparisons, the study finds that while e-Courts have modernized procedures and helped prevent additional delays, they have not significantly reduced the existing backlog. Ongoing challenges such as infrastructure gaps, limited digital literacy, and procedural rigidity continue to limit impact. The paper concludes that digital reform is necessary but must be accompanied by broader changes including more judicial appointments, improved case management, and inclusive access to justice.

Keywords: *E-Courts, Judicial Backlog, Digital Justice, Indian Judiciary, Legal Reform*

I. INTRODUCTION

India's judiciary faces a longstanding crisis of judicial delays and massive case backlogs, raising profound concerns about access to timely justice. As of late 2023, over 5 crore cases were pending across all levels of Indian courts, an all-time high that underscores the severity of the problem.[2] Such pendency not only erodes public confidence in the justice system but also imposes socio-economic costs one study estimated that judicial delays cost India over 2% of its GDP annually.[3] In this context, India has embarked on an ambitious digital transformation of its courts through the e-Courts Mission Mode Project. This initiative, spanning multiple phases since 2005, seeks to leverage technology (from electronic case management and e-filing

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[2] *Over 5 crore court cases pending, government tells Lok Sabha*, *Times of India*, available at: https://timesofindia.indiatimes.com/india/over-5-crore-court-cases-pending-government-tells-lok-sabha/articleshow/106032857.cms (last visited on May 15, 2025).

[3] *Judicial Pendency in India: Causes, Impacts & Way Ahead*, PMF IAS, available at: https://www.pmfias.com/judicial-pendency-in-india/ (last visited on May 15, 2025).

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to virtual hearings) to streamline judicial processes and reduce delays. This paper examines the extent and causes of judicial delays in India and critically analyzes whether digital delivery of justice via "e-Courts" has made substantial inroads into the backlog. Perspectives from judges, legal scholars, and implementation experts are incorporated to evaluate the promises and pitfalls of India's digital judiciary reforms. Comparative insights from other jurisdictions are also considered to contextualize India's experience. Ultimately, the analysis probes whether technology can be the panacea for India's judicial backlog, or whether deeper structural reforms are equally indispensable for ensuring timely justice.[4]

A. Research Questions

1. What are the primary causes behind the pendency of court cases in India?
2. What technological interventions have been introduced through the e-Courts Mission Mode Project?
3. To what extent have e-Courts contributed to reducing judicial delays?
4. What challenges hinder the full-scale implementation of digital courts in India?
5. Can global best practices in digital justice be effectively adapted to the Indian context?

B. Research Methodology

This research adopts a doctrinal methodology based on qualitative analysis of primary and secondary sources. Primary sources include government reports, Supreme Court and High Court judgments, and official data from the National Judicial Data Grid. Secondary sources comprise books by legal scholars, peer-reviewed journal articles, and expert commentary from legal news portals. The study critically examines the design and implementation of e-Courts Phases I, II, and III, and compares India's digital judicial transformation with international practices

II. JUDICIAL DELAY IN INDIA: EXTENT AND CAUSES

The backlog of cases in India's courts is staggering in scale and growing. As of November 2023, official data indicated over 5 crore pending cases. This includes roughly 4.4 crore cases in district and taluka courts, 61.7 lakh cases in the 25 High Courts, and about 80,000 cases in the Supreme Court.[5] These numbers mark a sharp rise from previous years for instance, the

[4] *Shruthi Naik & Shruti Vidyasagar* (eds.), *Justice Frustrated: The Systemic Impact of Delays in Indian Courts* (Bloomsbury India, 2020).

[5] Satya Prakash, *21K judges struggle to clear 5 crore cases in India*, *The Tribune*, available at: https://www.tribuneindia.com/news/india/21k-judges-struggle-to-clear-5-crore-cases-572887 (last visited on May 15, 2025).

total pendency was around 3.3 crore in 2018, and at then-current disposal rates it was infamously projected to take 324 years to clear the backlog.[6] The COVID-19 pandemic exacerbated delays in 2020–21, but even as courts resumed full operations, filings have continued to outpace disposals. By 2025, India's pending caseload had surpassed 52 million (5.2 crore) cases, the largest in the world[7]. Crucially, a significant share of these have been pending for years or even decades – in district courts alone, more than 100,000 cases have been pending for over 30 years and nearly 5 lakh cases for 20–30 years[8]. High Courts add a further ~68,000 cases older than 30 years[9]. Such extreme delays undermine the maxim "justice delayed is justice denied" and illustrate the magnitude of the challenge.[10]

Causes of Judicial Delays: Multiple systemic factors contribute to this pendency. A foremost issue is the severe shortage of judges and judicial resources. India has about 21,000 judges across all levels handling these 5 crore cases[11]. This equates to roughly 14 judges per million population, far below the Law Commission's recommended 50 judges per million and the ratios in developed jurisdictions[12]. The judge vacancy rate remains high in many courts, meaning existing judges carry untenably large dockets. Former Chief Justice of India (CJI) D. Y. Chandrachud candidly observed, "We simply need more judges," highlighting that expanding judicial strength is crucial to tackle the caseload[13]. Another former CJI, N. V. Ramana, noted that government litigation is a major culprit, calling the government the "biggest litigator" responsible for around *half of the judiciary's problems*[14]. Approximately 50% of pending cases are state-sponsored (government as a party)[15], often arising from routine

[6] *India has one of the lowest judge-to-population ratios in the world — around 21 judges per million people*, *The Tribune*, available at: https://www.tribuneindia.com/news/india/21k-judges-struggle-to-clear-5-crore-cases-572887 (last visited on May 16, 2025).

[7] *Property and family disputes account for 76% of litigation*, *The Times of India*, available at: https://timesofindia.indiatimes.com/india/property-and-family-disputes-account-for-76-of-litigation/articleshow/51987414.cms (last visited on May 16, 2025).

[8] Aneesha Mathur, *Justice delayed: Over 1 lakh cases in lower courts more than 30 years old*, *India Today*, available at: https://www.indiatoday.in/law/story/justice-delayed-cases-lower-courts-more-than-30-years-old-2004422-2022-09-24 (last visited on May 16, 2025).

[9] Ibid.

[10] *Aparna Chandra, Sital Kalantry & William H.J. Hubbard, Court on Trial: A Data-Driven Account of the Supreme Court of India* (Penguin India, 2023).

[11] Satya Prakash, *21K judges struggle to clear 5 crore cases in India*, *The Tribune*, available at: https://www.tribuneindia.com/news/india/21k-judges-struggle-to-clear-5-crore-cases-572887 (last visited on May 16, 2025).

[12] Ibid.

[13] *75 Years of Supreme Court: Tackling Pendency with Innovation*, *Lawchakra*, available at: https://lawchakra.in/2024/01/13/75-years-of-supreme-court-tackling-pendency-with-innovation/ (last visited on May 16, 2025).

[14] Harish Narasappa, *Cost of pendency of cases could be as high as 1.5% of GDP*, *Business Standard*, available at: https://www.business-standard.com/article/opinion/cost-of-pendency-of-cases-could-be-as-high-as-1-5-of-gdp-harish-narasappa-116081400774_1.html (last visited on May 16, 2025).

[15] *Centre party in 7.27 lakh cases pending across various courts, govt tells Lok Sabha*, *The Economic Times*, available at: https://economictimes.indiatimes.com/news/india/centre-party-in-7-27-lakh-cases-pending-across-

appeals by government departments. Reducing frivolous or avoidable state litigation would significantly lighten dockets, as Justice Ramana urged.[16]

Procedural inefficiencies also fuel delays. Cases often languish due to repeated adjournments, stays, and interlocutory petitions. Data from the National Judicial Data Grid (NJDG) indicate that a huge number of trial court cases are stalled at the preliminary stage – in late 2023 about 1.8 crore district court cases (over 40% of pendency) were awaiting first appearance or service of summons.[17] Difficulties in serving notices and producing under trial prisoners lead to frequent postponements. Indeed, getting accused persons to appear is a big hurdle in criminal cases, contributing to protracted timelines.[18] Likewise, in civil matters, indiscriminate grant of stay orders by higher courts can freeze trial proceedings for years.[19] Other factors include infrastructure constraints (e.g. inadequate courtrooms and staff until recent improvements), archaic procedures, and tactics by litigants or lawyers to delay proceedings. The combination of rising litigation (due to population growth, greater awareness of rights, and economic activity) without commensurate expansion in judicial capacity has created what many observers term a "docket explosion".[20] In 2022, CJI Ramana described the pendency as a "huge challenge" and "the elephant in the room" for the judiciary.[21] Clearly, the causes of delay are multifaceted resource deficits, procedural roadblocks, and policy lapses in limiting new cases requiring comprehensive solutions. The question now is whether digital technology can be that solution, by expediting processes and making the system more efficient, or at least a significant part of the remedy.

III. THE PROMISE OF E-COURTS IN REDUCING JUDICIAL DELAY

Faced with these chronic delays, Indian policymakers and the judiciary have increasingly turned to digital reforms as a means to modernize court operations and tackle pendency. The

various-courts-govt-tells-lok-sabha/articleshow/119317072.cms (last visited on May 16, 2025).

[16] Harish Narasappa, *Cost of pendency of cases could be as high as 1.5% of GDP*, *Business Standard*, available at: https://www.business-standard.com/article/opinion/cost-of-pendency-of-cases-could-be-as-high-as-1-5-of-gdp-harish-narasappa-116081400774_1.html (last visited on May 16, 2025).

[17] Satya Prakash, *21K judges struggle to clear 5 crore cases in India*, *The Tribune*, available at: https://www.tribuneindia.com/news/india/21k-judges-struggle-to-clear-5-crore-cases-572887 (last visited on May 17, 2025).

[18] Aneesha Mathur, *Justice delayed: Over 1 lakh cases in lower courts more than 30 years old*, *India Today*, available at: https://www.indiatoday.in/law/story/justice-delayed-cases-lower-courts-more-than-30-years-old-2004422-2022-09-24 (last visited on May 17, 2025).

[19] Ibid.

[20] Harish Narasappa, *Cost of pendency of cases could be as high as 1.5% of GDP*, *Business Standard*, available at: https://www.business-standard.com/article/opinion/cost-of-pendency-of-cases-could-be-as-high-as-1-5-of-gdp-harish-narasappa-116081400774_1.html (last visited on May 17, 2025).

[21] Rebecca Root, *Access to justice: Indian Supreme Court's backlog is a serious issue*, *IBA Global Insight*, available at: https://www.ibanet.org/access-to-justice-indian-supreme-court-backlog (last visited on May 17, 2025).

e-Courts Mission Mode Project, launched in 2005 under the **National e-Governance Plan,** represents the cornerstone of this transformation.[22] It envisions leveraging Information and Communication Technology (ICT) to enhance judicial productivity in both quantity and quality while making the justice delivery system "affordable, accessible, cost-effective, transparent and accountable.

1. Phase I (2005–2015)

Laying the digital foundations, Phase I focused on **computerizing courts and basic connectivity**. With a budget of about ₹935 crore (of which ₹639 crore was spent), Phase I computerized **14,249 district and subordinate courts** across India.[23] These courts were equipped with hardware and Local Area Networks, and standardized judicial software (Case Information System) was installed in over 13,670 courts.[24] Over **14,000 judicial officers were given laptops and trained** (many in Ubuntu-Linux OS and CIS software) to encourage tech usage.[25] Video conferencing facilities were introduced in a pilot form by 2015, about **493 court complexes and 347 jails** had video conference links for remote hearings such as taking prisoner testimony.[26] Phase I also led to the creation of the first National e-Courts Portal, offering online access to basic case status information and court orders/judgments. In essence, this phase established the digital infrastructure backbone and digitized case registers, laying a platform for further innovation.[27]

2. Phase II (2015–2023)

Built upon the foundation of Phase I by scaling up digital services and integrating litigant-friendly features. With a total outlay of ₹1670 crore, the project computerized 18,735 courts, nearly covering the entire network of district and subordinate courts.[28] One of its key infrastructural achievements was establishing Wide Area Network (WAN) connectivity in 99.5% of court complexes using a mix of fiber optics, broadband, and even satellite connections, effectively bringing nearly every courtroom online. The phase also expanded video conferencing facilities substantially: 3,240 court complexes and 1,272 prisons were

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[22] *e-Court Mission Mode Project*, *Press Information Bureau*, available at: https://www.pib.gov.in/Pressreleaseshare.aspx?PRID=1848737 (last visited on May 17, 2025).
[23] *e-Court Mission Mode Project*, *Press Information Bureau*, available at: https://pib.gov.in/Pressreleaseshare.aspx?PRID=1848737 (last visited on May 17, 2025).
[24] *Brief Overview of e-Courts Project*, *e-Committee*, *Supreme Court of India*, available at: https://ecommitteesci.gov.in/project/brief-overview-of-e-courts-project/ (last visited on May 18, 2025).
[25] Ibid.
[26] Ibid.
[27] *Prashant Reddy T. & Chitrakshi Jain*, *Tareekh Pe Justice: Reforms for India's District Courts* (Moneycontrol, 2025).
[28] *e-Court Mission Mode Project – Achievements*, *Press Information Bureau*, available at: https://www.pib.gov.in/Pressreleaseshare.aspx?PRID=1848737 (last visited on May 18, 2025).

equipped for remote hearings, enabling virtual production of under trial prisoners and testimony collection.[29]

Phase II introduced significant digital platforms to streamline access and efficiency. The National Judicial Data Grid (NJDG) was created as a real-time online repository of pendency data across courts; the e-Courts Services Portal and mobile app provided public access to case status, cause lists, and judgments; while e-filing and e-payment systems allowed digital submission of cases and fee payment by lawyers and litigants. Judges and lawyers benefited from Electronic Case Management Tools, enabling more efficient workflow.[30] A major advancement came in 2020 with the rollout of the monolithic Case Information System (CIS) for trial courts, allowing end-to-end digital processing of cases from filing to final judgment. This marked a transition from computerization to full-scale online judicial workflow, and also enhanced transparency enabling anyone to access live pendency data on the NJDG.

3. Phase III (2023–2027)

Phase III, approved by the Cabinet in late 2023 with a record budget of ₹7210 crores more than four times the allocation for Phase II aims to establish a state-of-the-art digital court ecosystem. Its core objective is to create a "seamless, paperless, and unified" judicial platform, integrating courts, litigants, lawyers, law enforcement, and government agencies on a common digital interface. This phase aspires to digitize all court records, including legacy paper files, and mandate universal e-filing across all court levels. Virtual courts, currently limited to traffic violations, are expected to expand to broader case categories, reflecting a shift toward contactless justice. Technological innovation lies at the heart of Phase III. It proposes leveraging Artificial Intelligence (AI) tools like Optical Character Recognition (OCR) and machine learning for predictive case analytics, smart scheduling, and automated tagging, thereby supporting judges in managing caseloads efficiently. The phase also includes plans to mainstream live-streaming of court proceedings, building upon existing pilots in High Courts and the Supreme Court, and to enhance electronic evidence management systems. Importantly, e-Sewa Kendras will be established in all court complexes to assist litigants who lack digital literacy or internet access, addressing equity concerns in justice delivery.[31]

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[29] *Brief Overview of e-Courts Project*, *e-Committee, Supreme Court of India*, available at: https://ecommitteesci.gov.in/project/brief-overview-of-e-courts-project/ (last visited on May 18, 2025).

[30] *e-Courts Project (CIS Overview)*, *CDN BBSR, Ministry of Law and Justice*, available at: https://cdnbbsr.s3waas.gov.in (last visited on May 18, 2025).

[31] *Cabinet approves eCourts Phase III for 4 years*, *Press Information Bureau*, available at: https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1956920 (last visited on May 18, 2025).

IV. THE IMPACT OF DIGITAL COURTS ON CASE BACKLOGS

India's swift integration of digital tools into its judicial system especially following the COVID-19 outbreak has been widely regarded as transformative. By 2022, the country emerged as a global leader in implementing virtual courts, with the Supreme Court's e-Committee and tech-forward judges such as Justice D. Y. Chandrachud spearheading initiatives like e-filing, remote hearings, and live-streaming of proceedings.[32] One of the most striking outcomes of this digital transition was the judiciary's ability to continue functioning during the pandemic by adopting video conferencing on an unprecedented scale.

Between March 2020 and October 2024, Indian courts held 3.38 crore virtual hearings, with 2.48 crore in district courts and 90 lakhs in High Courts. The Supreme Court itself conducted over 7.5 lakh hearings during this time. This ensured that crucial matters such as bail applications and urgent writ petitions continued to be heard, thus preventing a catastrophic surge in pendency. In fact, by April 2022, nearly 19.2 million cases had been heard virtually in subordinate courts and High Courts, out of which 17.8 million were disposed of, demonstrating the efficiency of digital adjudication.[33]

Many of these disposed cases involved routine or minor disputes like traffic violations, procedural defaults, and small claims, that were ideally suited to digital resolution. Even after physical courts reopened, the judiciary has institutionalized hybrid hearings, using video conferencing to expedite suitable matters. This permanent digital pivot has enabled India to "leapfrog" into a modern era of judicial delivery, outperforming many advanced jurisdictions in normalizing remote proceedings.

1. Online Courts for Minor Offences

One of the most impactful innovations introduced during Phase II of the e-Courts project has been the establishment of virtual traffic courts, a model that illustrates how digital platforms can drastically reduce case pendency in specific legal domains. These courts allow litigants to settle traffic violation cases entirely online, without having to appear before a judge or visit a courtroom. By the end of 2024, this system was operational in 21 States and Union Territories, collectively handling more than 6 crore challan cases. Notably, over 62 lakh cases resulted in successful online payments, leading to the collection of ₹650 crore in fines through digital

[32] *Access to justice: India leads post-Covid shift in courts' use of technology*, *International Bar Association*, available at: https://www.ibanet.org/Access-to-justice-India-virtual-courts (last visited on May 18, 2025).
[33] *eCourts Mission Mode Project: Achievements*, *Press Information Bureau*, available at: https://pib.gov.in/PressReleasePage.aspx?PRID=2083738 (last visited on May 18, 2025).

platforms.[34]

Each of these cases, resolved without a formal hearing, represents one less burden on physical court infrastructure. The system uses automated adjudication, once a fine is paid, the case is digitally closed allowing courts to bypass procedural steps entirely. This not only conserves judicial time and resources but also ensures swift resolution for minor infractions. Encouraged by this success, several states have begun to replicate the model in other areas, piloting online petty offence courts and even video-enabled night courts to expedite hearings for bail and remand matters. The virtual traffic court experience offers a compelling example of how digital justice delivery, when properly implemented, can systematically remove entire classes of litigation from the traditional docket, helping reduce judicial backlogs.

2. E-Filing and Case Management

Another significant digital reform under the e-Courts initiative has been the rollout of nationwide e-filing portals, currently operating under Version 3.0, which allow advocates and party-in-person litigants to submit petitions and case documents online at any time.[35] This shift from manual filing to electronic submission has steadily reduced dependency on physical infrastructure and accelerated the intake of new cases, particularly in High Courts and several district courts. Adoption of this system is being further supported by training initiatives for lawyers, ensuring a smoother transition across court hierarchies.

Once a case is e-filed, the Case Information System (CIS) takes over. This integrated platform connects judges and court staff through digital dashboards, allowing them to manage workflow, generate orders, and schedule hearings automatically. The system also supports automated creation of cause lists, electronically generated notices, and algorithm-based hearing timelines. These functions reduce the administrative lag that typically arises from manual coordination. As one legal tech expert observed, such automation has significantly improved the scheduling, listing, and tracking of matters, effectively minimizing delays between hearings.

In addition to facilitating smoother internal processes, the digital infrastructure also brings transparency and accountability through real-time data monitoring. For instance, using dashboards on the National Judicial Data Grid (NJDG)**,** administrators can track backlog

[34] *Over 6 crore cases disposed through virtual traffic courts; ₹650 crore collected via digital challans*, *Press Information Bureau*, available at: https://pib.gov.in/PressReleasePage.aspx?PRID=2083738 (last visited on May 18, 2025).

[35] *e-Courts Version 3.0, e-filing expansion, and CIS improvements*, *Press Information Bureau* and *IBA Global Insight*, available at: https://pib.gov.in/PressReleasePage.aspx?PRID=2083738, https://www.ibanet.org/Access-to-justice-India-virtual-courts (last visited on May 18, 2025)

trends, identify which courts or case types are delayed, and initiate corrective steps such as special clearance drives or targeted Lok Adalats. CIS can also flag cases that are stayed or dormant, ensuring they're revisited when appropriate. In essence, by embedding data analytics into the judicial workflow, India's court system is gradually adopting a more evidence-based and automated approach to docket management.

3. Efficiency Gains and Early Evidence

While it remains analytically difficult to attribute changes in pendency solely to e-Court interventions given other influencing variables like increasing case filings and judicial vacancies several indicators suggest that digital infrastructure has enhanced the judiciary's disposal capacity. According to the Ministry of Law and Justice, the expansion of e-Courts and video conferencing facilities has notably contributed to the faster handling of cases by reducing procedural delays and adjournments.[36] Tools like remote witness examination have allowed trial courts to record evidence without waiting for physical travel, particularly when witnesses are located abroad or in distant regions.

Other digital advancements like e-payment systems for court fees and fines, introduced during Phase II, have significantly reduced time-consuming formalities. Payments that previously required physical challans, stamps, and multi-day processing are now completed in minutes, particularly benefiting appellate courts by accelerating the listing process. Likewise, the JustIS mobile application, designed for judges, delivers real-time docket updates, empowering judges to manage their cause lists more proactively.[37] These innovations have led to improved case disposal rates in some jurisdictions. For example, commercial courts in Delhi, after implementing strict timelines and digital case tracking, reportedly achieved a 24% faster average case resolution.[38]

Moreover, during the peak of virtual court operations in 2022, the Supreme Court's backlog temporarily stabilized, and certain High Courts disposed of select categories of cases through special online sessions. These developments indicate that routine matters and workflow processes have become more efficient under the e-Courts regime. Empirical research supports this: studies suggest that if digital tools like AI and Online Dispute Resolution (ODR) are properly scaled, they could substantially reduce pendency by automating repetitive processes

[36] *eCourts Mission Mode Project: Achievements*, *Press Information Bureau*, available at: https://pib.gov.in/PressReleasePage.aspx?PRID=2083738 (last visited on May 19, 2025).
[37] *Computerisation of Courts*, *Press Information Bureau*, available at: https://pib.gov.in/PressReleasePage.aspx?PRID=2042986 (last visited on May 19, 2025).
[38] *Improving efficiency through electronic case management in commercial courts*, *LexisNexis India*, available at: https://www.lexisnexis.in/legal/news/commercial-courts-automation-impact (last visited on May 18, 2025).

and diverting minor disputes away from regular courts.[39] International examples provide further support countries like Brazil, Estonia, and China have already used AI for case triage and judgment drafting, accelerating adjudication cycles. India, too, has begun to explore AI applications, with projects like SUPACE (a legal research assistant) and SUVAS (a translation tool for judgments), although these initiatives remain in early stages.[40] Nonetheless, the overall pendency in Indian courts has continued to climb, reaching record levels by 2023. While technology has helped absorb millions of cases that might have otherwise congested the system, it has not yet succeeded in reversing the backlog trend. In essence, e-Courts have functioned as a containment strategy rather than a curative one, reducing the impact of delay but not eliminating its root causes.

V. CHALLENGES IN IMPLEMENTATION OF E-COURTS

Implementing digital justice at the scale of the Indian judiciary is a daunting task, and numerous **challenges** have emerged that hinder e-Courts from realizing their full backlog-clearing potential.

1. Infrastructure Gaps

Despite commendable progress in digital court connectivity Phase II reportedly achieved 99.5% WAN coverage across court complexes infrastructure gaps continue to impede the uniform implementation of digital justice.[41] In several rural and semi-urban regions, courts still lack high-speed internet, stable power supply, and adequately trained technical personnel. These issues limit the consistent use of video conferencing, e-filing, and dashboard-based case management. For example, the Madras High Court in 2022 refrained from mandating e-filing in a particular tribunal, citing the lack of necessary technical infrastructure as a critical barrier to conducting virtual hearings.[42] Such examples highlight that digital rollout is far from uniform many lower judiciary institutions, particularly taluka-level courts and tribunals, remain under-equipped and unable to adopt the full suite of e-Court tools. The government has taken steps to address this by introducing Software-Defined Wide Area Networks (SD-WAN) and upgrading bandwidth to 100 Mbps in newer court facilities. While these measures are promising, the scale of India's judicial geography means that implementation is uneven and

[39] DAKSH, *The Potential of AI and ODR in Reducing Judicial Backlog in India*, *SSRN Papers*, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4283901 (last visited on May 18, 2025).
[40] *SUPACE and SUVAS: India's AI initiatives in courts*, *SSRN Papers*, available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4299871 (last visited on May 18, 2025).
[41] *eCourts Mission Mode Project: Infrastructure Expansion and SD-WAN Upgrade*, *Press Information Bureau*, available at: https://pib.gov.in/PressReleasePage.aspx?PRID=2085127 (last visited on May 18, 2025).
[42] *Access to justice: India leads post-Covid shift in courts' use of technology*, *International Bar Association*, available at: https://www.ibanet.org/Access-to-justice-India-virtual-courts (last visited on May 19, 2025).

maintenance-intensive, requiring continuous investment and logistical oversight to ensure long-term efficacy.

2. Digital Literacy and Adoption

Even the best courtroom technology is only as effective as its users. Resistance to change and limited digital literacy among key actors especially some lawyers and judges has slowed e-Court adoption. Many bar associations initially raised objections, arguing that virtual hearings disrupted traditional practice models and posed a threat to livelihoods, particularly for small-town lawyers who feared client loss in remote proceedings.[43] Concerns were also raised around transparency and fairness, though improved video platforms and live-streaming have partially addressed these.

To bridge the digital gap, the Supreme Court's e-Committee conducted over 600 training programs, covering 6.6 lakh stakeholders by 2024, aiming to build competence in e-filing, virtual hearings, and case management tools.[44] However, adoption remains patchy. In several courts, e-filings remain minimal, with many practitioners sticking to physical processes citing technical glitches, lack of familiarity, or sheer habit. Institutional transformation is slow, and experts have underscored the need for systematic, not ad-hoc reform, to bring the bar fully on board. While future generations of tech-savvy legal professionals may drive change organically, in the short term, user hesitation continues to hinder full realization of e-Courts' efficiency potential.

3. Access to Justice and Digital Divide

A pressing concern in the digital transformation of courts is ensuring that technology does not exclude those without digital literacy or access. Given India's socio-economic disparities, many litigants particularly from rural or economically weaker backgrounds like lack smartphones, stable internet, or familiarity with online platforms. Moving entirely to digital systems without supportive measures could inadvertently undermine the right to access justice for these groups.

To address this, the judiciary has launched e-Sewa Kendras they assistance booths located within court complexes that help users file cases electronically, access court orders, and participate in virtual hearings. By 2024, over 1,400 such Kendras had been established across

[43] *Why lawyers are resisting virtual courts: fears and adaptations*, *LiveLaw*, available at: https://www.livelaw.in/top-stories/lawyers-opposition-virtual-courts-access-and-fairness-192739 (last visited on May 19, 2025).

[44] *Capacity Building and Training by e-Committee*, *Press Information Bureau*, available at: https://pib.gov.in/PressReleasePage.aspx?PRID=2083738 (last visited on May 19, 2025).

district courts, providing free, in-person support.[45] Courts have also retained hybrid hearing formats to ensure that those unable to attend online proceedings can still appear physically.

Yet, the challenge persists, a litigant in a remote village, without internet facilities or guidance, may remain effectively cut off from the digital system. Overcoming this "digital exclusion" demands sustained outreach, development of vernacular-language interfaces, and possibly mobile kiosks or justice vans in underserved areas. As one legal analyst cautioned, if remote justice becomes the standard, it is vital to ensure that marginalized communities are not left behind in the process.

4. Legal and Procedural Hurdles

Integrating digital tools into India's traditional legal processes has exposed the need for procedural reforms. For instance, e-filing systems prompted debates around the handling of original documents and their authenticity, leading to the introduction of e-signature protocols and digital verification norms. Similarly, virtual hearings compelled courts to adapt procedures for presenting evidence and examining witnesses raising practical concerns such as managing documents on screen or ensuring a witness isn't influenced off-camera during testimony.

To address such gaps, the Supreme Court and various High Courts have formulated Model Video-Conferencing Rules and issued guidance on conducting online depositions, though many of these frameworks remain under evolution. Additionally, some existing statutes continue to require physical filings, appearances, or service of documents, creating legal roadblocks to seamless digital transitions. A complete shift to e-courts will likely require statutory amendments, for example, to fully legalize electronic summons delivery or remote witness examination across all case types. Ultimately, the inherent conservatism of legal procedure often slows down the adoption of more efficient, technology-driven alternatives.

5. Privacy and Security Concerns

As Indian courts migrate to cloud-based systems and digitize case records under Phase III, the importance of data privacy and cybersecurity becomes critical. Judicial files often contain highly sensitive personal and legal information, making it essential to prevent data breaches or unauthorized access. Observers have raised concerns over India's absence of a comprehensive data protection law (though one is expected soon), and have urged the adoption of strong encryption standards and strict access controls to protect digital court data. Skepticism also persists among some legal professionals, who are hesitant to upload confidential documents

[45] *Over 1,400 e-Sewa Kendras established across district courts, Press Information Bureau*, available at: https://pib.gov.in/PressReleasePage.aspx?PRID=2085127 (last visited on May 19, 2025).

online, citing security vulnerabilities. The e-Committee has recognized these risks in its Phase III blueprint, promising secure cloud storage, role-based access, and rigorous security protocols to protect digitized records. However, confidence in the system could be severely shaken by any cyberattack or data leak.

Similarly, while live-streaming court proceedings is a step toward transparency, it also raises valid concerns about the privacy of litigants, especially in sensitive cases, and the potential for misuse of video content. To address this, courts will need to implement exception handling rules, redaction tools, and possibly time-delayed broadcasts. Ultimately, the shift to digital courts introduces a range of new security challenges that must be proactively managed through robust IT safeguards and clear privacy policies.

Addressing India's judicial backlog requires more than just technological interventions. While digital tools like e-Courts have streamlined processes and reduced certain delays, they cannot compensate for the shortage of judges or the continuous influx of new cases. Experts argue that simply increasing the number of judges is insufficient; a holistic approach that combines judicial appointments with systemic reforms and technological integration is essential.[46] Therefore, e-Courts should be viewed as a critical component of a broader strategy aimed at enhancing judicial efficiency. The subsequent section will explore how other countries are balancing technological advancements with judicial reforms to tackle similar challenges.

VI. GLOBAL PERSPECTIVES ON E- COURTS AND JUDICIAL DELAY

India’s push toward digital courts accelerated notably after 2020 has garnered international interest. Around the world, several jurisdictions are contending with similar challenges of case backlogs and are turning to technology-driven solutions, though the strategies and success levels differ.

In the United States, for instance, e-filing is widely used in federal courts through the PACER system, but the adoption at the state and local levels remains inconsistent some states operate sophisticated digital systems, while others still depend on traditional paper processes. The use of virtual hearings in the U.S. has also sparked legal debate, particularly around whether remote proceedings meet due process standards in criminal trials. Unlike India’s centralized e-Courts framework, the U.S. lacks a unified national strategy, giving India’s top-down model, led by the Supreme Court’s e-Committee, a unique advantage in terms of consistency and scale.

[46] *AI: A Promising Solution To India's Judicial Backlog Crisis*, *The Study IAS*, available at: https://www.thestudyias.com/blogs/ai-a-promising-solution-to-indias-judicial-backlog-crisis/ (last visited on May 19, 2025).

Brazil offers another instructive example. Faced with a heavy caseload like India, its judiciary has adopted the "PJe" system for electronic processing across courts and has experimented with AI tools to identify relevant precedents. These efforts have reportedly improved judicial efficiency, although regional disparities in implementation remain.

China, meanwhile, has moved aggressively toward establishing "smart courts", incorporating tools like AI-assisted judgment writing, speech-to-text courtroom recorders, and even fully online courts for e-commerce disputes. According to China's Supreme People's Court, these innovations have significantly reduced case durations, but concerns persist about due process and human oversight in such heavily automated environments.

In Europe, countries like Estonia and the Netherlands have developed online dispute resolution (ODR) platforms for small-value civil claims, helping to reduce pressure on traditional courts. Singapore stands out for its comprehensive adoption of technology it implemented e-litigation systems even before the pandemic and now uses digital tools for everything from paperless trials to AI-powered legal research. The result: a high-functioning, low-pendency system though it benefits from a far smaller caseload than India.

The overarching takeaway from global experience is that while digital courts are vital to modern justice delivery, they must be accompanied by institutional reforms. No country has resolved delays solely through technology. For instance, U.K. courts, despite having a robust e-filing system and widespread video hearings during the pandemic, experienced growing delays due to budget cuts and judge shortages, underscoring the importance of investments in both technology and human capital.

India's initiative remains unique in scale few countries have attempted a unified digital platform for managing tens of millions of cases. While the country has made strides in balancing accessibility with efficiency, much work lies ahead in achieving full adoption and stakeholder alignment. International experience underscores that technology serves as an enabler, not a panacea. Its benefits like faster hearings and improved transparency are real, but long-term success depends equally on addressing judicial vacancies, simplifying procedures, and investing in court infrastructure. India's recent efforts to increase judge strength and decriminalize minor offences reflect this multi-pronged, holistic approach.

VII. CONCLUSION AND SUGGESTIONS

India's long-standing struggle with judicial delay has found a powerful ally in the e-Courts initiative, which represents a significant step toward modernization. The analysis presented above confirms that digitization has brought measurable improvements that is injecting speed,

efficiency, and transparency into a system traditionally marked by sluggishness. Through its multi-phase rollout, the e-Courts project has created a nationwide digital framework, connecting almost all courts and equipping both judges and litigants with tools that were once inconceivable. By diverting millions of minor cases from regular courtrooms and streamlining processes via e-filing and video conferencing, the project has saved valuable judicial time. In practical terms, litigants can now initiate proceedings online, receive case alerts digitally, and appear in hearings remotely contributing to enhanced access to justice and greater user-friendliness. The Phase III vision of promoting "access and inclusion" aptly captures the goal of a technology-enabled, geographically neutral judicial system.

That said, the core question, can e-Courts eliminate India's mounting case backlog? warrants a more nuanced answer. While digital initiatives have undoubtedly improved court functioning, they remain incomplete solutions to the backlog crisis. The problem lies not only in inefficient procedures but also in infrastructure gaps, manpower shortages, and a procedural culture prone to adjournments and prolonged appeals. Despite over a decade of technological upgrades, the overall pendency continues to grow, indicating that tech alone cannot reverse the trend. This is not a failure of e-Courts indeed, without them, the post-COVID scenario might have been far direr. Digital reforms have likely kept the system afloat by enhancing disposal rates, but they cannot substitute for core judicial functions. Even in a virtual setting, a case still requires a judge to deliberate and decide, and without sufficient judicial capacity and broader systemic reforms, delays persist only now on screens instead of paper. As legal analysts have noted, unless structural changes are made alongside tech upgrades, reaching a point of real-time adjudication may remain an elusive goal.

To enhance the effectiveness of e-Courts, complementary reforms are crucial. There is a need to upgrade infrastructure in lower courts and provide ongoing digital training for judges, lawyers, and court staff. Procedural frameworks should be revised to accommodate practices such as virtual hearings and electronic summons. Expanding e-Sewa Kendras and introducing mobile support services can improve digital access for rural litigants. Encouraging hybrid hearings and wider use of Online Dispute Resolution will help ease court congestion. A unified case management system supported by AI tools should be implemented, along with timely judicial appointments and strong data security protocols to protect digital records.

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