



Access to Justice in the Era of Digital Courts

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Abstract— The rapid digitalization of judicial systems—accelerated by the COVID-19 pandemic—has transformed how litigants file cases, attend hearings, and resolve disputes. Online dispute resolution (ODR) platforms, remote videoconferencing, e-filing systems, and artificial intelligence (AI) tools are increasingly embedded in court operations worldwide. While these innovations promise to reduce costs, expedite case resolution, and extend judicial services to previously underserved populations, a growing body of scholarship documents persistent and, in some respects, newly created barriers to access. This paper synthesizes recent literature on digital courts and access to justice, organizing findings around four themes: efficiency and cost reduction, digital divides and representational asymmetries, procedural justice and perceived fairness, and the emerging role of AI in judicial processes. The review reveals that most existing research is jurisdiction-specific, methodologically fragmented, and rarely integrates technological, procedural, and equity dimensions within a single analytical framework. This paper addresses that gap by proposing an integrated conceptual framework—the Digital Access to Justice (DA2J) framework—that evaluates

digital court reforms along three interdependent axes: technological accessibility, procedural legitimacy, and distributive equity. The paper does not present new empirical data; rather, it synthesizes existing evidence to argue that digital courts can only be considered access-enhancing when improvements in efficiency are not achieved at the expense of fairness and inclusion for self-represented and marginalized litigants. Implications for court administrators, policymakers, and future empirical researchers are discussed.

Keywords— access to justice, digital courts, online dispute resolution, digital divide, procedural justice, e-justice, artificial intelligence in courts

INTRODUCTION

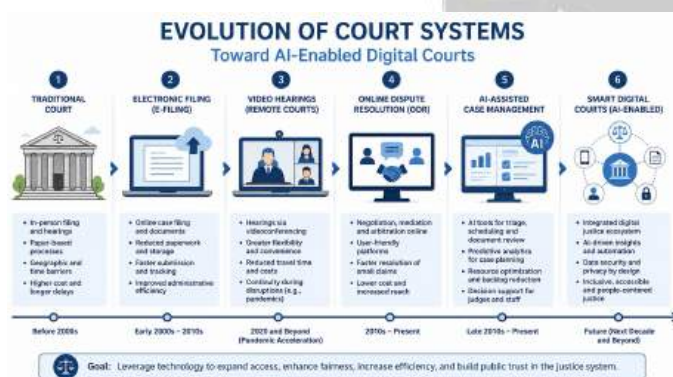
Access to justice—the ability of individuals to seek and obtain a remedy through formal or informal institutions of justice—has long been recognized as a cornerstone of the rule of law (Sandefur, 2008). Yet, for decades, courts across both developed and developing jurisdictions have struggled with



case backlogs, prohibitive costs, geographic barriers, and an increasing proportion of self-represented litigants (Schmitz et al., 2022). The digitalization of court systems has been proposed as a partial solution to these structural constraints. Electronic filing, online dispute resolution (ODR), remote videoconferencing, and, more recently, AI-assisted case management have been adopted at an unprecedented pace, particularly since the COVID-19 pandemic forced courts worldwide to suspend in-person proceedings (Baldwin et al., 2020; Pew Charitable Trusts, 2021).

Proponents argue that digital courts reduce the time and expense associated with litigation, extend judicial services to rural and low-income populations, and relieve overburdened court dockets (World Bank, 2025; Sourdin et al., 2020). China's Internet Courts, established in 2017 to resolve e-commerce and copyright disputes entirely online, are frequently cited as an example of how digital infrastructure can lower the practical cost of litigation (Sung, 2020). Similarly, ODR platforms such as those piloted in British Columbia, Canada, and various U.S. state courts have been credited with processing thousands of small claims cases with minimal administrative burden (Witwer et al., 2021).

However, a parallel body of research raises concerns that digitalization, if implemented without regard to underlying social and technological inequalities, may reproduce or exacerbate existing access barriers rather than resolve them (Bannon & Adelstein, 2020; Bannon & Keith, 2021). Litigants without reliable internet access, digital literacy, or private space to attend a hearing may be structurally disadvantaged relative to represented parties who possess these resources (Factor et al., 2023). This tension between efficiency gains and equity costs constitutes the central problem this paper addresses.



LITERATURE REVIEW

Efficiency, Cost Reduction, and the Promise of Digital Courts

A substantial stream of literature documents the efficiency gains associated with court digitalization. Sourdin et al. (2020) examined court innovations adopted during public health crises and found that digital case management systems reduced procedural delays and enabled continuity of judicial operations during lockdowns. The Pew Charitable Trusts (2021) similarly reported that civil courts in the United States adopted remote hearings, e-filing, and digital notarization at an unprecedented pace during the pandemic, with jurisdictions such as Texas conducting civil hearings by video for the first time in their history. The World Bank (2025) documented that the proportion of countries adopting court digitalization reforms rose sharply between 2020 and 2021 across all income groups, though adoption remained substantially lower in low-income countries.

At the international level, Sung (2020) analyzed China's Internet Courts and argued that moving e-commerce and copyright disputes online—supported by blockchain-based evidence authentication—substantially reduced the time and cost burdens previously associated with cross-jurisdictional consumer litigation. Okeke (2026) extended this line of inquiry to developing-country contexts, documenting technology-based justice initiatives in African jurisdictions such as Kenya and Namibia, including electronic case management directives and video-linked testimony for vulnerable witnesses. Schmitz et al. (2022) and Witwer et al. (2021) reviewed the broader ODR literature and concluded that online platforms for negotiation, mediation, and arbitration can meaningfully expand access for individuals who would otherwise be unable to reach a courthouse.

Collectively, this stream of research establishes that digital tools can reduce structural barriers related to distance, time, and administrative cost. However, much of this literature is descriptive or programmatic, focusing on implementation case studies rather than systematic evaluation of user outcomes across different demographic groups.

Digital Divides and Representational Asymmetries

A second, and increasingly prominent, stream of research critically examines whether the efficiency gains documented above are equitably distributed. Bannon and Keith (2021) proposed a set of principles for virtual proceedings, cautioning

that remote hearings risk disadvantaging litigants who lack private space, reliable devices, or stable internet connections. The Brennan Center for Justice (Bannon & Adelstein, 2020) found that self-represented litigants—who constitute the majority of parties in many family and housing courts—often struggle to access adequate technical support and language assistance in virtual settings, particularly individuals with limited English proficiency.

Empirical evidence from Indiana University's study of remote civil hearings offers a more nuanced picture. Contrary to expectations of pervasive technological failure, the study found that technical difficulties occurred in fewer than 10% of observed remote hearings, and that unrepresented litigants who attended remotely reported lower stress and higher satisfaction than those who appeared in person, largely because remote attendance reduced structural burdens such as transportation, childcare, and employment conflicts. Nevertheless, the same research cautioned that litigants without personal internet access—a non-trivial share of the population in some U.S. states—remain excluded from these benefits altogether, and that representational asymmetries persist: represented parties typically appear via laptop with full videoconferencing functionality, while unrepresented litigants often dial in using cell phones with limited audio-only capability.

Foundational work by Sandefur (2008) situates these findings within a broader sociological framework, arguing that access to civil justice is structured by race, class, and gender inequality independent of any single procedural reform. This perspective suggests that digital tools are unlikely to resolve access disparities unless they are designed with explicit attention to the socioeconomic conditions of the populations they are meant to serve.

Procedural Justice and Perceived Fairness

A third theme concerns whether digital proceedings preserve the perceived fairness and legitimacy traditionally associated with in-person adjudication. Procedural justice theory holds that litigants' satisfaction with legal outcomes depends not only on the result but on whether they felt they had voice, were treated with respect, and were judged by a neutral decision-maker (Factor et al., 2023). Using systematic observation of 370 detention-extension hearings in Israel, Factor et al. (2023) found that the voice, respect, and neutrality dimensions of procedural justice were significantly lower in videoconference hearings than in comparable in-person hearings, even after controlling for case and defendant characteristics. Baldwin et al. (2020) similarly documented operational and

communicative disruptions in U.S. courts during the pandemic-driven shift to remote proceedings.

Other scholars raise concerns about the symbolic function of the courtroom itself. Digitalization can alter the meaning of a hearing as a "public ritual," potentially decoupling the experience of justice being visibly done from the institutional authority of the court (as discussed in comparative work on "technology courts"). Susskind (2019), in a foundational and widely cited account, argued that online courts can preserve—and even enhance—core principles of justice such as accessibility and proportionality, but only if implementation is deliberate and safeguards against depersonalization are built into system design. This body of work suggests that efficiency and legitimacy are not automatically aligned, and that poorly designed remote proceedings may undermine the very fairness they are intended to support.

Artificial Intelligence and the Automation of Judicial Processes

A fourth and rapidly expanding theme concerns the integration of AI into court administration and, more controversially, judicial decision-making. Gans-Combe (2022) reviewed the risks of algorithmic decision-making in access-to-justice contexts, using Australia's "Robodebt" automated welfare-debt recovery scheme as a cautionary example of how poorly audited algorithms can generate systemic harm when deployed with limited human oversight. Other scholars note that AI tools—including legal chatbots, automated document review, and predictive analytics—are increasingly used to triage cases and guide self-represented litigants toward appropriate dispute resolution pathways, potentially lowering the informational barriers that have historically excluded unrepresented parties from effective participation. At the same time, courts in several jurisdictions, including Canada's Federal Court, have restricted the use of generative AI in producing judgments or orders, citing risks to judicial independence and public confidence in the administration of justice.

This literature remains largely prospective and normative, offering limited empirical evidence on how AI tools affect actual case outcomes or litigant experiences, particularly for unrepresented and low-income users.

Synthesis, Trends, and Limitations of Existing Research

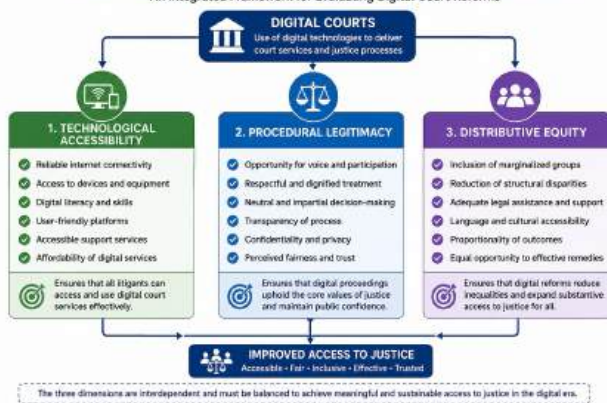
Across these four themes, several trends are apparent. First, research volume has increased markedly since 2020, driven largely by the pandemic-induced acceleration of remote justice

initiatives. Second, most studies are jurisdiction-specific—focusing on the United States, China, Israel, or individual European or African states—limiting the generalizability of findings across legal traditions and levels of technological infrastructure. Third, the literature is thematically siloed: studies of efficiency rarely engage with procedural justice measures, and studies of digital divides rarely incorporate AI-related developments. Fourth, much of the empirical work relies on observational or descriptive designs rather than comparative or longitudinal methods capable of isolating the causal effects of digitalization on access outcomes.

1. To synthesize recent multidisciplinary research on digital courts and access to justice across the themes of efficiency, digital divides, procedural fairness, and AI integration.
2. To propose an integrated conceptual framework—the Digital Access to Justice (DA2J) framework—that evaluates digital court reforms along three interdependent axes: technological accessibility, procedural legitimacy, and distributive equity.
3. To outline a methodological approach by which future empirical research can operationalize and test this framework across jurisdictions.

DIGITAL ACCESS TO JUSTICE (DA2J) FRAMEWORK

An Integrated Framework for Evaluating Digital Court Reforms



METHODOLOGY

As a conceptual paper, this paper does not report original empirical data. The literature underpinning the review was identified through structured searches of Google Scholar, ScienceDirect, SSRN, Cambridge Core, Taylor & Francis Online, and institutional repositories (RAND, Brennan Center for Justice, World Bank, Pew Charitable Trusts), using search terms including "access to justice," "digital courts," "online dispute resolution," "remote hearings," "digital divide courts," and "artificial intelligence judicial decision-making." Priority was given to peer-reviewed articles and institutional reports published between 2019 and 2026, with earlier foundational work (e.g., Sandefur, 2008; Susskind, 2019) included where it provides conceptual grounding still actively cited in current scholarship. Sources were screened for direct relevance to court digitalization and access outcomes and grouped thematically rather than reviewed chronologically or study-by-study.

The proposed DA2J framework synthesizes these themes into three evaluative axes:

- **Technological accessibility:** the extent to which litigants across income, geographic, and literacy levels can reliably access and use the digital tools required to participate in proceedings, consistent with concerns raised regarding device disparities and unreliable connectivity among unrepresented litigants.
- **Procedural legitimacy:** the extent to which digital proceedings preserve litigants' perceived voice, respect, and neutrality, drawing on the empirical procedural justice deficits documented in videoconferenced hearings (Factor et al., 2023).
- **Distributive equity:** the extent to which digital reforms narrow, rather than widen, pre-existing disparities in access associated with race, class, gender, and geography (Sandefur, 2008).

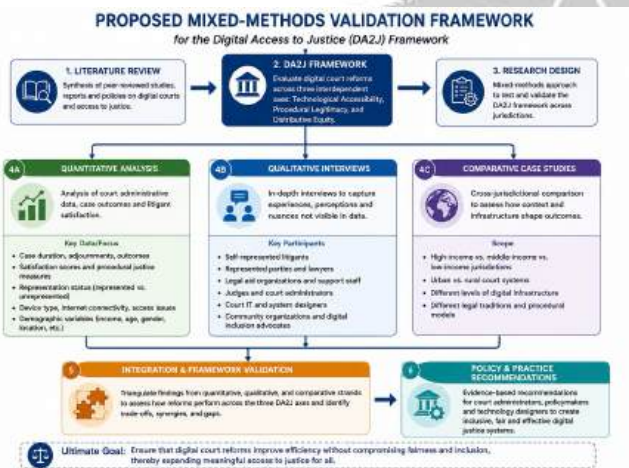
RESEARCH GAP

The reviewed literature demonstrates that digital courts simultaneously expand and constrain access to justice, depending on the population and dimension examined. However, no existing framework integrates the three critical dimensions identified above—technological accessibility, procedural legitimacy, and distributive equity—into a single, coherent model for evaluating digital court reforms. Existing studies tend to isolate one dimension (e.g., efficiency gains, or procedural justice deficits, or digital divide effects) without systematically examining how these dimensions interact. Consequently, court administrators and policymakers lack a unified conceptual tool to assess whether a given digital reform genuinely enhances access to justice or merely redistributes existing barriers in a new technological form. This paper addresses that gap by proposing an integrated conceptual framework.

OBJECTIVES

This paper pursues three objectives:

For future empirical validation, a mixed-methods design is proposed: (a) quantitative analysis of case-outcome and satisfaction data disaggregated by representation status, device type, and connectivity, following the observational approach used in prior remote-hearing studies; (b) qualitative interviews with self-represented litigants, legal aid providers, and court administrators to capture experiential dimensions of procedural legitimacy; and (c) comparative case studies across jurisdictions with differing levels of digital infrastructure (e.g., high-income versus low-income court systems) to assess how the three DA2J axes interact under varying resource conditions. This design would allow researchers to test whether reforms that improve one axis (e.g., efficiency-driven technological accessibility) do so at the expense of another (e.g., procedural legitimacy), addressing the fragmentation.



DISCUSSION

The literature reviewed above suggests that digital courts are neither uniformly beneficial nor uniformly harmful to access to justice; their effects depend on how implementation addresses the interaction between accessibility, legitimacy, and equity. Efficiency-oriented reforms, such as ODR platforms and e-filing systems, demonstrably reduce direct costs and time burdens (Sourdin et al., 2020; Witwer et al., 2021), and in some contexts—such as reduced stress and improved attendance among unrepresented litigants—appear to improve subjective outcomes relative to in-person proceedings. Yet these gains are not universally distributed: litigants lacking devices, connectivity, or digital literacy remain structurally excluded, and even among those who can participate remotely, representational asymmetries in technology use may reproduce existing power imbalances between represented and unrepresented parties (Bannon & Keith, 2021).

The procedural justice literature adds a further layer of complexity. Even where digital tools successfully broaden participation, the diminished sense of voice, respect, and neutrality documented in videoconferenced hearings (Factor et al., 2023) suggests that access, narrowly defined as the ability to appear before a court, is insufficient without attention to the quality of that appearance. This distinction between formal and substantive access echoes long-standing concerns in the access-to-justice literature regarding the limits of procedural reform absent structural change (Sandefur, 2008).

The emerging integration of AI into judicial processes further complicates this picture. While AI-assisted triage and legal information tools hold promise for lowering informational barriers facing self-represented litigants, the Robodebt case documented by Gans-Combe (2022) illustrates the risk that poorly audited automated systems can generate large-scale harm, particularly for already vulnerable populations. The cautious regulatory stance adopted by some courts toward generative AI in judgment-writing reflects an emerging institutional recognition that efficiency-driven automation must be balanced against safeguards for judicial independence and public trust.

Taken together, these findings support the central argument of this paper: digital court reforms cannot be evaluated on efficiency metrics alone. The proposed DA2J framework offers court administrators and researchers a structured means of asking not only "does this reform save time and money?" but also "does this reform preserve fairness, and does it reach the populations most in need of improved access?" Applying this framework prospectively, during the design phase of digital reforms, may help avoid the retrospective discovery of exclusionary effects documented in much of the reviewed literature.

This paper's conceptual nature is both a strength and a limitation. It enables synthesis across otherwise disconnected literatures, but it does not provide new empirical validation of the DA2J framework. Future research, following the mixed-methods design proposed, is needed to test the framework's applicability across diverse legal systems, particularly in low- and middle-income countries where digital infrastructure gaps remain most pronounced (World Bank, 2025; Okeke, 2026).

CONCLUSION

Digital courts represent one of the most significant transformations in judicial administration in recent decades, offering genuine potential to reduce the cost, delay, and

geographic barriers that have historically constrained access to justice. However, the literature reviewed in this paper demonstrates that these benefits are neither automatic nor evenly distributed. Persistent digital divides, diminished procedural legitimacy in remote proceedings, and unresolved questions about the appropriate role of AI in judicial decision-making all indicate that technological modernization alone cannot guarantee equitable access. This paper has proposed an integrated conceptual framework—Digital Access to Justice (DA2J)—that evaluates digital reforms along three interdependent axes: technological accessibility, procedural legitimacy, and distributive equity. By moving beyond single-dimension assessments common in existing scholarship, this framework offers a foundation for future empirical research and for court administrators seeking to design digital reforms that expand, rather than merely relocate, the barriers litigants face in seeking justice.

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