

Designing the Ideal E-Court E-Litigation: A Global Comparative Framework for Indonesia's Electronic Civil Case Management System

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Abstract

Recent changes to the judiciary in Indonesia have introduced digitalization of the country's judicial system, including e-courts and e-litigation, aimed at improving efficiency and transparency. However, with the technological infrastructure still facing many issues and the absence of legal standards for digital information and system privacy, these e-court and e-litigations have not been successful thus far. This paper examines the judiciary's digital presence and the structure of e-court systems in other countries to devise an ideal model for Indonesia's electronic civil case management systems. The research employed normative, doctrinal, and comparative legal methodologies, primarily drawing on statutes, case law, and secondary literature. This paper supports 1) SDGs No. 16 on Peace, Justice and Resilient Institutions strengthening inclusive and peaceful societies for sustainable development, providing access to justice for all, 2) The seventh Asta Cita, which emphasizes a transparent, efficient, and accountable judicial system that strengthens legal certainty, accelerates digital transformation, and enhances equitable access to justice throughout Indonesia. The study indicates that an ideal model exists, comprising five key features: the ability to file electronically, pay court filing and service fees electronically,

receive electronically served summons, attend court proceedings via telecommunications, and continuously improve human resources and digital legal education. The comparative research has identified particular strengths in different jurisdictions, such as the Netherlands in data protection, Australia in system interoperability, Norway and Spain in efficient procedural and system cybersecurity, Singapore and Malaysia in legal technology education, and the United Kingdom in user-friendly system design. The results of this research are pivotal for legal reforms in Indonesia. It presents actionable steps to modernize the judiciary, improve access to justice, and bolster public trust in the judiciary in the digital era. Additionally, the study outlines policies to assist Indonesia in incorporating the optimal elements of the jurisdictions analyzed to establish a comprehensive, transparent, and legally sustainable e-court system. The research is constrained by the absence of an empirical analysis of court system readiness and of the relatively shallow analysis of the developed technical system.

Keywords

E-Court, The Sevent Asta Cita of the President of the Republic of Indonesia, Digital Justice, SDG 16, Judicial Reform.

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Introduction

The digitization of judicial systems has become a global phenomenon as governments expedite modernization, increase efficiency, and enhance citizen trust.¹ The use of e-litigations and e-courts in Indonesia is an example of Indonesia's advanced digital potential following the enactment of Supreme Court Regulation No. 7 of 2022 on the Administration of Electronic Cases.² The advancement diverges from other systems worldwide by focusing on automating various processes. The digitalization of the integrated workflow is designed to enhance administrative efficiency, reduce cycle times and administrative burden, and increase access to justice for the population. However, this digital justice system also faces challenges.³

The country's technological framework continues to exhibit major deficiencies, particularly in the central and regional courts, where remote areas lack reliable internet connections and adequate digital facilities.⁴ There are gaps in digital skills among adjudicatory staff, members of the legal profession, and other members of society, which serve as barriers to the effective implementation of automated systems. Furthermore, Indonesia lacks reasonably comprehensive legislation regarding the security of data, the legal validity of digital signatures and other forms of authentication, the legal validity of electronic communications and other forms of evidence, and the interrelation of the government's

¹ Ni Made Agelina Adnyakausalya et al., "Analisis Yuridis Terhadap Pelaksanaan Persidangan Elektronik Perkara Perdata Dalam Menjamin Hak Para Pihak," *Jurnal Media Akademik (JMA)* 3, no. 7 (2025): 20, <https://doi.org/10.62281/v3i7.2519>.

² Aju Putrijanti and Kadek Cahya Susila Wibawa, "The Implementation of E-Court in Administrative Court to Develop Access to Justice in Indonesia," *Journal of Environmental Treatment Techniques* 9, no. 1 (2020): 105, [https://doi.org/10.47277/jett/9\(1\)109](https://doi.org/10.47277/jett/9(1)109).

³ Arief Budiono et al., "Effectiveness of E-Court in Handling Civil Cases in Class IA Religious Court of Ternate," *Law and Justice* 9, no. 1 (2024): 130–50, <https://doi.org/10.23917/laj.v9i1.3903>.

⁴ Loso Judijanto et al., "Tinjauan Yuridis Penggunaan Digital Justice Untuk Akuntabilitas Dan Efisiensi Sistem Peradilan Di Indonesia," *Sanskara Hukum Dan HAM* 3, no. 02 (2024): 99–107, <https://doi.org/10.58812/shh.v3i02.497>.

administrative systems.⁵ Hence, these findings suggest the need for complementary legislative and institutional innovations to accompany digital innovations in the justice system.

Addressing digital inequity is essential for developing a future-oriented digital justice system.⁶ Digital Justice reports that Digital Innovation and Justice find some of the Digital Justice of the National System that Shaped the System that Increases Legal Certainty and Justice to be the focus of the system, so that the justice of the system is not only technological.⁷ This paper views Digital Justice in Indonesia as a long-term initiative that warrants further examination to enable a more detailed comparison with other comprehensive programs and systems, and to ensure that such an initiative is not merely fleeting.

The digitization of the judiciary worldwide enables it to set and attain standards of efficiency, transparency, and equity within the system. Improving system efficiency means reducing the time it takes to process a case, minimizing administrative errors, and enhancing the workflows used in case processing. Transparency refers to the system's ability to provide readily available information to users, establish mechanisms for accountability and oversight, and allow public access.⁸ Equitable access refers to addressing imbalances and procedural inequities that lead to inaction in response to technological disparities and behaviors within electronic systems. There is a digital equity perspective within the current Indonesian discourse on digital justice.

⁵ Hasyim Sofyan Lahilote et al., "Judicial Digitalization in Central Indonesia: A Study of E-Court and E-Litigation Implementation in Courts," *Syariab: Jurnal Hukum Dan Pemikiran* 24, no. 2 (2024): 315, <https://doi.org/10.18592/sjhp.v24i2.13879>.

⁶ Bearlly Deo Syahputra and Enggal Prabawuri Khotimah, "Problematisasi Keabsahan Pembuktian Pada Implementasi Persidangan Elektronik (E-Litigasi)," *Supermasi Hukum: Jurnal Penelitian Hukum* 30, no. 2 (2021): 148.

⁷ Dian Latifiani, "Human Attitude and Technology: Analyzing a Legal Culture on Electronic Court System in Indonesia (Case of Religious Court)," *Journal of Indonesian Legal Studies* 6, no. 1 (2021): 157–84, <https://doi.org/10.15294/jils.v6i1.44450>.

⁸ Zico Junius Fernando, "AI Hakim: Merevosi Peradilan Yang Berintegritas, Bermartabat, Dan Meningkatkan Kesejahteraan Hakim," *Judex Laguens: Jurnal Hukum dan Peradilan, PP. IKAHI* 2, no. 2 (2024): 157, <https://doi.org/10.46294/ULPLR-RDULP.V14I1.7475>.

The extent to which the digital transformation of the legal system is driven by internal motivation, rather than obligation, is also a function of the law's culture in relation to the protection of unrepresented claimants who may be digitally excluded.⁹ There is a broad consensus that technology in the justice system should serve as a means, not an end. Earlier studies have also emphasized that several human elements, including legal knowledge, available organizational resources, and a reasonable level of predictability in court decisions, drive the effectiveness of e-systems in courts. The securing of digital justice, grounded in ethical, social, and institutional factors, is a focal point of international discourse, which is why digital justice discourse is among the most topical and relevant in modern policymaking. Digital justice and ICT policy in Indonesia requires an optimization of fairness, access, and integrity as primary values.

Previous studies on the use of e-court and e-litigation in Indonesia have partially and imperfectly addressed some of the challenges. The optimization of electronic trials is largely a function of the availability of infrastructure and the level of human resources in the judiciary. Their findings indicate that while regulatory frameworks now exist, technological tools are not evenly distributed, and many courts lack adequate technical support.¹⁰ Similarly, observe that digital transformation has accelerated case administration but continues to face several structural obstacles, including unequal digital literacy, inconsistent application of procedures across different courts, and cybersecurity concerns.¹¹ These studies show the need to align technological progress with institutional development. However, they share the same limitation, the absence of global comparisons, and are

⁹ Dian Latifiani et al., "The Future Challenges and Opportunity for Electronic Court on Sharia Banking Disputes Resolution," in *AIP Conference Proceedings*, 1–7. *AIP Conference Proceedings*, 2022, 3, <https://doi.org/10.1063/5.0104133>.

¹⁰ Juliani Paramitha Yoesuf et al., "Optimization of E-Litigation-Based Trial Implementation As A Strategy to Prevent Bribery and Gratification (Comparatory Study of E-Litigation Implementation in Malaysia and Singapore)," *Jurnal Ilmiah Living Law* 16, no. 1 (2024): 45, <https://doi.org/10.30997/jill.v16i1.11360>.

¹¹ Ahmad Burhanuddin, Syeh Sarip Hadaiyatullah, and Pramudya Wisesa, "Summons for Court Proceedings Using Registered Mail in the Perspective of Civil Procedure Law," in *KnE Social Sciences*, vol. 2024, 2024, 545–59, <https://doi.org/10.18502/kss.v9i2.15013>.

therefore limited to the Indonesian context. Because of this, they cannot explain which international best practices could assist Indonesia in overcoming its internal limitations and in providing more effective arrangements across the various systems. More developed countries in digital equity have focused on interoperability, user-centered design, and data protection, all of which Indonesia is still developing. The lack of comparative studies is the gap this study seeks to address. It is then possible to determine which aspects can be applied to the realities in the legal, social, and technological environment in Indonesia, through the synthesis of comparative lessons. This marks the beginning of a more comprehensive, future-oriented paradigm in digital justice reform.

According to Yuniar et al. (2021), weaknesses of Indonesia's current e-court and e-litigation systems can be grouped into four main categories.¹² The first of these is infrastructural imbalances. These imbalances stem from the differences between metropolitan courts and remote rural regions, such as those classified as leading, outermost, and underdeveloped. Such gaps limit and bias the experiences of users of these systems, which in turn affects the systems' inclusivity. Digital literacy gaps also affect court staff and participants in litigation. Non-advocate litigants, for instance, often lack the technical skills needed to use e-filing systems, upload documents, or participate in remote hearings. The incomplete incorporation of various infrastructures from multiple organizations has also been a significant issue. The electronic civil case management systems still do not interface with police, prosecution, and administrative systems, requiring manual entry of case data, which leads to delays in the system. Fourth, there are still legal and regulatory gaps, especially concerning the use of electronic signatures, the regulation of privacy, data security, and the validation of digital evidence, which points out that the evidential collection process still largely relies on manual verification due to limited available resources and persistent issues of data security, system breaches, or tampering.¹³ The advancements made in e-

¹² Vania Shafira Yuniar, Jihan Syahida Sulistyanti, and Dian Latifiani, "The Court Role in Providing E-Court System Education to Community: Post-Enactment of Supreme Court Regulation Number 1 of 2019," *UNIFIKASI: Jurnal Ilmu Hukum* 8, no. 1 (2021): 34–42, <https://doi.org/10.25134/unifikasi.v8i1.3697>.

¹³ Lahilote et al., "Judicial Digitalization in Central Indonesia: A Study of E-Court and E-Litigation Implementation in Courts."

court systems in Indonesia do not account for the fact that the system remains in a transitional state. To achieve digital justice, it is necessary not only to obtain technical answers but also to resolve procedural law issues so that they fit into the digital paradigm.¹⁴ The dual nature of technology and normative demand the convergence of a model that involves infrastructure, legislation, and digital maturity.¹⁵ Without this model, Indonesia's digital justice reforms risk being incomplete and low-quality. The most important aspect in enhancing Indonesia's digital justice system is to analyze and comprehend the global phenomena that are practical and implementable.¹⁶ Many other nations implement digital justice systems ranging from varying degrees of technological and managerial capabilities. A good example is the Netherlands' KEI, which focuses on data protection and privacy in light of the EU's General Data Protection Regulation (GDPR). Digital justice is predicated on robust cybersecurity and encryption systems. Access to electronically stored data is controlled by a system of accountability and transparency, which is why it is necessary to safeguard the data.¹⁷

Having access to an integrated hub with multiple courts is a great convenience. For example, the Commonwealth Courts Portal in Australia showcases integrated service functionality. Automation of services is emphasized by LexNET in Spain, as is the efficiency it finds so useful.¹⁸ In their e-Judiciary study, Malaysia demonstrates the value of further investment in digital literacy among court staff and legal

¹⁴ Muhammad Saud and Hendro Margono, "Indonesia's Rise in Digital Democracy and Youth's Political Participation," *Journal of Information Technology and Politics* 18, no. 4 (2021): 443–54, <https://doi.org/10.1080/19331681.2021.1900019>.

¹⁵ Yulita Liba and Supriyadi A Arief, "Praktek Di Pengadilan Berbasis Elektronik : Bentuk Konkret Mewujudkan Transparansi," *Iuris Studia: Jurnal Kajian Hukum* 6, no. 1 (2025): 89–97, <https://doi.org/10.55357/is.v6i1.836>.

¹⁶ I Wayan Sudira, "Keadilan Digital: Tantangan Hukum Dalam Era Disrupsi Teknologi," *Kertha Widya: Jurnal Hukum* 12, no. 2 (2024): 35, <https://doi.org/10.37637/kw.v12i2.2203>.

¹⁷ Francesco Contini and Dory Reiling, "Double Normalization: When Procedural Law Is Made Digital," *Oñati Socio-Legal* 3, no. 3 (2022): 654–88, <https://doi.org/10.35295/osls.iisl/0000-0000-0000-1305>.

¹⁸ Diego Agulló Agulló, "Los Contratos De Financiación De Litigios Por Terceros (Third-Party Funding) En España," *Revista de Derecho Civil* IX, no. 1 (2022): 183–231.

practitioners.¹⁹ This also holds for Kyrgyzstan, and many other developing countries will recognize the value of digitally oriented justice system reforms. Political will is invested in the stepwise systematization of program activities.²⁰ In the UK, simplicity and accessibility in the Courts' digital public services are the result of User-Centered Design (UCD), and so is ongoing UCD.²¹ Norway is particularly generous in its respect for digital justice services, providing full system integration with cybersecurity.²² Singapore is second to none in its educational focus on legal tech, which supports e-litigators, and its e-litigation platform is both comprehensive and cohesive.²³ For Indonesia, these international illustrations are highly beneficial. Indonesia can obtain the system design, data protection, user accessibility, workflow automation, and institutional interoperability components required to develop a more sophisticated digital justice system through comparative learning.

Although previous studies have examined the implementation of e-court and e-litigation systems in Indonesia, most focus on technical implementation or regulatory analysis within the national context. Limited research has been conducted on a comprehensive comparative analysis of digital judicial systems across multiple jurisdictions to identify an ideal framework for Indonesia. This study seeks to fill this gap by

¹⁹ Mohammad Ikbal and Badsha Mia, "Initiation of Virtual Court System during COVID-19 Pandemic and E- Judiciary : Challenges and Way Forward," *Daengku: Journal of Humanities and Social Science Innovation* 1, no. 1 (2021): 13, <https://doi.org/10.35877/454RI.daengku385>.

²⁰ Ekaterina Rusakova, "The Political Impact of Digitalization on the Judicial Method of Protection of Right in the EAEU Countries," *Ekaterina RUSAKOVA* 4, no. 28 (2023): 201, <https://doi.org/10.24234/wisdom.v28i4.1090>.

²¹ Barry Godfrey, Jane C Richardson, and Sandra Walklate, "The Crisis in the Courts : Before and Beyond Covid," *The British Journal of Criminology*, no. November 2021 (2022): 1036–53, <https://doi.org/10.1093/bjc/azab110>.

²² Joschua Thomas Simon-Liedtke et al., "Remote Evaluation in Universal Design Using Video Conferencing Systems During the COVID-19 Pandemic," *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)* 12768 LNCS, no. July (2021): 116, https://doi.org/10.1007/978-3-030-78092-0_8.

²³ Vijit Singh and Rituraj Malik, "Judicial Reforms and Access to Justice: A Comparative Analysis of E-Courts and Technological Integration in India and Singapore," *Issue 5 Int'l JL Mgmt. & Human.* 7, no. 5 (2024): 1147, <https://doi.org/10.1000/IJLMH.118350>.

analyzing global best practices and developing a conceptual model for Indonesia's electronic civil case management system.

The assessment of situations in other nations suggests that building a digital justice system encompasses far more than just the technological dimensions; there also needs to be an integrated alignment of the technological components with the legal processes, institutional governance, and technology. The Netherlands emphasizes the importance of establishing data protection standards before implementing large-scale digital reforms. Australia shows that system interoperability fosters coherence and diminishes duplication of administrative tasks. The case management automation in Spain exemplifies the reduction in red tape that digital case management systems offer, as well as the necessity for judges to be adequately trained in their use. Malaysia demonstrates that equitable technological competencies among legal actors can be achieved through well-designed training programs. Kyrgyzstan demonstrates that gradual, sub-optimally planned local implementations can be more beneficial than overly ambitious, large-scale central reforms. At the same time, the United Kingdom demonstrates that system design focusing on accessibility and user experience can be beneficial in ensuring that digitalization does not further marginalize those who are already disadvantaged. Norway shows the need for digital data protection as access to the court system becomes more frequent for digital litigation. Meanwhile, Singapore's exceptional integrated system exemplifies the power of advanced policy frameworks and collaboration among various institutions. Taken together, these experiences underscore the need for Indonesia to broaden the scope of its digital justice agenda to encompass technology, law, management, and socio-economic factors. This also increases the demand for more configurative models of best practices that are more applicable to Indonesia. The establishment of such a model would serve as the basis for implementing more customized digital justice reforms, thereby mitigating the risk of justice systems becoming fragmented.

Although previous studies in Indonesia are valuable, a significant gap remains in understanding, particularly in the field of comparative studies, where Indonesia is compared within the context of neighboring developing countries with advanced digital justice systems, focusing on aspects such as 'institutions', 'governance', and 'security'. Domestically,

we tend to view the digitalization of the justice system as an act of automation. However, in other jurisdictions, digitalization is conceptualized as a radical, transformative process that reshapes how courts function, communicate, and interact with the ecosystem in the digital world. Indonesia, therefore, should examine how other countries design systems that protect personal data, authenticate digital evidence, incorporate Artificial Intelligence (AI) to ease administrative work, and create systems that are simple and user-centric, thereby alleviating the burden of the digital divide.²⁴ It is also important for Indonesia to learn from other jurisdictions how they manage the integration of systems across different government agencies, particularly in consolidated systems that combine civil, administrative, and criminal justice.²⁵ This study is expected to address both the theoretical and practical aspects of the law governing judicial reforms in Indonesia. This study adopts a comparative approach to inform the construction of a roadmap for digital justice, circumventing several common errors and identifying easily adaptable, low-hanging elements. These insights are comparative: as Indonesia adapts to a new technological context, they are also defensive of Indonesia's policy complexity.

The research method used in this study is normative doctrinal law research with a comparative legal approach.²⁶ This research views law as a written norm that governs legal relationships and conduct within society. This approach is applied to analyze the substance of e-court and e-litigation regulation in Indonesia and to benchmark it against a range of countries to identify an ideal and adaptable model for implementing electronic justice. This research employs normative doctrinal legal

²⁴ Ummi Maskanah, "Tantangan Dalam Pembaharuan Sistem Peradilan Melalui Perkembangan Teknologi: E-Court Dan E-Litigasi Sebagai Sarana Menuju Peradilan Modern Di Indonesia," *Jurnal Hukum Mimar Justitia* 9, no. 2 (2023): 235, <https://doi.org/10.35194/jhmj.v9i2.3776>.

²⁵ Hossein Naderi and Alireza Shojaei, "Civil Infrastructure Digital Twins: Multi-Level Knowledge Map, Research Gaps, and Future Directions," *IEEE Access* 10 (2022): 122022–37, <https://doi.org/10.1109/access.2022.3223557>; Rendy Laputigar, Suhadi Suhadi, and Rodiyah Rodiyah, "Integrating Due Process into The Enforcement Framework of Criminal Law Politics," *Indonesian Journal of Criminal Law Studies* 9, no. 1 (2024), <https://doi.org/10.15294/ijcls.v9i1.50293>.

²⁶ Peter Mahmud Marzuki, *Penelitian Hukum*, Edisi Revi (Jakarta Timur: Kencana, 2021).

research combined with a comparative legal approach. The study examines Indonesian regulations governing electronic litigation, including Law No. 48 of 2009 on Judicial Power and Supreme Court Regulation No. 7 of 2022 on Electronic Case Administration. A comparative analysis is conducted across digital court systems in the Netherlands, Australia, Spain, Malaysia, Norway, Singapore, Kyrgyzstan, and the United Kingdom. Primary legal materials consist of statutes and judicial opinions, while secondary materials include scholarly articles, reports, and legal commentaries. The collected materials are analyzed qualitatively to identify best practices and formulate an ideal model for Indonesia's electronic civil case management system. , and regulations of comparative countries, such as Regulation on the KEI System (Netherlands), Policy of the Commonwealth Courts Portal (Australia), Civil Procedural Law (Spain), E-Judiciary Framework (Malaysia), Regulation on E-Justice Project (Kyrgyzstan), Digital Justice Act (United Kingdom), Regulation on the Administration of Courts of Norway (Norway), and Integrated System of Electronic Litigation (Singapore). The selected countries are exemplars of the implementation of electronic courts in various regions, with advanced legal and technical frameworks supporting digital justice, and have been awarded for their best practices in the fields of data protection, cybersecurity, system interoperability, user-centered design, legal tech education, and the comprehensive integration of digital technologies within the legal system. The comparison examines five main components: the electronic filing and service systems, online payment systems, virtual hearing systems, data protection and privacy systems, and systems for the digital legal education and the development of legal professionals. In addition, secondary legal materials, such as journal articles, reports of judicial bodies, documents from previous studies, and other academic works, are used to augment the legal conceptual analysis. In this way, the author illustrates a method for resolving the problem of implementing e-litigation in Indonesia by weighing the pros and cons of the system in other countries. Then, the author uses this analysis as the basis for developing conceptual ideas to construct an ideal e-court system and an e-litigation model tailored to the country's norms, while striving to achieve maximum efficiency.

This research aims to analyze and develop an optimal e-court and e-litigation system in Indonesia by comparing it with systems in several jurisdictions and with Indonesian law. This is the first research of this nature, compared to other research that analyses only the technical or descriptive aspects of the system. This study aims to integrate justice into the digital system and develop a multidimensional analytical framework that encompasses law, technology, institutions, and ethics. This study aims to develop a conceptual framework that incorporates the legal practices of Indonesia by drawing on practices from seven other countries. This research is unique in its integration of a comparative approach, a normative dimension, and practical action suggestions. This not only enhances understanding of the theory but also provides a guide for policymakers, court managers, and lawyers. This study is beneficial in light of the practical paradox in Indonesia, which involves the trade-off between innovative practices, legal certainty, and the right to access justice. A well-thought-out model of this kind would reduce access disparities in court infrastructure, promote uniformity in judicial procedures, and enhance the utility of judicial data and interaction within the judicial system. This work highlights the importance of adopting a multidisciplinary and systematic approach to addressing the challenges of establishing a modern, just, and trustworthy digital judiciary in Indonesia.

A. Strengths and Weaknesses of E-Court and E-Litigation Implementation in Indonesia

There is additional evidence corroborating the modernization of Indonesia's judiciary with the advent of e-court and e-litigation. According to PERMA No. 7 of 2022, the Indonesian judiciary is attempting to mitigate the backlog by re-engineering and digitalizing the entire suite of judicial services.²⁷ It shows that e-court implementation, which includes electronic filing, e-payment of fees, e-service of case summons, and virtual hearings, has increased the speed of the entire

²⁷ Dian Latifani et al., "The Revitalizing Indonesia's Religious Courts System: The Modernization Impacts and Potentials of E-Court," *Jurnal Hukum Unissula* 40, no. 1 (2024): 1–13, <https://doi.org/10.26532/jh.v40i1.32279>.

procedural flow. This finding further corroborates the principles of Digital Governance Theory, which posits that incorporating digital technologies into public governance systems optimizes institutional functioning and enhances the transparency and accessibility of services.²⁸ Within the framework of e-court implementation, these principles are manifested in the digitalization of case management and judicial services. This particular research suggests that the rapid evolution of digital technologies has alleviated the rampant inefficiencies in case management systems, automated redundant administrative functions, and afforded greater time management within these systems. All of which serves to enhance the public's trust as it is based on the equity of outcomes attributable to the court process, which is predictably and transparently efficient.

This study, on the other hand, focuses on the practical aspect of the influence of technological tools on court processing efficiency.²⁹ Moreover, the findings suggest that, in addition to enhancing the digitalization of court processing systems, the system also broadens administrative integration, incorporating other administrative purposes such as improving transparency and accountability within the system. More remarkably, the findings indicate that, although the benefits are not evenly distributed in practice, the e-court and e-litigation systems in Indonesia are among the primary tools for facilitating the integration of system reforms. As such, this allows the system to be assessed from a larger legal, organizational, and technological standpoint.

The integration of digital technology into various administrative functions within an organization has led to significant improvements in operational productivity. For instance, before digitalizing the operations of the Indonesian courts, the judiciary operated entirely on a paper-based system, with manually prepared documents, paper-based filings, and coordination among clerks, lawyers, and litigants through face-to-face meetings. Systems like these are often plagued by document loss, causing them to slow down, processes to stall, and delays to drag on, resulting in

²⁸ Marvin Hanisch et al., "Digital Governance: A Conceptual Framework and Research Agenda," *Journal of Business Research* 162 (2023): 113777, <https://doi.org/10.1016/j.jbusres.2023.113777>.

²⁹ Latifiani et al., "The Future Challenges and Opportunity for Electronic Court on Sharia Banking Disputes Resolution."

people waiting and becoming increasingly frustrated. Such processes have suffered document loss. However, there is a unified system of e-filing and document exchange, where information flows quickly and is more efficiently organized and distributed. Attorneys can submit motions, objections, and evidence in a matter of minutes without having to travel physically or document a pass through the clerical staff. The e-courts systems have a more facilitative system that incorporates reported documents to guide users and keep them up to date on changes in e-courts processes. There have been growing deficits in the governance of public sector institutions, particularly in the consolidation of public bodies.

Contrary to (Yoesuf et al.)³⁰, this study focuses not only on the administrative gains accrued from the e-court system but also on the transformation of courts from their traditional role in the legal system to that of users of a more organized, structured, digital, and auditable system.

Although Yoesuf et al. may have raised questions about the model of the system and the overall concept of efficiency, this research has constructed a framework for addressing efficiency in a functioning legal system. The more detailed the processes and the more traceable the steps, the more difficult it becomes to engage in unlawful manipulation, fraudulent billing, and document alteration. These refinements suggest that digitized court systems enable more collaborative litigation, as users of the system have greater agency. However, the urban court systems in proximity to each other considerably limit the efficiency gains, which highlights the need to close the existing gaps.

The research highlights the failure to address the challenges posed by and the highly inequitable distribution of e-courts throughout the archipelago's geography. The single most significant barrier remains inequity in access to and the distribution of the technological infrastructure. The Fourth World Courts, particularly in the remote regions of Kalimantan, Maluku, and Papua, continue to face difficulties in developing and accessing inadequate, unreliable connections for

³⁰ Yoesuf et al., "Optimization of E-Litigation-Based Trial Implementation As A Strategy to Prevent Bribery and Gratification (Comparatory Study of E-Litigation Implementation in Malaysia and Singapore)."

computer equipment, which hampers the efficiency of virtual hearings and the electronic submission of documents, considering the public sector technological divide, as explained by Norris (2001). It is expected that the current findings will corroborate the digitization theory in the public sector technology divide.³¹ Additional findings suggest that, in less developed regions, legal practitioners often lack the necessary skills and training to utilize digital technologies effectively. Judges and clerical staff who are accustomed to paper-based procedures often experience difficulties adapting to digital systems, commit errors in the use of new digital systems to the detriment of timely justice, and clog the system. The study drew attention to the existence of literacy gaps, but did not consider the gaps in literature to the extent that they affect the gaps in judicial outcomes.³² Additional findings from the current study indicate that the gaps in digital literacy not only hinder the efficiency of administrative functions but also compromise the equity of the processes. The system's users may not experience delays due to legal hindrances, but may encounter delays due to the system's own illiteracy. The findings show that the digital transformation of the public sector cannot be completed without building human resource capacities and providing targeted training for marginalized regions.

This analysis has uncovered another important gap in Indonesia's digital judiciary ecosystem regarding data privacy and security. The implementation of the Personal Data Protection Law (Law No. 27 of 2022) is a landmark event in the history of the judiciary. However, it is currently in the implementation phase. The research reveals that court data repositories still lack full encryption as a minimum baseline standard, as well as multi-step authentication and secure backup mechanisms. Some courts are still operating basic server setups, which leaves sensitive court documents and materials vulnerable to unauthorized access and potential breaches. There are very few mechanisms to account for these kinds of breaches, and the lack of digital rights in these institutions is alarming. In comparison to other studies,

³¹ Pippa Norris, *Digital Divide: Civic Engagement, Information Poverty, and the Internet Worldwide*, Communication, Society and Politics (Cambridge University Press, 2001).

³² Burhanuddin, Hadaiyatullah, and Wisesa, "Summons for Court Proceedings Using Registered Mail in the Perspective of Civil Procedure Law."

the current research analysis is more comprehensive in terms of data protection and the technical and legal regulatory frameworks.

While previous studies have explored the legal and ethical aspects of privacy, most have a singular focus on Indonesia and do not take a comparative approach.³³ Most studies focus on privacy protection from a normative legal standpoint and largely ignore the ramifications this may have within digital legal systems. The results provide clarity on the default position of legal liability that accompanies the data breaches in the e-litigation phase. In the absence of laws that codify institutions' legal responsibilities, a vacuum is left for litigants, while courts lack prescriptive policies to govern breaches in cyberspace. Unlike the e-court systems of the Netherlands and Singapore, which have developed cybersecurity frameworks and legally enforceable risk management measures, the lack of similar measures in Indonesia suggests the need for improvements in technological instruments and legal regulations. Consequently, the study posits that digital justice encompasses not only advancements in technology but also the development of profound legal instruments that ensure the protection of data and the accountability of the systems in question.

These resources work in conjunction with the legal policy and digital infrastructure to make the e-court systems more efficient. These three areas work in synergy: legal policy ensures that systems are effective and translations aren't lost, digital systems build those concepts into law while also integrating existing processes to create a unified way of doing things, and staff readiness ensures there are trained personnel who can run and maintain those systems. All three pillars are interdependent, and breaches in one can compromise system performance as a whole. The study reveals that the mere existence of technological systems is insufficient for advancement, as some legal frameworks and processes do not support their practical use. A case in point is the divergence in the interpretation of procedural rules regarding electronic evidence in some

³³ Diva Pitaloka, "E-Court : A Digital Disruption in Law Enforcement and Its Impact on Judicial Efficiency in Indonesia," *Ex Aequo Et Bono Journal of Law* 2, no. 2 (2025): 82–95, <https://doi.org/10.61511/eaebjol.v2i2.2925.1404>.

courts, which has led to the loss of evidence.³⁴ The divergence in the interpretation of procedural rules regarding electronic evidence in some courts, and consequently, the loss of evidence, is a case in point. The divergence in the interpretation of procedural rules regarding electronic evidence in some courts, and consequently, the loss of evidence, is a case in point. This divergence in the interpretation of procedural rules regarding electronic evidence in some courts and the consequent loss of evidence is a case in point. The divergence in the interpretation of procedural rules regarding electronic evidence in some courts and the consequent loss of evidence is a case in point.³⁵

This divergence from evidence-based electronic procedures is unnecessary. It is in point with discipline and regulatory systems that support the technological advancement of e- courts has been assessed as being in the e-court system as being in the e-court system as being in the e-court system as being in the e-court system as being in the e-court system as being in the e-court system and being in the e-court system as being in the e-court system. The system's e-court system, with the regulation of systems that support the technological advancement of e-courts, has, with the emphasis of previous studies on the limitations of technology infrastructure, been the first in the field to evaluate the e-court system as a whole of integrated systems of technology, law, and institutional inertia. The study's findings align with those of Yoesuf et al. (2024) in justifying the need for radical change in e-litigation to be implemented effectively. However, the study has gone further in providing evidence that radical inconsistency in procedures will disrupt reasonable litigants' expectations and further erode their trust in digital courts. The research notes a gap in inter-ministerial coordination, particularly in the Supreme Court, the Ministry of Communication and Informatics, and the subnational government. These gaps in coordination slow down the work needed to build complete registries

³⁴ Carissa Amanda Siswanto et al., "Legal Recognition of Electronic Notarial Acts: A Comparative Study of Indonesia and Rwanda," *Indonesia Private Law Review* 6, no. 2 (2026), <https://doi.org/10.25041/iplr.v6i2.4686>.

³⁵ Benny Sumardiana et al., "Evaluation of Electronic Evidence in Criminal Justice in the Era of Advanced Artificial Intelligence Technology," *Indonesian Journal of Criminal Law Studies* 9, no. 2 (2024), <https://doi.org/10.15294/ijcls.v9i2.50319>.

and further delay the provision of fundamental-level digital services. As a result, the digital justice system in Indonesia is incomplete and uneven, and there is a great need for policy changes and better cross-sector coordination to address this.³⁶

The significance of comparing Indonesia's digital judiciary systems with those of the Netherlands, Australia, Spain, Norway, Malaysia, and Singapore is that they represent different models of digitalizing the judiciary and developing legal systems across various jurisdictions. The digital court and case management systems integrated across Australia, Spain, Norway, Malaysia, and Singapore serve as relevant benchmarks in Southeast Asia. This study targets these jurisdictions to understand the optimal institutional framework and the shortfalls of the digital judiciary in Indonesia. This comparison study finds that, in these jurisdictions, the digitalization of the case management system and the judiciary in Indonesia is relatively lacking in mechanisms for file deletion, interoperability among legal databases, and the ease of use of available systems.

In the Netherlands, however, there is the best data protection and security. Australia, however, is one of the most integrated systems in the world across all tiers, encompassing the courts, police, and administration. On the other hand, Spain and Norway are both procedural high-performance leaders with significantly advanced digital security. Singapore, the most advanced, offers the most elaborate digital legal education and training. In Indonesia, the development of best practices is relatively recent, as most publications have focused on the country's problems. Considering the enormous possibilities and the availability of data from other countries, such as the UK, the proposed study focuses on user-centered design and developing a system for users with varying levels of accessibility and digital literacy. This research aims to assess Indonesia's global standing and the numerous adjustments needed for a digitized, equitable justice sector. The research also suggests Indonesia should implement a more responsive approach with an appropriate framework, particularly in the aspects of cyberspace, digital

³⁶ M V Parasyuk, "Electronic Evidence in the Context of the Principles of Civil Procedural Law," *Analytical and Comparative Jurisprudence*, no. 6 (2024): 277–81, <https://doi.org/10.24144/2788-6018.2024.06.44>.

literacy, and the necessary sustainability for socio-economic development.

This study identified and confirmed theoretically that the electronic court system of Indonesia is on the verge of being fully developed within the framework that situates it at the intersection of a fully bureaucratic and fully integrated digital system of governance.³⁷ The judiciary successfully integrated digital technology into its administrative functions. There is no complete integration of digital technology within the system. The system's day-to-day operations are dictated by intransigent manual systems and processes, as evidenced by the manual verification of documents and the absence of electronic deliberation by judges. This is in stark contrast to our study's benchmark, Singapore, where complete digital integration for all processes in the litigation cycle has been achieved. This study evidences that institutional culture explains the differential rate of digitalization and offers further insights. The absence of fully remote hearings for some actors in the legal field is evident, but these are intransigent, non-technological factors. It predominates in the preservation of decorum and power within the courtroom, a cultural aspect that has not been considered in Indonesian studies. It was more of the legal institutional framework and the extent of legal technological determinism. This suggests that if justice is to be truly digital, mere administrative efficiency is necessary but not sufficient. Something more fundamental is needed in legal reforms and within the court, particularly in the court's accountability system. The convergence of social sciences and legal studies with digital governance offers new perspectives on how technology impacts courts worldwide. The impact also highlights this study's theoretical relevance. This research contributes to the field of digital court studies. This study is among the first to examine the subject's complex institutional dimensions and advocates for an integrated approach. The research also considers the system's culture and technologies, as well as the procedural aspects. The study highlights the progress achieved and the further potential of e-court and e-litigation systems in Indonesia. However, progress is still hindered by a lack of structures, technologies, and legal

³⁷ Contini and Reiling, "Double Normalization: When Procedural Law Is Made Digital."

frameworks. Indeed, digitalization enables greater speed, efficiency, and accountability in the justice system, providing easier access to justice in diverse and large urban areas. The system is still seen as significantly hindered by digital gaps, uneven processes, and inadequate data protection, however. This research contributes to the literature on e-court and, to the extent that it examines the e-court system, which the existing literature lacks, proposes essential factors.

This synthesis suggests that much more needs to be done to advance digital reforms in Indonesia's e-judiciary. The advanced digital reforms in Indonesia should integrate the e-technical system, the e-legal workforce, and the e-legal system, all underpinned by data protection, process integrity, and accountability. The study utilizes an international context to design and develop effective e-legal policies and best practices. Indonesia's digital justice system, as researched, is both sophisticated and socially equitable and just. If implemented, these changes would make Indonesia's e-court system a digitally sophisticated model of justice that is responsive to the needs of a dynamic society.

B. A Comparative Study of the Implementation of E-Courts and E-Litigation in Several Countries

To understand the digitization of courts in different jurisdictions, the inter-country implementation of e-litigation and e-court systems must be compared. Every country has its own e-litigation legal framework, e-litigation technologies, and legal cultures. This comparative analysis focuses on the Netherlands, Australia, Spain, Malaysia, Kyrgyzstan, the UK, Norway, and Singapore. More specifically, the analysis involves identifying best practices in e-courts and e-litigation that can be applied in Indonesia. This analysis has been conducted along the following lines: legal framework, technology, data security, and human resources. This comparative study aims to inform scholars about the systems' strengths and weaknesses, thereby assisting them in developing the optimal model aligned with the country's legal parameters. Hence, Indonesia can develop a practical and durable design for e-litigation in the courts.

Regarding the *Kwaliteit En Innovatie* (KEI) Program, the Netherlands is one of the leading countries in Europe in terms of the KEI

Program.³⁸ The KEI Program is concerned with the electronic processing of all stages of the civil case life cycle, from the submission of the civil action to the rendering of a judicial decision. KEI's greatest system strength lies in its oversight of sensitive data and cybersecurity, as well as its compatibility with the EU's General Data Protection Regulation (GDPR). All users of the KEI system must undergo and be satisfactorily verified electronically to ensure the data and documents are even more secure.³⁹

Furthermore, the system features an activity-tracking algorithm that enables automated auditing of actions taken in participants within the system. However, the KEI system is expensive to construct and operate, which is one reason for the delays in achieving full functionality in 2019. There is also the issue of varying levels of proficiency in technology among members of the legal community; i.e., not all lawyers and judges possess the same level of technological proficiency. With all of that being said, the electronic justice system in the Netherlands has, and continues to, serve as an exemplary model for other countries, particularly in terms of its operational data security and procedural integrity.⁴⁰

The Commonwealth Courts Portal integrates the High Court, the Federal Court, and the Family Court of Australia into a single electronic platform. The primary advantage of the system is that it eliminates administrative barriers, allowing users to exchange data between court systems with ease.⁴¹ Additionally, users of the system can e-file, e-pay, and attend virtual hearings as the country is fully connected with a stable digital infrastructure. The system is effective, particularly in reducing processing times for family and civil cases. The Australian civil court system, however, is not without its flaws. The system is costly and

³⁸ Contini and Reiling.

³⁹ Putrijanti and Wibawa, "The Implementation of E-Court in Administrative Court to Develop Access to Justice in Indonesia."

⁴⁰ David Gans, "Court Reform and the Promise of Justice: Lessons from Reconstruction," *SSRN Electronic Journal*, 2022, <https://doi.org/10.2139/ssrn.4244924>.

⁴¹ Joe McIntyre, Anna Olijnyk, and Kieran Pender, "Civil Courts and COVID-19: Challenges and Opportunities in Australia," *Alternative Law Journal* 45, no. 3 (2020): 195–201, <https://doi.org/10.1177/1037969X20956787>.

requires continuous improvement and maintenance. There have been multiple reports discussing users, especially those on the periphery (remote rural areas) and those with low digital literacy. However, these flaws do not deter the majority of users, who have come to regard this system as a success, providing a single, fully integrated digital platform that links multiple courts across the country.⁴²

Spain has fully integrated judicial administration automation into the LexNET program. This program linked e-courts communications with lawyers, public prosecutors, and other state administration bodies. LexNET's significant progress lies in automating document administrative tasks.⁴³ The introduction of automation algorithms within the LexNET system improved file processing time by 60% compared to manual systems. The system relies heavily on the national internet. Other users noted system unavailability due to the rapid updates to the functional system. The system's weak overall architectural design and its protection of personally identifiable information (PII) have been, and continue to be, the subject of scrutiny by some legal scholars. Regardless of these concerns, Spain is the only European country that has fully integrated AI into the management of electronic civil cases.⁴⁴

Malaysia has developed an electronic court system, also known as the E-Judiciary Framework, which encompasses several functions, including online hearings, case management, and electronic recording. Its key to success is the intermingling of technology and human resource capacity building. Judges and court staff collaborate on the ethical application of judicial technology, with the Malaysian government serving as a facilitator for digital literacy. No other system captures such a balance. This system, however, is not without challenges. Most of these challenges revolve around the system's financial limitations, especially in hardware and system maintenance and updates. Additionally, some

⁴² Latifiani et al., "The Future Challenges and Opportunity for Electronic Court on Sharia Banking Disputes Resolution."

⁴³ Cosette D. Creamer and Beth A. Simmons, "The Proof Is in the Process: Self-Reporting under International Human Rights Treaties," *American Journal of International Law* 114, no. 1 (2019): 1–50, <https://doi.org/10.1017/ajil.2019.70>.

⁴⁴ Elisabeth Sundari, Helidorus Chandra Halim, and Ousu Mendy, "Should Indonesia Adopt Legal Representation in Civil Cases?," *Journal of Human Rights, Culture and Legal System* 5, no. 2 (2025), <https://doi.org/10.53955/jhcls.v5i2.604>.

lower courts still utilize manual equipment. However, Malaysia demonstrates that having technology is a requirement, but the readiness of the people is a more significant key to the success of e-courts. This is a key strategy for Indonesia, which has a digital literacy gap in the judiciary.⁴⁵

Indeed, the development of the e-court system in Kyrgyzstan has prompted the e-Justice Project sponsored by the World Bank to evaluate Kyrgyzstan as an exemplar for developing countries worldwide.⁴⁶ First and foremost, this system bears the construction and time shortcomings of other digitized systems. They can use the open-source platform for free. This illustrates the extent of digitization in developing countries. Moreover, the Kyrgyz government has also adopted public access to court decisions to increase public transparency. The public e-services offered under the United Kingdom Digital Justice System (UKDJS) represent the Digital Justice System's most significant achievement in the UK. UKDJS enables self-representing users to file lawsuits electronically through a single platform. The implementation of government policies further enables digital inclusiveness. Furthermore, Norway is renowned for its exceptional transparency and reliable infrastructure. Norway's Court Administration System is highly secure because it integrates all courts in the country and provides them with access to a single national database.⁴⁷

⁴⁵ Pitaloka, "E-Court : A Digital Disruption in Law Enforcement and Its Impact on Judicial Efficiency in Indonesia."

⁴⁶ Aliia Maralbaeva, "Evolution of E-Justice Platforms: From ICT in Courts Towards 'Digital Justice' Portal in Kyrgyzstan," *International Journal for Court Administration* 15, no. 1 (2024): 57, <https://doi.org/10.36745/ijca.582>.

⁴⁷ John Woodlock, "Procedural Justice for All? Legitimacy, Just Culture and Legal Anxiety in European Civil Aviation," *Law & Society Review* 56, no. 3 (2022): 441–76, <https://doi.org/10.1111/lasr.12622>.

Table 1. Global Electronic Civil Case Models: A Comparison of Strengths and Weaknesses

No	Country	Strengths	Weaknesses
1	Netherlands	Utilizing the fundamentals of personal data protection, ensuring verified digital authentication, and implementing an electronic auditing system.	High development costs, technical complexity, and implementation delays.
2	Australia	Optimized cross-collaboration between judicial institutions and superior administrative process efficiency.	High operational costs, an access gap in rural areas
3	Spain	The use of artificial intelligence (AI) to automate specific administrative tasks can be achieved at remarkable speed.	Compatibility between systems and the risk of losing personal data security.
4	Malaysia	Digital literacy training for personnel, along with the merging of technology and human resources.	Limitations in the budget and the unequal infrastructure of the courts.
5	Kyrgyzstan	Costs associated with implementing the publicly accessible open-source system for the court system.	Inadequate protection of sensitive data, constrained online access, and staffing.
6	United Kingdom	Electronic services provide high public accessibility and inclusivity.	Inexpensive systems with increased technological reliance
7	Norway	Great Visibility, Excellent System Security, Robust Infrastructure	Maintenance expenses are high and require regular updates.
8	Singapore	The culmination of system integration, biometric authentication processes, and practical policy support.	Involves enormous up-front costs and considerable reliance on technology providers.

Source: Researcher(s) Analysis, 2025.

Based on the analyzed data, it is evident that every nation exhibits particular virtues and shortcomings, shaped by its socio-economic and legal configurations, respectively. Among developed countries, such as

the Netherlands and Australia, data and system security are a strength. In contrast, other countries, like Malaysia and Kyrgyzstan, are leaders in innovation and cost efficiency. In the use of automation, Spain is a leader, and in the integration of technology with public policy, Singapore shows great value

C. Designing an Ideal Model for E-Courts and E-Litigation in Indonesia

Accessibility, security, and sustainability are the three foundational principles that underpin the ideal e-court and e-litigation system in Indonesia. When discussing the principles of accessibility, it means that every person should be able to use the electronic court's services in a manner that is convenient for them, which may involve using remote handheld devices or, if they prefer, walk-in court services.⁴⁸ When discussing the principles of security, this means there are measures in place to prevent unauthorized access to and manipulation of sensitive documents, whether through authentication, encryption, or other data protection mechanisms within the system. Regarding the principles of sustainability, this means there should be a system that is relatively easy to manage over the long term without incurring high overall operational costs. This system should adapt and improve to keep pace with current technological trends. Based on the described principles, a system that encompasses all three should be designed equally, taking into account legal, technological, and people-related factors. When it comes to the legal side of things, there needs to be some form of regulatory innovation that encompasses electronic documents, service providers' responsibilities, and penalties for unauthorized access to documents. On the technological side, there should be an open system format that integrates with other systems, stores copies of documents, and uses encryption for security. On the people side of things, there should be some form of retraining that needs to be repeated, and a technological

⁴⁸ Ishaq Maulana Sudur and Fauziyah Putri Meilinda, "Urgensi Persidangan Elektronik (E-Litigasi) Dalam Perspektif Hukum Acara Peradilan Agama Di Pengadilan Agama Probolinggo," *USRAH: Jurnal Hukum Keluarga Islam* 5, no. 1 (2024): 21–30, <https://doi.org/10.46773/usrah.v5i1.1088>.

system should support the public end-users. It is the combination of these three that will serve the legal, digital, physical, and infrastructural order of most in Indonesia.

A comprehensive and systematic court technology system should include the following: a case management system (e-filing), an electronic payment system (e-payment), a digital summons system (e-summons), and an electronic court system (e-litigation). E-filing systems should enable users to complete their filings through fillable and standard automated forms, as well as validated step-by-step e-filing instructions. E-payment systems should enable users to pay via multiple methods and automate the payment proof, integrating it into the case file. E-summons systems should permit electronic notifications and serve physical papers to parties without electronic access.⁴⁹ E-litigation systems should enable the recording, preservation, and management of digital hearings and stored evidence to facilitate streaming video-conferenced hearings. Each of the above systems should be modular, meaning that if one system needs to be updated, the entire system need not be updated.⁵⁰ Every system has to have a complete administrative history for accountability purposes. With complete systems, e-courts may be able to address a broader range of civil issues, while still providing access for users with limited technical skills.

Implement a national interoperability framework that enables instant, effective communication and data sharing among courts, prosecutors, police, and public administration.⁵¹ This framework must respect the tenets of open data, along with the automatic exchange of e-documents, whereby all documents received by an agency would be electronically read, processed by other agencies, and removed from manual, paper-based document processing. Standards and e-documents

⁴⁹ Dian Latifiani et al., *Teknis Penggunaan E-Court (E-Filing, E-Payment, E-Summons, Dan E-Litigasi)* (Semarang: Fastindo, 2021).

⁵⁰ Dian Latifiani et al., "Can Advocates' Legal Culture in Civil Law Enforcement Drive Reform in Indonesia's Modern Justice System?," *Journal of Law and Legal Reform* 5, no. 3 (2024): 913–15, <https://doi.org/10.15294/jllr.v5i3.12988>.

⁵¹ Glenn D Walters, "Mediating the Court Procedural Justice–Delinquency Relationship with Certainty Perceptions and Legitimacy Beliefs," *International Journal of Law and Psychiatry* 97 (2024): 102031, <https://doi.org/10.1016/j.ijlp.2024.102031>.

must be appropriate to the file structure and retain data, such as electronic evidence to be verified, electronically signed documents, and other relevant documents. This document needs to be verified for the government to establish technical and public national standards for APIs, along with the unbundling of systems and development of systems from both the government and the private sector. The system requires a middleware component for federated single sign-on and entitlement management. With this interoperability structure, a decrease in data silos, enhanced agency cooperation, and the ability to provide real-time updates on judicial statistical information can be achieved. The interoperability structure enables the adoption of local systems in areas of gaps, which can then be integrated into the national system.⁵²

Uphold Data protection standards that include, but are not limited to, encryption, multifactor authentication, data retention, and data destruction policies should be observed. The system should implement encryption for both data in transit and data at rest. The system should also employ and implement role-based access. Visibility and modification of case files should be restricted.⁵³ Also, users must have forensic breach audit trails that record all users' actions. The policy also needs to handle routine backup scheduling and implement a disaster recovery program to ensure continuous system availability. To protect data subjects, the government is obligated to adopt these practices in compliance with the Personal Data Protection Law. Additionally, the management of the infrastructure should comply with international standards for the required tier of security certification, particularly in ensuring that vendors and system designers undergo rigorous assessments of their security arrangements.⁵⁴ Public trust in the e-courts system will

⁵² Liza Mahavianti Syamsuri and Whildan Pakartipangi, "Challenges and Opportunities in Implementing Green Data Centers in Indonesia Toward Sustainable Digital Infrastructure," *Jurnal Penelitian Pendidikan IPA* 11, no. 6 (2025): 104–18, <https://doi.org/10.29303/jppipa.v11i6.11267>.

⁵³ Imanudin Affandi Taun and Rahman, "Application of E-Court in Different Countries: A Comparative Study in the Development of E-Court," 2023, https://doi.org/10.2991/978-2-38476-164-7_100.

⁵⁴ Latifiani et al., *Teknis Penggunaan E-Court (E-Filing, E-Payment, E-Summons, Dan E-Litigasi)*.

be established, and the risk of misuse will be reduced with strong data protection. Sensitive legal data will be more secure.

Development strategies need to incorporate human capital enhancement.⁵⁵ There is a need to design training modules to train judges, court clerks, administrative staff, system advocates, and lawyers in the use of the system. Furthermore, justice seekers need to be equipped with digital literacy to navigate system registration and online court procedures. Training programs must be structured sustainably, and mechanisms must be put in place to enable participants to be evaluated and certified, or reassessed at a later date. In addition, remote courts, especially those that are remote, should provide a technical assistance unit to support chamber users in need of assistance. To allow courts to develop a program promptly, the program should be funded from the courts' operational budget. As human resources are developed, the potential for the effective implementation of e-courts will increase, as the system is used correctly. Administrative errors will be reduced, and case flow will be quicker.

Implementing a phased approach, starting with pilot programs and specific use cases before global deployment, will be most effective.⁵⁶ Completion time for administrative tasks, errors in records, occurrence of system outages, and user satisfaction are some metrics we must capture in these pilots. User interface, technology, and workflow optimizations will be based on these pilots. Resource distribution and local context customizations are efficiency gains achieved through a phased system. Harmonization of participants across diverse regional pilots will help surface coordination bottlenecks.

Backed by a comprehensive set of regulations detailing the legal and technical aspects of the policies covering electronic signatures and digital evidence, the roles of system providers, and the penalties for data breaches or system failures. In addition to regulations, an operational

⁵⁵ Olivia M. I. Tavares and Fransiskus Mario Hartono Tjiptabudi, "Inovasi Pemerintahan Digital Melayani Berbasis Sistem Layanan Aspirasi Dan Informasi Pada Kelurahan Oebufu," *Jurnal Sains Komputer Dan Teknologi Informasi* 3, no. 1 (2020): 10–23, <https://doi.org/10.33084/jsakti.v3i1.1662>.

⁵⁶ Ahmad Tholabi Kharlie and Achmad Cholil, "E-Court and e-Litigation: The New Face of Civil Court Practices in Indonesia," *International Journal of Advanced Science and Technology* 29, no. 2 (2020): 2206–13.

governance framework will also need to outline an inter-institutional coordinating framework mechanism for setting technical standards, ensuring safety in architecture, and improving interoperability. This mechanism should assign responsibilities for determining system policy amendments, supplier controls, and audits of system design and plans. Enhanced accountability should increase public participation by providing citizens with access to and transparency of the system's operational and usage data, as well as issuing periodic system outputs. By having specific regulations and governance mechanisms, the e-court model will be able to exercise operational and legal self-governance and, as such, effectively address the legal and technical challenges.

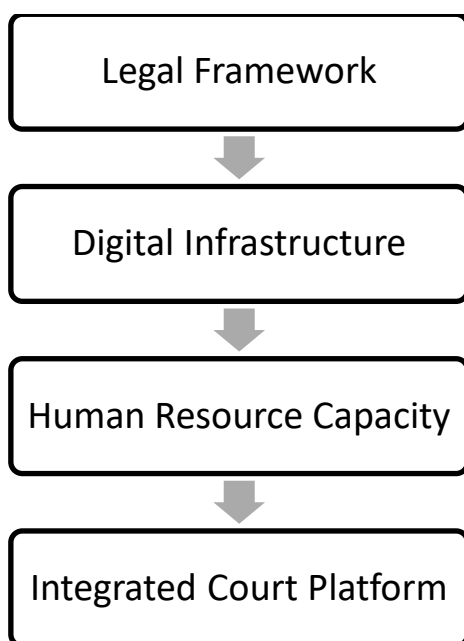
A cohesive governing framework integrates tangible and procedural elements, including digital signatures, digital evidence, system providers' responsibilities, and sanctions related to system breaches. Beyond governance, operational management should create a cross-institutional coordination body to define technical standards, security, and ease interoperability among institutions. This body should participate in policy formulation regarding system changes, supplier management, and system reviews. This responsibility should include full disclosure to the public on the system's operational data and periodic reports on the system's outcomes. The e-court model has the greatest potential to be both legally defensible and operationally effective and to satisfy the governance requirements. This also limits the legal and technical risks associated with the e-court model. For a synthetic framework, the ideally complementing elements include modular technology components, an adaptable data architecture, data protection, staff deployment to enhance human capital, a multi-wave system, and a stable regulatory framework to support implementation.

Indicators of the success of this model include equitable access to justice in all territories, a reduction in the time taken to administer a case, a decrease in errors of omission and commission within the system, and an increase in public confidence in the justice delivery system. The system's adaptability to new technological updates with minimal disruption to service delivery is also a key factor in its success. This model, with an allocated budget, policy enactment, support, and collaborative engagement with all key stakeholders, can serve as the basis for an

equitable and sustainable transformation of electronic justice in the Republic of Indonesia.

To provide a more systematic and easily understandable overview, the conceptual model of the Ideal Digital Court Ecosystem is presented in the form of a flowchart. This illustration shows the hierarchical relationships among the key elements, starting with the legal framework as the foundation, which then supports the development of digital infrastructure and the strengthening of human resource capacity, culminating in an integrated court platform as the primary output of an ideal digital court system.

Figure 1. Ideal Digital Court Ecosystem



Source: Researchers' Illustrations, 2026

The Ideal Digital Court Ecosystem is presented in Figure 1. It consists of four interdependent layers that must be built step by step from the top down to achieve holistic digital justice. At the top of the model, we find the Legal Framework, which includes all laws, regulations, and procedural rules that, through authorization and legality, enable the use of digital technologies in court proceedings, such

as the admission of electronic evidence, digital signatures, virtual hearings, and data protection. With these legal underpinnings strongly established, we build the Digital Infrastructure (technical components including hardware, software, internet bandwidth, and connectivity solutions, with cybersecurity protocols and cloud-based services in place) that lays the tech backbone needed for all court processes to go digital⁵⁷. The model then advances to Human Resource Capacity, which accounts for the fact that even the most cutting-edge legal and technological frameworks will be ineffective if they do not have a competent, well-trained and digitally literate group of professionals able to bridge them into actual processes; judiciary staff (judges, court clerks), lawyers, etc. need to know how to make these advances work for them- therefore all such models would require extensive capacity building programs and change management strategy in institutions. At the base is a unified digital system, the Integrated Court Platform, where all three layers above converge to deliver end-to-end automated court services, such as e-filing and virtual hearings. What is needed is a systemic breakthrough paradigm for digital court governance, along with philosophical scaffolding for principles such as access to justice, judicial transparency, and process efficiency. This integration of the legal, technological, and human dimensions into a single ecosystem is essential to enabling a modern justice delivery system that has access to evidence from digital footprints while remaining accountable to its clients in an increasingly data-driven society.

⁵⁷ Indah Sri Utari et al., “The Digital Sanctuary: Forging Legal And Ethical Frameworks For Interfaith Coexistence Online,” *Contemporary Issues on Interfaith Law and Society* 4, no. 2 (2025), <https://doi.org/10.15294/ciils.v4i2.35309>.

Table 2. Comparison of International Electronic Civil Case Handling System: Overcoming the Weaknesses of E-court E-litigation in Indonesia

No	Country	Main features	Addressed Weaknesses in Indonesia	Cautions / Considerations	Lesson for Indonesia
1	Netherlands	New protection regulations uphold certifications and provide evidence, counseling, and data logs.	Verify the weaknesses surrounding data protection and the integrity of electronic files.	Constant technological advancements continue to create difficulties with high-cost implementations and will require lengthy periods of adaptation.	Improve the digital security framework.
2	Australia	An integrated system that incorporates courtesy, interoperability, and digital auditing.	Conquest of the barriers to inter-agency integration and the duplication of administration.	The substantial operational expenses stem from the need for equitable, digitized instruction in rural areas.	Improve system interoperability.
3	Spain	Automation of administrative processes using artificial intelligence (AI) involves automating document verification and other tasks.	Tackle slow administrative processes and document entry errors.	Possibility of vulnerability and requirement for extensive examination before large-scale implementation.	Use AI cautiously.
4	Malaysia	Integration of e-judiciary with other training programs and with a comprehensive case management system.	Addressing the weaknesses of human resources and low levels of digital literacy.	Involves an ongoing budget for training and maintenance.	Strengthen human resource training.

5	Kyrgyzstan	Cost-effective and phased pilot based on open-source technology.	Provides an economical option for aviators in isolated locations.	Data security is lacking, and national security is in even greater need of improvement.	Implement cost-effective phased pilots with open-source systems.
6	United Kindom	Low user entry hurdles, High User accessibility, and a Portal for public law case documents.	Focus on Problems for Non-Technical Users	A considerable degree of risk is associated with the widening schism between vulnerable populations in society and the impact of digital exclusion, necessitating a hybrid model.	Expand accessible hybrid legal services to reduce digital exclusion.
7	Norway	Trustworthy infrastructure, multi-factor authentication, and continuity strategy planning.	Identify service availability and cybersecurity gaps.	An initial investment and considerable ongoing maintenance are required for long-term budgeting.	Strengthen secure digital infrastructure and continuity planning.
8	Singapore	A completed incorporation of litigation processes, sophisticated identification verification, and online education in law.	Strengthen one's coordination processes as well as the preparedness of one's human resources.	Depending on vendors and closed ecosystems requires careful consideration for procurement policies.	Integrate digital litigation systems and enhance institutional readiness.

Source: Researcher(s) Analysis, 2025.

According to the table presented by the researcher(s), the development of e-courts and e-litigation in Indonesia shows the need for an integrated model that draws from several countries. One of the first steps is to understand the data protection norms in the Netherlands. This

country places a high emphasis on using multiple forms of encryption, digital signatures, and audit trails, ensuring that all system entries are recorded and can be reviewed. These measures to protect digital systems and build trust in privacy and user control would be greatly welcomed in Indonesia's courts.

On the other hand, Australia is an exemplary case of interoperability, having developed a national portal that connects several courts and other judicial authorities through harmonized APIs. Such a setup enables multiple courts and other entities, including prosecutors, to communicate without data silos. In addition, Spain has effectively utilized technology to automate interrelated functions and assign them to a single institution, leveraging artificial intelligence. One such function is the automation of case registration (e-filing), which reduces the tedious work of document control and improves data capture accuracy. For the system's stability and users' preparedness, a gradual implementation of the technology is needed. This is exemplified by the practices these countries implemented, and it is a strong indication that these practices are also applicable to other countries. In the Netherlands, Australia, Spain, and Indonesia, a more secure, efficient, and integrated e-court system can be developed that balances legal reliability and user rights.

Conclusion

This study demonstrates that the implementation of e-court and e-litigation systems in Indonesia represents an important step toward modernizing the judiciary. However, significant challenges remain, including infrastructure disparities, limited digital literacy, and insufficient regulatory frameworks for data protection and electronic evidence. A comparative analysis shows that successful digital justice systems depend on integrating technological infrastructure, legal frameworks, and human resource capacity. Lessons from jurisdictions such as the Netherlands, Australia, Singapore, and Norway highlight the importance of interoperability, cybersecurity, and user-centered system design. Therefore, Indonesia should adopt an integrated digital justice model that combines regulatory reform, technological development, and

ongoing legal technology training to ensure an efficient and equitable electronic court system.

References

- Adnyakausalya, Ni Made Agelina, Mischa Jocylina, Gwenli Sirait, I Nyoman Triana Eka Putra, Ketut Anantha Adi Saputra, I Kadek Anantha Aristya Jaya, Kadek Rolex Apridana Putra, and Anak Agung Angga Primantari. "Analisis Yuridis Terhadap Pelaksanaan Persidangan Elektronik Perkara Perdata Dalam Menjamin Hak Para Pihak." *Jurnal Media Akademik (JMA)* 3, no. 7 (2025): 20. <https://doi.org/10.62281/v3i7.2519>.
- Agulló, Diego Agulló. "Los Contratos De Financiación De Litigios Por Terceros (Third-Party Funding) En España." *Revista de Derecho Civil* IX, no. 1 (2022): 183–231.
- Budiono, Arief, Yahya Yunus, Jamal Hi Arsad, Hardina Hardina, and Tomás Mateo Ramon. "Effectiveness of E-Court in Handling Civil Cases in Class IA Religious Court of Ternate." *Law and Justice* 9, no. 1 (2024): 130–50. <https://doi.org/10.23917/laj.v9i1.3903>.
- Burhanuddin, Ahmad, Syeh Sarip Hadaiyatullah, and Pramudya Wisesa. "Summons for Court Proceedings Using Registered Mail in the Perspective of Civil Procedure Law." In *KnE Social Sciences*, 2024:545–59, 2024. <https://doi.org/10.18502/kss.v9i2.15013>.
- Contini, Francesco, and Dory Reiling. "Double Normalization: When Procedural Law Is Made Digital." *Oñati Socio-Legal* 3, no. 3 (2022): 654–88. <https://doi.org/10.35295/osls.iisl/0000-0000-0000-1305>.
- Creamer, Cosette D., and Beth A. Simmons. "The Proof Is in the Process: Self-Reporting under International Human Rights Treaties." *American Journal of International Law* 114, no. 1 (2019): 1–50. <https://doi.org/10.1017/ajil.2019.70>.
- Fernando, Zico Junius. "AI Hakim: Merevosi Peradilan Yang

- Berintegritas, Bermartabat, Dan Meningkatkan Kesejahteraan Hakim.” *Judex Laguens Jurnal Hukum Dan Peradilan PP. IKAHI* 2, no. 2 (2024): 157. <https://doi.org/10.46294/ULPLR-RDULP.V14I1.7475>.
- Gans, David. “Court Reform and the Promise of Justice: Lessons from Reconstruction.” *SSRN Electronic Journal*, 2022. <https://doi.org/10.2139/ssrn.4244924>.
- Godfrey, Barry, Jane C Richardson, and Sandra Walklate. “The Crisis in the Courts : Before and Beyond Covid.” *The British Journal of Criminology*, no. November 2021 (2022): 1036–53. <https://doi.org/10.1093/bjc/azab110>.
- Hanisch, Marvin, Curtis M. Goldsby, Nicolai E. Fabian, and Jana Oehmichen. “Digital Governance: A Conceptual Framework and Research Agenda.” *Journal of Business Research* 162 (2023): 113777. <https://doi.org/10.1016/j.jbusres.2023.113777>.
- Ikbal, Mohammad, and Badsha Mia. “Initiation of Virtual Court System during COVID-19 Pandemic and E- Judiciary : Challenges and Way Forward.” *Daengku: Journal of Humanities and Social Sciencea Innovation* 1, no. 1 (2021): 13. <https://doi.org/10.35877/454RI.daengku385>.
- Judijanto, Loso, Evy Febryani, Wira Marizal, and Harly Clifford Jonas Salmon. “Tinjauan Yuridis Penggunaan Digital Justice Untuk Akuntabilitas Dan Efisiensi Sistem Peradilan Di Indonesia.” *Sanskara Hukum Dan HAM* 3, no. 02 (2024): 99–107. <https://doi.org/10.58812/shh.v3i02.497>.
- Kharlie, Ahmad Tholabi, and Achmad Cholil. “E-Court and e-Litigation: The New Face of Civil Court Practices in Indonesia.” *International Journal of Advanced Science and Technology* 29, no. 2 (2020): 2206–13.
- Lahilote, Hasyim Sofyan, Frangky Soleman, Faradila Hasan, Rusdaya Basri, and Azizah Lahilote. “Judicial Digitalization in Central Indonesia: A Study of E-Court and E-Litigation Implementation

- in Courts.” *Syariah: Jurnal Hukum Dan Pemikiran* 24, no. 2 (2024): 315. <https://doi.org/10.18592/sjhp.v24i2.13879>.
- Laputigar, Rendy, Suhadi Suhadi, and Rodiyah Rodiyah. “Integrating Due Process into The Enforcement Framework of Criminal Law Politics.” *Indonesian Journal of Criminal Law Studies* 9, no. 1 (2024). <https://doi.org/10.15294/ijcls.v9i1.50293>.
- Latifiani, Dian, Nur Arif Nugraha, Anis Widyawati, Akhmad Khalimy, Muhammad Iqbal Baiquni, Asmarani Ramli, and Pratama Herry Herlambang. “The Revitalizing Indonesia’S Religious Courts System: The Modernization Impacts and Potentials of E-Court.” *Jurnal Hukum Unissula* 40, no. 1 (2024): 1–13. <https://doi.org/10.26532/jh.v40i1.32279>.
- Latifiani, Dian. “Human Attitude and Technology: Analyzing a Legal Culture on Electronic Court System in Indonesia (Case of Religious Court).” *Journal of Indonesian Legal Studies* 6, no. 1 (2021): 157–84. <https://doi.org/10.15294/jils.v6i1.44450>.
- Latifiani, Dian, Baidhowi Baidhowi, Pratama Herry Herlambang, Farkhan Radyafani Winarno, and Ahmad Habiburrahman. “Can Advocates’ Legal Culture in Civil Law Enforcement Drive Reform in Indonesia’s Modern Justice System?” *Journal of Law and Legal Reform* 5, no. 3 (2024): 913–15. <https://doi.org/10.15294/jllr.v5i3.12988>.
- Latifiani, Dian, Baidhowi Baidhowi, Rohmat Rohmat, Suryo Adi, Prita Florentina, and Farkhan Radyafani. *Teknis Penggunaan E-Court (E-Filing, E-Payment, E-Summons, Dan E-Litigasi)*. Semarang: Fastindo, 2021.
- Latifiani, Dian, Yusriyadi Yusriadi, Agus Saroni, Rofah Setyowati, Waspiah Waspiah, Ridwan Arifin, and Anis Widyawati. “The Future Challenges and Opportunity for Electronic Court on Sharia Banking Disputes Resolution.” In *AIP Conference Proceedings*, 1–7. *AIP Conference Proceedings*, 3, 2022. <https://doi.org/10.1063/5.0104133>.

- Liba, Yulita, and Supriyadi A Arief. "Praktek Di Pengadilan Berbasis Elektronik : Bentuk Konkret Mewujudkan Transparansi." *Iuris Studia: Jurnal Kajian Hukum* 6, no. 1 (2025): 89–97. <https://doi.org/10.55357/is.v6i1.836>.
- Maralbaeva, Aliia. "Evolution of E-Justice Platforms: From ICT in Courts Towards 'Digital Justice' Portal in Kyrgyzstan." *International Journal for Court Administration* 15, no. 1 (2024): 57. <https://doi.org/10.36745/ijca.582>.
- McIntyre, Joe, Anna Olijnyk, and Kieran Pender. "Civil Courts and COVID-19: Challenges and Opportunities in Australia." *Alternative Law Journal* 45, no. 3 (2020): 195–201. <https://doi.org/10.1177/1037969X20956787>.
- Naderi, Hossein, and Alireza Shojaei. "Civil Infrastructure Digital Twins: Multi-Level Knowledge Map, Research Gaps, and Future Directions." *IEEE Access* 10 (2022): 122022–37. <https://doi.org/10.1109/access.2022.3223557>.
- Norris, Pippa. *Digital Divide: Civic Engagement, Information Poverty, and the Internet Worldwide*. Communication, Society and Politics. Cambridge University Press, 2001.
- Parasyuk, M V. "Electronic Evidence in the Context of the Principles of Civil Procedural Law." *Analytical and Comparative Jurisprudence*, no. 6 (2024): 277–81. <https://doi.org/10.24144/2788-6018.2024.06.44>.
- Peter Mahmud Marzuki. *Penelitian Hukum*. Edisi Revi. Jakarta Timur: Kencana, 2021.
- Pitaloka, Diva. "E-Court : A Digital Disruption in Law Enforcement and Its Impact on Judicial Efficiency in Indonesia." *Ex Aequo Et Bono Journal of Law* 2, no. 2 (2025): 82–95. <https://doi.org/10.61511/eaebjol.v2i2.2925.1404>.
- Putrijanti, Aju, and Kadek Cahya Susila Wibawa. "The Implementation of E-Court in Administrative Court to Develop Access to Justice in Indonesia." *Journal of Environmental Treatment Techniques* 9,

- no. 1 (2020): 105. [https://doi.org/10.47277/jett/9\(1\)109](https://doi.org/10.47277/jett/9(1)109).
- Rusakova, Ekaterina. "The Political Impact of Digitalization on the Judicial Method of Protection of Right in the EAEU Countries." *Ekaterina RUSAKOVA* 4, no. 28 (2023): 201. <https://doi.org/10.24234/wisdom.v28i4.1090>.
- Saud, Muhammad, and Hendro Margono. "Indonesia's Rise in Digital Democracy and Youth's Political Participation." *Journal of Information Technology and Politics* 18, no. 4 (2021): 443–54. <https://doi.org/10.1080/19331681.2021.1900019>.
- Simon-Liedtke, Joshua Thomas, Way Kiat Bong, Trenton Schulz, and Kristin Skeide Fuglerud. "Remote Evaluation in Universal Design Using Video Conferencing Systems During the COVID-19 Pandemic." *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)* 12768 LNCS, no. July (2021): 116. https://doi.org/10.1007/978-3-030-78092-0_8.
- Singh, Vijit, and Rituraj Malik. "Judicial Reforms and Access to Justice: A Comparative Analysis of E-Courts and Technological Integration in India and Singapore." *Issue 5 Int'l JL Mgmt. & Human.* 7, no. 5 (2024): 1147. <https://doi.org/10.1000/IJLMH.118350>.
- Siswanto, Carissa Amanda, Septhian Eka Adiyatma, Uche Nnawulezi, and Jacques Kabano. "Legal Recognition of Electronic Notarial Acts: A Comparative Study of Indonesia and Rwanda." *Indonesia Private Law Review* 6, no. 2 (2026). <https://doi.org/10.25041/iplr.v6i2.4686>.
- Sudira, I Wayan. "Keadilan Digital: Tantangan Hukum Dalam Era Disrupsi Teknologi." *Kertha Widya: Jurnal Hukum* 12, no. 2 (2024): 35. <https://doi.org/10.37637/kw.v12i2.2203>.
- Sudur, Ishaq Maulana, and Fauziyah Putri Meilinda. "Urgensi Persidangan Elektronik (E-Litigasi) Dalam Perspektif Hukum Acara Peradilan Agama Di Pengadilan Agama Probolinggo."

- USRAH: Jurnal Hukum Keluarga Islam* 5, no. 1 (2024): 21–30.
<https://doi.org/10.46773/usrah.v5i1.1088>.
- Sumardiana, Benny, Pujiyono, Irma Cahyaningtyas, and Cahya Wulandari. “Evaluation of Electronic Evidence in Criminal Justice in the Era of Advanced Artificial Intelligence Technology.” *Indonesian Journal of Criminal Law Studies* 9, no. 2 (2024).
<https://doi.org/10.15294/ijcls.v9i2.50319>.
- Sundari, Elisabeth, Helidorus Chandera Halim, and Ousu Mendy. “Should Indonesia Adopt Legal Representation in Civil Cases?” *Journal of Human Rights, Culture and Legal System* 5, no. 2 (2025). <https://doi.org/10.53955/jhcls.v5i2.604>.
- Syahputra, Bearlly Deo, and Enggal Prabawuri Khotimah. “Problematika Keabsahan Pembuktian Pada Implementasi Persidangan Elektronik (E-Litigasi).” *Supermasi Hukum: Jurnal Penelitian Hukum* 30, no. 2 (2021): 148.
- Syamsuri, Liza Mahavianti, and Whildan Pakartipangi. “Challenges and Opportunities in Implementing Green Data Centers in Indonesia Toward Sustainable Digital Infrastructure.” *Jurnal Penelitian Pendidikan IPA* 11, no. 6 (2025): 104–18.
<https://doi.org/10.29303/jppipa.v11i6.11267>.
- Taun, Imanudin Affandi, and Rahman. “Application of E-Court in Different Countries: A Comparative Study in the Development of E-Court,” 2023. https://doi.org/10.2991/978-2-38476-164-7_100.
- Tavares, Olivia M. I., and Fransiskus Mario Hartono Tjiptabudi. “Inovasi Pemerintahan Digital Melayani Berbasis Sistem Layanan Aspirasi Dan Informasi Pada Kelurahan Oebufu.” *Jurnal Sains Komputer Dan Teknologi Informasi* 3, no. 1 (2020): 10–23.
<https://doi.org/10.33084/jsakti.v3i1.1662>.
- Ummi Maskanah. “Tantangan Dalam Pembaharuan Sistem Peradilan Melalui Perkembangan Teknologi: E-Court Dan E-Litigasi Sebagai Sarana Menuju Peradilan Moderen Di Indonesia.” *Jurnal*

- Hukum Mimbar Justitia* 9, no. 2 (2023): 235.
<https://doi.org/10.35194/jhmj.v9i2.3776>.
- Utari, Indah Sri, Diandra Preludio Ramada, Ubaidillah Kamal, Ratih Damayanti, and Nizamuddin Alias. "The Digital Sanctuary: Forging Legal And Ethical Frameworks For Interfaith Coexistence Online." *Contemporary Issues on Interfaith Law and Society* 4, no. 2 (2025). <https://doi.org/10.15294/ciils.v4i2.35309>.
- Walters, Glenn D. "Mediating the Court Procedural Justice–Delinquency Relationship with Certainty Perceptions and Legitimacy Beliefs." *International Journal of Law and Psychiatry* 97 (2024): 102031. <https://doi.org/10.1016/j.ijlp.2024.102031>.
- Woodlock, John. "Procedural Justice for All? Legitimacy, Just Culture and Legal Anxiety in European Civil Aviation." *Law & Society Review* 56, no. 3 (2022): 441–76.
<https://doi.org/10.1111/lasr.12622>.
- Yoesuf, Juliani Paramitha, Mulyono, Siti Nur Intihani, Efridani Lubis, Muhammad Fahrudin, and Sinta Elviyanti. "Optimization of E-Litigation-Based Trial Implementation As A Strategy to Prevent Bribery and Gratification (Comparatory Study of E-Litigation Implementation in Malaysia and Singapore)." *Jurnal Ilmiah Living Law* 16, no. 1 (2024): 45.
<https://doi.org/10.30997/jill.v16i1.11360>.
- Yuniar, Vania Shafira, Jihan Syahida Sulistyanti, and Dian Latifiani. "The Court Role in Providing E-Court System Education to Community: Post-Enactment of Supreme Court Regulation Number 1 of 2019." *UNIFIKASI: Jurnal Ilmu Hukum* 8, no. 1 (2021): 34–42. <https://doi.org/10.25134/unifikasi.v8i1.3697>.

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All authors declared that this work is original and has never been published in any form or media, nor is it under consideration for publication in any journal, and all sources cited in this work refer to the basic standards of scientific citation.