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(IJLGC)**www.gaexcellence.com/ijlgc**AI-DRIVEN JUDICIAL DECISION-MAKING: EXAMINING
THE MEDIATING ROLE OF ALGORITHMIC
TRANSPARENCY IN ENHANCING JUDICIAL
LEGITIMACY**

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Abstract:

The fast rollout of artificial intelligence (AI) in judicial systems can improve efficiency, consistency and access to justice. But the rising adoption of AI-enabled judicial processes has also raised major concerns about algorithmic bias, opacity, accountability and procedural fairness that could jeopardise public trust and the legitimacy of judicial institutions. Although the scholarly attention to AI in the legal field has recently been increasing, there has been little research on the conceptual mechanism through which AI-based judicial decision-making influences judicial legitimacy. Accordingly, this study aims to suggest algorithmic transparency as a conceptual mediator to develop a conceptual model of the association between judicial legitimacy and AI-based judicial decision-making. This research study is based on the peer-reviewed publications available in the Scopus database utilising the qualitative narrative literature review method. We used a systematic search strategy to identify relevant literature. The literature was analysed using thematic analysis to identify emerging themes, theoretical perspectives and research gaps concerning AI, algorithmic transparency and judicial legitimacy. The findings suggest that AI-aided

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judicial decision-making can improve judicial efficiency, consistency and decision quality. But such benefits will only contribute to judicial legitimacy if the artificial intelligence systems are transparent, explainable, accountable and have meaningful oversight by humans. The review further proposes that algorithmic transparency could be a means for enhancing procedural fairness, accountability, algorithmic bias concerns, and public trust in AI-assisted judicial decisions. Theoretically, this study contributes to the AI governance literature by combining the Procedural Justice Theory and contemporary AI governance literature to better understand the mediating role of algorithmic transparency. Practical implications The proposed framework can serve as guidance to policy makers, judicial administrators and AI developers, in designing transparent, accountable and ethically governed artificial intelligence systems that preserve judicial legitimacy, while facilitating the responsible digital transformation of modern judicial institutions.

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Keywords:

AI-Driven Judicial Decision-Making, Algorithmic Transparency, Artificial Intelligence in Law, Judicial Legitimacy, Procedural Justice



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Introduction

One of the most disruptive technologies, artificial intelligence (AI) is fundamentally changing decision-making in the public and private sectors. In the legal industry, AI is increasingly being incorporated into the judicial system to assist with legal research, case management, predictive analytics, sentencing recommendations and judicial decision making. Artificial intelligence is able to process huge amounts of legal data, detect complicated trends, and generate evidence-based recommendations in a fraction of the time of conventional digital technologies. Courts in jurisdictions as diverse as China, the United States and India have begun considering the use of AI-enabled judicial applications to increase efficiency, decrease case backlogs, improve consistency in judicial reasoning and increase access to justice (Chan & Gore, 2025; Patil & Desai, 2025; Raghav et al., 2025). Such developments indicate that AI is not merely a technological innovation anymore but is increasingly being perceived as a strategic tool for judicial modernisation. But the use of AI also brings up deep questions of law, ethics and governance that scholars need to think through carefully. Judicial decisions affect fundamental rights, procedural fairness and the rule of law directly.

The growing body of literature presents both optimistic and cautionary perspectives on AI-assisted judicial decision-making. Studies have consistently shown that AI enhances judicial efficacy through automating legal research, intelligent case assignment, and employing

predictive analytics and decision support systems that lower administrative costs and help generate consistent legal reasoning (Mohod et al., 2024; Morić et al., 2025; Saleh et al., 2026). AI-enabled systems have also shown significant promise in increasing transparency, optimising judicial resources, and providing access to legal services for disadvantaged communities (Beg, 2026; Raghav et al., 2025). But these technological advances also present major challenges. Scientists have found persistent challenges of algorithmic bias, opaque “black box” decision-making, lack of explainability, risks to judicial independence, privacy protection, and risk of loss of judicial discretion (Úlehlová, 2025; Diab et al., 2026; Vidaki & Papakonstantinou, 2025). Furthermore, the absence of harmonised regulations and universally accepted ethical principles creates uncertainty regarding the accountability, liability and legitimacy of AI-assisted judicial decisions (Arias, 2026; Ibrahim et al., 2026; Manos et al., 2026). The contradictory results indicate that although artificial intelligence can greatly enhance the administration of justice, its implementation relies on strong governance structures that safeguard fairness, transparency and human rights.

Research has grown quickly but there are still some big gaps in our knowledge. Much of the literature has focused on technical application, comparative case studies, ethics or implementation of AI in judicial settings in specific jurisdictions (Andriati et al., 2024; Sitepu et al., 2026; Thomas, 2024). Few studies have attempted to synthesise these disparate perspectives into an overarching conceptual framework that explains how technological capabilities, ethical safeguards, regulatory governance, and human judicial oversight together shape AI-driven judicial decision-making. Existing research also tends to look at opportunities and challenges in isolation, rather than how they interact to shape judicial effectiveness, public trust and judicial legitimacy. Consequently, policy makers, judicial institutions and researchers have little theoretical guidance to balance technological innovation with basic principles of justice. The present conceptual paper attempts to fill this gap by developing an integrated framework that brings together the technological, ethical, legal and governance aspects of AI-powered judicial decision-making. Specifically, the framework presents AI implementation as a revolutionary judicial enabler and presents transparency, accountability, explainability, ethical governance and oversight by humans as indispensable mechanisms for responsible and legitimate AI adoption in contemporary judicial systems.

This study is important because it contributes to theory and practice. The proposed framework, in theory, adds to existing scholarship by synthesising insights from the literature on AI governance, judicial ethics, procedural justice, and digital transformation in a holistic conceptual lens that can explain responsible AI adoption in judicial settings. The paper draws on the Socio-Technical Systems Theory, according to which technological innovation, organisational structures and human actors are interdependent, but also applies the Procedural Justice Theory to explain the effect of perceptions of fairness, transparency, accountability and explainability on the legitimacy and acceptance of AI-assisted judicial decisions. These theoretical perspectives do not see AI as a substitute for judicial reasoning, but they advocate the use of AI as an augmentation device, to assist judicial expertise, while preserving human discretion and institutional accountability (Vidaki & Papakonstantinou, 2025; Manos et al., 2026; Widłak, 2026). Practically, the conceptual framework provides guidance to judicial policy makers, court administrators, legislators, AI developers and legal practitioners in developing governance strategies that balance technological efficiency with ethical integrity, judicial independence and protection of fundamental rights.

The rest of the paper is organised as follows. The next section reviews the literature on AI-based judicial decision-making, examining the state of the art in terms of technological advancements, opportunities, ethical issues, and regulatory challenges. The theoretical background of the proposed framework is presented in the next section. The conceptual model is presented and relationships among its key constructs are described. The paper then discusses the theoretical and practical implications of the proposed framework to judicial governance and AI implementation, provides directions for future research, and concludes by emphasising the significance of developing transparent, accountable, explainable, and human-centered artificial intelligence systems that can enhance judicial effectiveness while ensuring the legitimacy, fairness, and integrity of the justice system.

Literature Review

AI-Driven Judicial Decision-Making

AI-enabled judicial decision-making refers to the use of artificial intelligence (such as machine learning, natural language processing, predictive analytics, automated risk assessment and generative AI) to support or partially automate adjudication-related tasks. These apps can help with legal research, document classification, evidence summarisation, prediction of case outcomes, assessment of recidivism risk, management of court calendars, and the creation of initial legal analysis. AI offers courts numerous opportunities to reduce administrative burdens, accelerate case processing, enhance access to relevant legal information and promote greater uniformity across similar cases. These benefits are particularly important in judicial systems with congested court dockets, scarce resources, and the growing amount of digital evidence. But technological rationality does not produce substantively just results necessarily. Artificial Intelligence systems are trained on past data sets that may have biases based on race, gender, socioeconomic status or institutions. Thus, algorithmic predictions can reproduce or even amplify inequalities already existing in the history of judicial practices. The use of artificial intelligence for bail, sentencing, and risk-assessment determinations is particularly fraught, as seemingly neutral variables can be proxies for protected personal characteristics. Moreover, AI may not be able to adequately reflect moral judgement, empathy, proportionality, social context and the assessment of contested evidence, which are still at the core of judicial reasoning. Judges may also develop automation bias and give algorithmic recommendations the benefit of the doubt when they are based on faulty data, assumptions or predictions and treat them as being mathematically objective. Generative AI risks generated authorities, false summaries and plausible but factually incorrect reasoning. The literature generally favours an augmentation model in which AI supports but does not replace judicial officers. Humans must be able to review, question and override algorithmic recommendations, particularly where decisions impact liberty, fundamental rights and legal status. Hence, AI-based judicial decision-making carries both positive and negative implications, offering enhanced efficiency, consistency, and information processing, yet posing risks of discrimination, accountability deficits, erroneous decisions, and diminished procedural safeguards when implemented without sufficient legal, institutional, and ethical safeguards (Andriati et al., 2024; Barysé & Sarel, 2024; Diab et al., 2026; Fortes, 2020; Mark et al., 2024).

Algorithmic Transparency

Algorithmic transparency is the extent to which the design, data, goals, workings and impacts of an AI system are understandable and testable in a meaningful way by judges, litigants,

lawyers, regulators and the public. Simply telling parties an algorithm was used does not amount to transparency in judicial decision-making. This means providing enough information to know what data was fed into the system, what factors influenced its output, how reliable the system is, what limitations or error rates there are, and how the output influenced the final judicial decision. Transparency can therefore be subdivided into data transparency, model transparency, procedural transparency and outcome transparency. Data transparency relates to the source, quality, representativeness and potential bias of the training and operational data sets. Model transparency addresses how the system processes inputs into classifications, predictions or recommendations. Procedural transparency refers to the design, validation, procurement, audit and deployment of the system. Outcome transparency means that a decision based on an algorithmic recommendation can be explained in an understandable way. But full source code disclosure is not equivalent to meaningful transparency when highly technical information may be unintelligible to those affected. What is needed is functional or meaningful transparency. Explanations must be understandable, context-specific and detailed enough to allow for verification and challenge. This may include disclosure of the system's purpose, influential variables, confidence levels, known limitations and the extent of human involvement, verified by independent audits, algorithmic impact assessments, bias testing and accessible documentation. Transparency is especially relevant in courts, as judicial decisions tend to be reasoned, reviewable and appealable. A non-transparent system can leave litigants blind to errors, to challenge assumptions of discrimination, or to understand why a negative result occurred, and so undermines due process and accountability. < But transparency must be balanced against privacy, cyber-security, intellectual-property rights and the potential for too much transparency to enable users to game the system. Thus, modern research increasingly focuses on comprehensibility, traceability and contestability rather than on unlimited technical disclosure. In the conceptual model presented here, algorithmic transparency serves as a conceptual mediator, because the implementation of AI is less likely to directly increase judicial legitimacy. Its contribution to legitimacy is instead premised on the explainability, auditability and the availability of meaningful human and legal oversight of algorithmic processes. Transparency in artificial intelligence can expose bias, assign responsibility, enable appeals and show that technological recommendations are subordinate to law and judicial judgement. Opaque AI could convert potential efficiency gains into suspicion, unfairness and institutional distrust (Brożek et al., 2024; Fortes, 2020; Richmond et al., 2024; Szwajdler, 2026).

Judicial Legitimacy

For the courts, legitimacy is the belief that the courts have the right authority to interpret and apply the law, and that individuals should accept their decisions even when they disagree with specific outcomes. It is wider than immediate satisfaction with a judgement, because it relates to the continued confidence in the independence, impartiality, competence, procedural fairness and commitment to the rule of law of the judiciary. The introduction of artificial intelligence can have a positive or a negative effect on judicial legitimacy. AI in contrast, could increase confidence in the courts by reducing delays and improving consistency, limiting some forms of human error and allowing for more systematic access to statutes, precedents and evidence. If carefully governed, AI assistance can also reduce arbitrary variation between judges and increase the accessibility of judicial services. But legitimacy can be undermined when litigants think that decisions are being made by machines, commercial technology providers, or mysterious statistical correlations, rather than by accountable judges applying legal principles. The public is less willing to accept artificial intelligence when traditional systems produce biased results, fail to explain themselves clearly or prevent people from participating in

processes in a meaningful way. Research on the acceptance of the use of AI judges shows that attitudes toward judicial automation are affected by expectations of accuracy and efficiency, as well as by moral values, the nature of the case, and the degree of control retained by human judges. People may be more open to AI in administrative or informational roles, but resistant to autonomous AI decisions in criminal, family or other morally sensitive disputes (Barysè & Sarel, 2024; Kim & Peng, 2025). Thus, judicial legitimacy can be understood in terms of dimensions of input, process and output. The legitimacy of input refers to the participation of judges, lawyers, affected communities and other stakeholders in the development of rules for judicial AI. Process legitimacy concerns the fairness, transparency, lawfulness, accountability and contestability of AI-assisted proceedings. Output legitimacy refers to the accuracy, consistency, efficiency and substantive justice of the decisions that are produced. Gains in output efficiency do not automatically compensate for deficiencies in process legitimacy. A correct algorithm can be perceived as illegitimate if those impacted cannot understand its rationale, contest its outcomes, or identify who is responsible for errors. Hence, algorithmic transparency will be expected to connect AI-powered judicial decision making to judicial legitimacy by rendering use of AI visible and reviewable, safeguarding reason-giving and showing continued human accountability. Human-centric and transparent AI that shows technology as a tool to support, not substitute, judicial responsibility could boost trust in institutions. In contrast, opaque and autonomous decision-making might undermine perceptions of procedural justice, judicial independence and the moral authority of courts, thus decreasing the voluntary acceptance of court decisions (Grimmelikhuijsen & Meijer, 2022; Kim & Peng, 2025; Mark et al., 2024).

Methodology

This paper employs the narrative literature review approach to build up a conceptual framework for elucidating the nexus between AI-based judicial decision-making, algorithmic transparency and judicial legitimacy. A narrative review is appropriate because the use of artificial intelligence in judicial decision-making is multidisciplinary, involving law, artificial intelligence, ethics, public administration, information systems and judicial governance. Systematic reviews are mainly about answering specific research questions based on specific inclusion criteria and statistical synthesis, whereas narrative reviews are more flexible to critically analyse, compare and synthesise different theoretical perspectives and empirical findings. It enables investigators to identify emerging themes, refine conceptual relationships, evaluate inconsistencies in previous studies, and develop new theoretical propositions for future empirical research.

This study aligns well with the narrative review, as the use of AI in judicial decision-making is still emerging and academics are exploring issues of algorithmic fairness, explainability, judicial accountability and public trust. Hence, the current literature is still dispersed across a number of disciplines and publication venues. Drawing on this body of knowledge, this research advances an integrative conceptual understanding of the potential effect of AI-driven judicial decision-making on judicial legitimacy via the mediating role of algorithmic transparency. The contribution of the proposed framework to the literature is the integration of technological, legal, ethical and governance perspectives in a unique conceptual model, which can be used as a basis for future empirical research.

Key Steps in Conducting the Narrative Review

The narrative review was undertaken according to a number of structured steps to ensure that the synthesis of the literature was credible, relevant and comprehensive. The initial task was to delimit the scope of the research by defining the main concepts on which the study is based, namely AI-driven judicial decision-making, algorithmic transparency, and judicial legitimacy. To broaden the conceptual scope, related concepts such as explainable artificial intelligence, algorithmic accountability, judicial ethics, procedural justice, public trust, AI governance, fairness and judicial accountability were also considered.

The data collection process was mainly carried out using the Scopus database. One of the biggest multidisciplinary bibliographic databases in the world, Scopus was selected containing high-quality peer-reviewed journals, conference proceedings, book chapters and scholarly publications. Scopus was chosen as it covers a wide range of publications in the areas of law, computer science, artificial intelligence, public administration, social sciences and interdisciplinary research. This ensures that the academic literature is credible and of high impact. Searches were conducted using combinations of keywords and Boolean operators such as ‘artificial intelligence’ OR ‘AI’, ‘judicial decision-making’, ‘algorithmic transparency’, ‘explainable AI’, ‘judicial legitimacy’, ‘judicial accountability’, ‘public trust’, ‘ethical AI’ and ‘AI governance’. The search was limited to peer-reviewed publications in reputable journals, conference proceedings and scholarly books in English language relevant to the study objectives.

The search results were then screened by title, abstract and keywords for relevance to the research objectives. For further analysis we kept studies on AI applications in judicial systems, algorithmic transparency and explainability, judicial ethics, accountability, procedural fairness, public confidence and legal governance. Publications dealing with unrelated applications of AI or irrelevant to judicial decision-making were excluded from the review.

Thematic synthesis was used to critically analyse the selected studies. The review did not statistically synthesise the findings but identified recurring concepts, theoretical arguments, similarities, differences and research gaps in the literature. The research focused in particular on the impact of AI-driven judicial decision making on judicial processes, the importance of algorithmic transparency in terms of accountability and explainability, and the overall consequences of these elements on judicial legitimacy. The synthesised evidence was then structured into coherent themes that informed the development of the proposed conceptual framework.

Finally, the literature review was interpreted to establish the theoretical linkages between the constructs of the study. The synthesis revealed that while AI-driven judicial decision-making has great potential to increase efficiency, consistency and access to justice, the positive impact of AI on judicial legitimacy strongly depends on the transparency and explainability of algorithmic systems. Accordingly, the narrative review provides the theoretical foundation for the rise of the mediating mechanism of the AI-driven judicial decision-making process to improve judicial legitimacy, i.e., algorithmic transparency. This conceptual framework can serve as a base for future empirical studies that can test the proposed relationships, using quantitative, qualitative or mixed-method research designs.

Data Collection and Review Strategy

Data of this study were collected from Scopus database. The database was chosen for its comprehensive coverage of high-quality peer-reviewed journals, conference proceedings, books and book chapters in multidisciplinary areas such as law, artificial intelligence, computer science, public administration, ethics and information systems. Scopus is one of the most reliable bibliographic databases for academic research as it indexes publications of reputable international publishers and offers advanced search capabilities that facilitate comprehensive literature retrieval. Thus, Scopus was chosen as the most suitable source for the detection of scholarly literature on AI-assisted judicial decision-making and its consequences for algorithmic transparency and judicial legitimacy.

We used a structured keyword search strategy to ensure that the retrieved publications were representative of the research objectives. The search terms were developed from the main constructs of the proposed conceptual framework with the commonly used terminology found in the previous studies. Boolean operators (“AND” and “OR”), brackets and quotation marks were used to maximise the accuracy of retrieval and minimise irrelevant results. The search string used in the Scopus database was:

((("artificial intelligence" OR "AI" OR "machine learning" OR "algorithm") AND ("judicial" OR "legal" OR "court" OR "justice") AND ("decision-making" OR "ruling" OR "verdict" OR "outcome") AND ("predictive" OR "analytics" OR "assessment" OR "evaluation") AND ("bias" OR "fairness" OR "transparency" OR "accountability"))

The search string was designed to capture five main dimensions of the research topic. First, we conducted searches for “artificial intelligence”, “AI”, “machine learning” or “algorithm” to identify publications that discussed core AI tools and computational methods. The second part, (“judicial” OR “legal” OR “court” OR “justice”) limited the search to studies conducted in judicial, legal and court settings. The third component, (“decision-making” OR “ruling” OR “verdict” OR “outcome”), focused on literature concerning judicial decisions and adjudicative processes. The fourth component, ('predictive' OR 'analytics' OR 'assessment' OR 'evaluation'), extended the search to include AI applications for prediction, and legal analytics, judicial assessment and decision-support systems. Finally, the fifth component (“bias” OR “fairness” OR “transparency” OR “accountability”) ensured that the retrieved studies concerned the ethical, governance and legal issues related to the deployment of AI in judicial decision-making.

The quality and relevance of the review was improved by the application of a number of screening criteria. The search was mainly confined to English-language peer-reviewed journal articles, conference proceedings, scholarly books and book chapters. Relevance of the publications to the aims of the study was screened based on the title, abstract, author keywords, and full-text review when necessary. Recent publications were prioritised to reflect the latest developments in artificial intelligence and judicial technologies, and important studies that established the conceptual foundations of algorithmic accountability, explainable AI, judicial ethics and procedural fairness were retained. Publications irrelevant to judicial decision-making, duplicate records, editorials, news articles, opinion pieces and studies without academic rigour were excluded from further analysis.

An iterative narrative review of selected publications was conducted after screening. For each study the research objective, theoretical framework, methodology, main findings and contribution to the understanding of AI-enabled judicial decision-making, algorithmic transparency and judicial legitimacy were identified. The results were then analysed using thematic analysis. This included clustering similar concepts, identifying reoccurring patterns, comparing theoretical arguments, and highlighting inconsistencies and gaps in the research throughout the literature. The interpretive synthesis enabled the integration of knowledge from several disciplines and provided the theoretical underpinning for the proposed conceptual framework. The conceptual framework conceptualised AI-driven judicial decision-making as the independent variable, algorithmic transparency as the conceptual mediator, and judicial legitimacy as the dependent variable.

Key Findings from the Narrative Review

The narrative review has identified several common themes related to the uptake of artificial intelligence (AI) in legal and judicial settings. The studies examined spanned a number of disciplines, including law, computer science, public administration, ethics and information systems, but all agreed that AI could modernise legal systems by increasing efficiency, supporting judicial decision-making and broadening access to justice. We also expressed concerns on algorithmic bias, transparency and accountability, data privacy and lack of strong regulatory structures. The common themes informed the development of the proposed conceptual framework that links AI-driven judicial decision-making, algorithmic transparency and judicial legitimacy.

Table 1: Key Findings from the Narrative Review

Key Finding	Description
AI enhances legal efficiency	AI automates routine legal tasks, including legal research, document review, contract analysis, case management, and evidence processing, enabling judges and legal practitioners to devote greater attention to complex legal reasoning and judicial deliberation.
AI supports judicial decision-making	AI functions primarily as a decision-support tool by assisting judges with legal information retrieval, predictive analytics, and case evaluation, thereby improving consistency and reducing court backlogs without replacing judicial discretion.
Improved access to justice	AI technologies increase accessibility to legal information and services, reduce litigation costs, and improve the delivery of judicial services, particularly for underserved populations and jurisdictions experiencing heavy caseloads.
Algorithmic bias remains a major concern	AI systems trained on historical judicial data may reproduce or amplify existing social, racial, gender, or socioeconomic biases, potentially resulting in discriminatory judicial outcomes and unequal treatment before the law.
Transparency and explainability are essential	The opacity of AI algorithms limits stakeholders' ability to understand, verify, and challenge AI-assisted decisions. Explainable AI and algorithmic transparency are therefore

	fundamental to maintaining procedural fairness and accountability.
Accountability requires clear governance	The diffusion of responsibility among AI developers, software providers, judges, and judicial institutions creates uncertainty regarding liability for erroneous or biased AI-assisted decisions, highlighting the need for robust governance mechanisms.
Regulatory frameworks continue to evolve	Emerging regulations, particularly the European Union Artificial Intelligence Act (EU AI Act), seek to establish standards for transparency, risk management, accountability, and human oversight. However, scholars acknowledge that regulatory gaps remain, especially concerning judicial AI applications.
Data privacy and security require protection	The integration of AI into judicial systems requires extensive processing of sensitive legal and personal data, necessitating strict compliance with privacy legislation, cybersecurity measures, and responsible data governance.
Transformation of legal professionals' roles	Rather than replacing lawyers and judges, AI is expected to transform legal practice by shifting professionals towards strategic, analytical, ethical, and supervisory responsibilities that require human judgment and contextual reasoning.
Public trust determines successful AI adoption	The acceptance of AI-assisted judicial decision-making depends on public confidence that AI systems operate fairly, transparently, ethically, and under meaningful human supervision. Trust is therefore viewed as a prerequisite for sustainable AI integration within the judiciary.

Development of the Theoretical Framework

The theoretical framework presented is mostly based on Procedural Justice Theory (Tyler, 1990, 2006) which suggests that legal authorities are seen as more legitimate and judicial decisions are more willingly followed when the decision-making processes are fair, transparent, impartial and respectful. Procedural Justice Theory is particularly pertinent to AI-based judicial decision-making because it shifts the focus from the accuracy of judicial outcomes to the fairness of the decision-making procedures. Procedural fairness in the area of judicial artificial intelligence increasingly depends on whether AI-assisted decisions are explainable, accountable and subject to meaningful oversight by humans. In this study, we model AI-enabled judicial decision-making as an independent variable influencing judicial legitimacy, and algorithmic transparency as a mediating mechanism connecting technological capability to institutional legitimacy. The theory postulates that even if AI results in improved judicial efficiency, consistency and quality of decisions, these technological developments may not improve judicial legitimacy unless judges, litigants, lawyers and society understand how artificial intelligence systems generate recommendations and how those recommendations affect judicial outcomes. Algorithmic transparency is thus the procedural safeguard through which the deployment of AI supports the conceptual framework of fairness, accountability and due process, and thus the legitimacy of judicial institutions (Tyler, 1990, 2006; Grimmelikhuijsen & Meijer, 2022).

The framework we propose is informed by Procedural Justice Theory and recent literature on artificial intelligence governance, explainable AI (XAI), algorithmic accountability and digital justice. The literature reviewed consistently shows that AI presents significant opportunities to modernise judicial administration through improving legal research, automating repetitive tasks, clearing case backlogs, and supporting evidence-based judicial decision-making (Fortes, 2020; Andriati et al., 2024). However, the literature equally points out that algorithmic bias, opacity of decision models, accountability gaps and limited explainability can undermine procedural justice and public trust in judicial institutions (Brożek et al., 2024; Diab et al., 2026). Based on the theoretical and empirical findings, the present framework suggests that algorithmic transparency mediates the effect of AI-based judicial decision-making on judicial legitimacy through explainability, auditability, accountability, and contestability. Transparency in artificial intelligence systems allows judges to critically assess algorithmic recommendations, litigants to understand the rationale behind AI-assisted decisions, judicial review and appeals to be conducted, and institutional accountability to be enhanced. Procedural justice is not achieved by substituting judicial reasoning, but by ensuring transparency, reviewability, and the subjugation of AI to judicial discretion. This theoretical integration contributes to the existing literature on the relationship between technological characteristics of AI, governance principles and public perceptions of judicial legitimacy, thus providing a holistic description of the relationship between responsible AI implementation and the increased confidence in contemporary judicial systems.

The proposed theoretical framework has important implications for practice for policymakers, judicial administrators, technology developers and legal practitioners. The framework stresses the need for policymakers to establish robust governance frameworks to ensure transparency, explainability, independent auditing and effective human control of standard artificial intelligence systems used in judicial institutions. The framework can be used by judicial administrators to develop procurement standards, operating procedures and ethical governance rules for AI-assisted courts. AI developers are also encouraged to build explainability, fairness, bias detection and accountability into system design, aligning technological innovation with constitutional principles, procedural justice and the rule of law. From an academic point of view, the framework contributes to the growing interdisciplinary literature on AI and law by providing a theoretically grounded explanation of the relationships between AI-driven judicial decision-making, algorithmic transparency and judicial legitimacy. The framework also provides a basis for future empirical research on the mediating role of algorithmic transparency by quantitative, qualitative or mixed methods in different legal systems and judicial contexts. Ultimately, the study finds that the successful use of AI in judicial decision-making is not only a technological issue but also a matter of the extent to which artificial intelligence systems are transparent, accountable to judicial authorities, and promote procedural justice, thus strengthening the legitimacy of the judiciary and public confidence in the justice system (Tyler, 2006; Grimmelikhuijsen & Meijer, 2022; Kim & Peng, 2025).

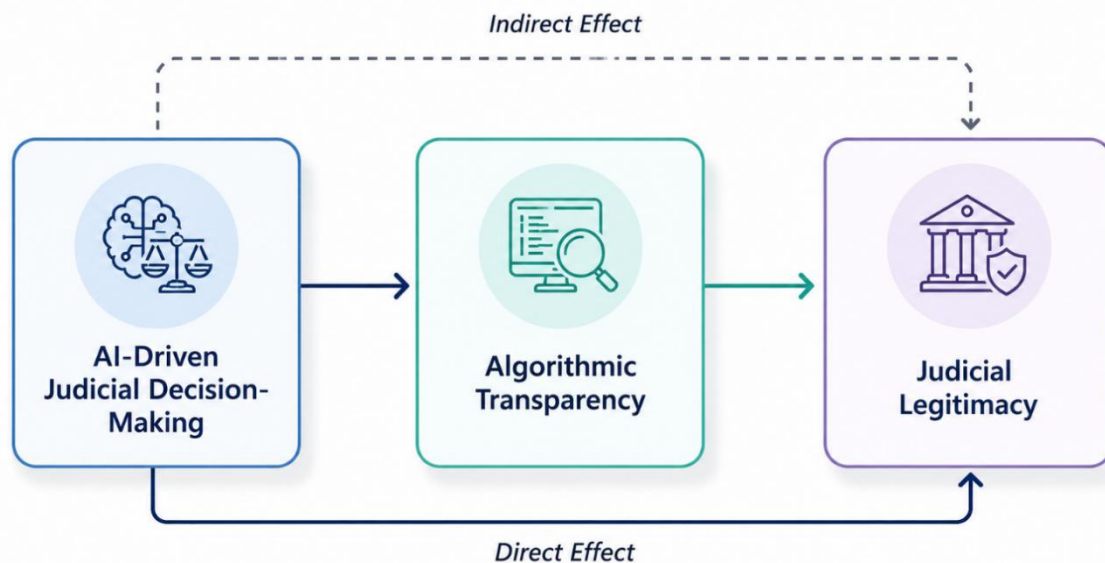


Figure 1: Proposed Conceptual Framework

Source: Developed by the author based on literature

Figure 1 shows the conceptual framework for this study. The framework is based on Procedural Justice Theory, which holds that AI-based judicial decision-making is the independent variable affecting judicial legitimacy, and algorithmic transparency is the conceptual mediator that explains the mechanism of this relationship. The framework proposes that the deployment of AI in judicial decision-making can support judicial legitimacy if the artificial intelligence systems are transparent, explainable and accountable to legal and judicial principles. Transparency of algorithms is thus expected to foster procedural fairness, increase public confidence and support the legitimacy of judicial institutions by making AI-supported decisions understandable, reviewable and in meaningful ways human-controlled. The proposed framework offers a theoretical underpinning for future empirical research to investigate the interrelationships among these constructs within the framework of AI-supported judicial systems.

AI-Driven Judicial Decision-Making Affects Judicial Legitimacy

Proposition 1 (P1): AI-driven judicial decision-making positively affects judicial legitimacy.

Artificial intelligence (AI) in judicial decision making is a major technological innovation that is transforming the administration of justice through improvements in judicial efficiency, consistency and access to legal services. AI applications like machine learning, natural language processing, predictive analytics, and intelligent decision-support systems could aid courts in automating routine legal procedures, conducting quicker legal research, analysing massive amounts of judicial data, and helping judges assess evidence and identify relevant precedents (Mehta et al., 2025; Prasetya & Sekti, 2026). These technology capabilities help reduce case backlogs, increase judicial productivity and increase consistency of legal outcomes, strengthening institutional performance. Furthermore, AI-enabled judicial systems can enhance access to justice through access to legal information and reduction of costs of litigation, especially in jurisdictions with limited judicial resources (Zubir & Azmi, 2026). From the perspective of Procedural Justice Theory (Tyler, 1990, 2006), judicial institutions are

likely to be perceived as legitimate when they provide consistent, efficient, impartial and reliable legal processes. AI-based judicial decision-making may improve the quality, speed and consistency of judicial services, and support judges in evidence-informed decisions, thus improving the judicial legitimacy without replacing judicial discretion.

However, the literature repeatedly argues that the effect of AI-based judicial decision-making on judicial legitimacy depends on whether artificial intelligence systems respect fundamental legal values such as fairness, accountability, transparency, and respect for due process. Algorithms trained on historical judicial data may unintentionally perpetuate systemic biases, resulting in discriminatory outcomes and diminishing public trust in judicial institutions (Diab et al., 2026; Sitepu et al., 2026). The opacity of algorithmic procedures also leads to uncertainty about who is responsible for incorrect or biased decisions and makes it difficult for litigants to understand, challenge or appeal AI-infused judicial decisions (Mustafa et al., 2025; Singh et al., 2026). Such concerns damage citizens' perceptions of judicial independence and procedural fairness and ultimately undermine judicial legitimacy. However, recent studies highlight that if artificial intelligence systems are deployed responsibly, with the support of robust governance frameworks, oversight by humans, ethical safeguards, and suitable regulatory instruments such as the European Union Artificial Intelligence Act, artificial intelligence can foster public trust in judicial institutions by enabling consistent, accountable, and evidence-based decision-making (Moreira et al., 2025; Nugeraha et al., 2025). Thus, the existing literature provides evidence that AI-driven judicial decision-making can affect judicial legitimacy, but the degree and kind of this association depend on the responsible deployment of AI in judicial systems.

AI-Driven Judicial Decision-Making Affects Algorithmic Transparency

Proposition 2 (P2): AI-driven judicial decision-making positively affects algorithmic transparency.

Artificial intelligence (AI) plays an integral part in modern judicial systems, aiding in legal research, evidence analysis, case management, predictive analytics, and judicial decision making. Artificial intelligence (AI) tools help courts in processing large volumes of legal information, reducing administrative workload, and increasing the uniformity of judicial outcomes (Mehta et al., 2025; Prasetya & Sekti, 2026). But the advent of AI has increased the importance of algorithmic transparency, since judicial decisions must be understandable, explainable and accountable for the rule of law to be maintained. "Court decision-making is different from many other AI applications because court decisions directly impact fundamental rights, legal obligations and public confidence in the justice system. The artificial intelligence systems used in courts should provide clear explanations of how the recommendations are made, what data is used and how the output of the algorithms fits into the judicial reasoning (Mustafa et al., 2025; Moreira et al., 2025). These developments also demonstrate the increasing embeddedness of AI in judicial decision-making and the growing focus on algorithmic transparency across the judicial process.

Algorithmic transparency has been posited in the literature for a long time as not only a desirable technical characteristic, but also a necessary governance mechanism for responsible implementation of AI in judicial systems. AI models are often complex 'black box' systems, making it difficult for judges, litigants and legal practitioners to understand the logic behind algorithmic recommendations or to assign responsibility when wrong or biased decisions are made (Diab et al., 2026; Singh et al., 2026). Such opacity might undermine confidence in AI-

assisted judicial decision-making and limit opportunities for meaningful judicial review and procedural fairness. In contrast, transparent artificial intelligence systems provide understandable explanations, enable independent audits, support legal accountability and give affected persons the power to oppose the outcome of algorithmic decisions, leading to greater confidence in AI-assisted adjudication (Handayani et al., 2026; Peng & Yu, 2025). Recent studies further emphasise that transparency should not be restricted to the release of technical source code but should also cover explainability, traceability, transparency of data sources, bias evaluation and meaningful human supervision throughout the entire AI lifecycle (Battineni et al., 2025; Singh et al., 2026). The greater the use of AI-based judicial decision-making, the higher the institutional demand for algorithmic transparency to ensure that artificial intelligence systems function in accordance with legal principles, ethical standards and procedural justice.

Algorithmic Transparency Affects Judicial Legitimacy

Proposition 3 (P3): Algorithmic transparency positively affects judicial legitimacy.

Algorithmic transparency matters for judicial legitimacy because courts are legitimate not only in that they produce legally correct outcomes, but because their procedures are understandable, reviewable and contestable. Transparency in AI-assisted adjudication entails the provision of meaningful information, such as the purpose of the system, sources of data, variables that influence the decision, limitations, reliability and the role of the AI system in the formation of a judicial decision. When litigants, lawyers, judges, and appellate bodies understand how an algorithmic recommendation was produced and how it influenced the eventual result, they are in a better position to evaluate its fairness, detect mistakes, and assert their rights to contest or appeal the decision. This transparency not only promotes the judicial duty to provide reasons but also reinforces the basic principles of due process, procedural fairness and accountability (Fortes, 2020; Kinchin, 2024). The Procedural Justice Theory suggests that the more neutral, respectful, trustworthy, and able to provide the affected parties a meaningful voice in decision-making procedures, the more likely individuals will perceive judicial institutions as legitimate (Tyler, 2006). Algorithmic transparency can thus enhance judicial legitimacy by ensuring that AI-assisted processes do not operate as inscrutable ‘black boxes’ and by demonstrating that judicial authority remains subject to legal scrutiny and human accountability.

However, algorithmic opacity may threaten the legitimacy of the judiciary even where an AI system is technically accurate or operationally efficient. If the affected parties don’t understand why certain evidence, characteristics or data points were used to make an adverse recommendation, they may not trust the decision. This is particularly the case in high-stakes areas such as sentencing, bail, risk assessment, and access to legal remedies. Moreover, the opacity of algorithmic reasoning may conceal discriminatory patterns, hinder accountability for incorrect decisions, and reduce opportunities for meaningful judicial review (Brožek et al., 2024). Studies of algorithmic decision-making have shown that legitimacy is compromised when automated systems diminish participation, accountability, transparency, or perceived fairness of institutional processes. Thus, legal safeguards, independent oversight, stakeholder engagement and contestation mechanisms ensure institutional acceptance. Evidence on automation in courts suggests that public perceptions vary depending on how and when algorithms are deployed, suggesting that acceptance is a matter of procedural arrangements, not technological performance (Barysé & Sarel, 2024). Thus, meaningful transparency, including understandable explanations, auditability, disclosure of limitations, and ongoing

oversight by humans, can help ensure confidence that AI-assisted decisions are fair, lawful, and accountable.

The Mediating Role of Algorithmic Transparency

Proposition 4 (P4): Algorithmic transparency mediates the relationship between AI-driven judicial decision-making and judicial legitimacy.

AI-powered judicial decision-making can improve the administration of justice by saving the time of legal research, processing large amounts of evidence, helping in case assessment, relieving court backlogs and encouraging greater consistency across similar cases. But these operational advantages do not necessarily mean greater judicial legitimacy. Judicial authority is not simply a matter of the efficiency or correctness of outcomes, but whether those outcomes are produced by procedures that are fair, intelligible, reviewable, and consistent with due-process requirements. Opaque artificial intelligence systems, in which judges, litigants and lawyers cannot see how particular data, assumptions or variables influenced an algorithmic recommendation, may undermine these procedural qualities. This opacity can conceal errors and patterns of discrimination, raise questions of accountability, and inhibit the ability of affected individuals to challenge the grounds of an AI-assisted decision. Moreover, research shows that public acceptance of judicial automation is dependent on the procedural design of human–AI decision-making, not only on technological capability, because they vary by the stage of the algorithm’s use (Barysè & Sarel, 2024). Thus, AI-based judicial decision-making can enhance judicial legitimacy only if it is accompanied by mechanisms that preserve reasoning, contestability, accountability and effective judicial control, in addition to the efficiencies it provides (Fortes, 2020; Socol de la Osa & Remolina, 2024).

Algorithmic transparency is the way AI-infused judicial decision-making can become perceptions of fair and legitimate judicial authority. Transparency means that those stakeholders concerned can see what an AI system is for, what information it uses, what its limits are and to what extent its output influenced the final decision. It could also be a control on the use of AI and help independent audits, uncover possible bias, explain the division of responsibilities between judges and technology providers and allow litigants to exercise their rights to explanation, review and appeal. In this sense, transparency also adds to the procedural qualities stressed by Procedural Justice Theory: neutrality, trustworthiness, voice and accountable decision-making. Kinchin (2024) argues that procedural justice and meaningful voice, including transparency and the right to be heard, are necessary for legitimacy for algorithmic decisions. Similarly, Grimmelikhuijsen and Meijer (2022) identify opacity, limited participation and weak accountability as important threats to the legitimacy of algorithmic decision-making. Brožek et al. (2024) demonstrate that automated legal systems have “black box” features that raise serious challenges for legal scrutiny and justification. Algorithmic transparency therefore mediates the proposed relationship by explaining how AI adoption impacts judicial legitimacy: transparent implementation can translate technological efficiency into trust, procedural fairness, and institutional acceptance, while opaque implementation may prevent those benefits from enhancing legitimacy, or may even promote distrust.

Conclusion

This conceptual paper proposes a theoretically grounded framework, based on Procedural Justice Theory, to examine the relationship between AI-driven judicial decision-making, algorithmic transparency and judicial legitimacy. The literature review shows that AI has a huge potential to enhance judicial efficiency, consistency, legal research, case management and access to justice. The results also show that these technological benefits alone are not enough to foster judicial legitimacy, unless the artificial intelligence systems are transparent, explainable, accountable and ethically responsible. On this basis, the study hypothesises that the role of AI-driven judicial decision-making in improving judicial legitimacy is mediated by the critical mediating mechanism of algorithmic transparency. In principle, the research contributes to the growing interdisciplinary literature on artificial intelligence, law and judicial governance, by integrating perspectives from technological, legal, and procedural justice into a broad conceptual framework explaining the effect of transparency on public acceptance of AI-assisted judicial processes. From a practical perspective, the proposed framework offers useful directions for policymakers, judicial administrators, technology developers and legal practitioners, emphasising the significance of integrating explainability, fairness, human supervision, accountability and robust governance mechanisms into the development and deployment of judicial artificial intelligence (AI) systems. Nevertheless, these contributions are not without some limitations. The relationships proposed are based on existing theoretical and academic evidence but have not been empirically validated as this is a conceptual paper using a narrative literature review. Moreover, the review is mainly based on English publications indexed in the Scopus database and may not include relevant studies published in other databases or languages. Future research should empirically test the proposed framework in different legal systems and judicial contexts in quantitative, qualitative or mixed-method approaches. Other variables mediating or moderating the effect of AI on judicial legitimacy could be explored by researchers such as explainable AI, judicial trust, ethical AI governance, oversight by humans, perceived procedural fairness and public trust. Cross-country comparative studies and longitudinal studies would also provide deeper insights into the importance of regulatory environments, legal traditions and technological maturity in the successful integration of AI into judicial systems.

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References

- Al Azri, R. H., Al Saadi, S. H. R., Al Batahari, M., & Ghazal, T. M. (2025). *Ethics and bias detection in sentencing decisions through AI*. In *Proceedings of the 3rd International Conference on Business Analytics for Technology and Security (ICBATS 2025)*. <https://doi.org/10.1109/ICBATS66542.2025.11258394>
- Andriati, S. L., Rizki, I. K., & Malian, A. N. B. M. (2024). Justice on trial: How artificial intelligence is reshaping judicial decision-making. *Journal of Indonesian Legal Studies*, 9(2), 909–942. <https://doi.org/10.15294/jils.v9i2.13683>
- Arias, R. (2026). Artificial intelligence in the justice system: A comprehensive analysis. In *Lecture Notes in Networks and Systems* (Vol. 1564, pp. 374–384). Springer. https://doi.org/10.1007/978-3-032-04581-2_26
- Battineni, G., Chougule, S. N., Kataria, A., & Goyal, L. M. (2025). Navigating ethics and legalities in artificial intelligence: Challenges, frameworks, and future directions. In *Studies in Computational Intelligence* (Vol. 1234, pp. 293–315). Springer. https://doi.org/10.1007/978-981-95-2129-6_12
- Cano, C. A. G. (2025). Research, ethics and artificial intelligence challenges and opportunities. In *Lecture Notes in Networks and Systems* (Vol. 1353, pp. 487–497). Springer. https://doi.org/10.1007/978-3-031-88304-0_68
- Davis, A. E. (2020). The future of law firms (and lawyers) in the age of artificial intelligence. *Revista Direito GV*, 16(1). <https://doi.org/10.1590/2317-6172201945>
- Diab, M. F. S., Hamad, O. M. A. E., Alhamdan, A. S., Malik, M. B. M., & Alazzam, M. B. (2026). Artificial intelligence in judicial decision-making: Ethical and legal considerations. *AIP Conference Proceedings*, 3414(1), Article 080016. <https://doi.org/10.1063/5.0330566>
- Gallo Aguila, C. I., Castro Arellano, M. D. P., Quezada Castro, M. D. P., Mondragón, E. M. B., & Quezada Castro, G. A. (2024). Examining artificial intelligence and law as a tool for legal service, decision-making, job transformation, and ethical performance. *Journal of Internet Services and Information Security*, 14(3), 99–115. <https://doi.org/10.58346/JISIS.2024.I3.006>
- Greenstein, S. (2022). Preserving the rule of law in the era of artificial intelligence (AI). *Artificial Intelligence and Law*, 30(3), 291–323. <https://doi.org/10.1007/s10506-021-09294-4>
- Herke, H. C., & Szabó, B. (2024). Self-driving vehicles and their impact on the European Convention on Human Rights. *Journal of Human Rights, Culture and Legal System*, 4(3), 872–900. <https://doi.org/10.53955/jhcls.v4i3.376>
- Huseynov, I. (2025). The role of artificial intelligence in the regulation of financial liabilities in international law. *Studia Iuridica Lublinensia*, 34(2), 407–417. <https://doi.org/10.17951/sil.2025.34.2.407-417>
- Izzat, W. (2026). Compensation for damage caused by the use of artificial intelligence application. In *Studies in Systems, Decision and Control* (Vol. 659, pp. 1225–1237). Springer. https://doi.org/10.1007/978-3-032-15820-8_99
- Jamilya, P., & Karligash, U. (2024). Legal challenges of using artificial intelligence in corporate governance in post-Soviet countries. In *Lecture Notes in Networks and Systems* (Vol. 1004, pp. 377–384). Springer. https://doi.org/10.1007/978-981-97-3305-7_31
- Kelly, C. J., Karthikesalingam, A., Suleyman, M., Corrado, G., & King, D. (2019). Key challenges for delivering clinical impact with artificial intelligence. *BMC Medicine*, 17(1), Article 195. <https://doi.org/10.1186/s12916-019-1426-2>

- Khan, A. (2024). The intersection of artificial intelligence and international trade laws: Challenges and opportunities. *IJUM Law Journal*, 32(1), 103–152. <https://doi.org/10.31436/ijumlj.v32i1.912>
- Kim, T., & Peng, W. (2025). Do we want AI judges? The acceptance of AI judges' judicial decision-making on moral foundations. *AI & Society*, 40(5), 3683–3696. <https://doi.org/10.1007/s00146-024-02121-9>
- Kumar, P., Mishra, M., Kulshreshtha, P., Roy, R. N., & Balyan, S. (2025). Future of law in the midst of *Homo sapiens* and *Machina sapiens*. *Kutafin Law Review*, 12(3), 512–544. <https://doi.org/10.17803/2713-0533.2025.3.33.512-544>
- Lal, S., Singh, B., Arora, M. K., Kaunert, C., & Raghav, A. (2025). Role of artificial intelligence in modernizing and transforming the judicial systems and the International Court of Justice. In *Artificial Intelligence in Peace, Justice, and Strong Institutions* (pp. 233–255). IGI Global. <https://doi.org/10.4018/979-8-3693-9395-6.ch011>
- Mark, D., McInerney, T., & Morison, J. (2024). Regulating automated decision-making in the justice system: What is the problem? In *Handbook on Public Policy and Artificial Intelligence* (pp. 339–352). Edward Elgar Publishing. <https://doi.org/10.4337/9781803922171.00034>
- Mehta, R., Jindal, P. K., Goyal, S., & Mehta, N. (2025). Study of artificial intelligence and its impact on legal world. *AIP Conference Proceedings*, 3261(1), Article 220027. <https://doi.org/10.1063/5.0263699>
- Moreira, N. A., Freitas, P. M., & Novais, P. (2025). Towards transparent AI: How will the AI Act shape the future? In *Lecture Notes in Artificial Intelligence* (Vol. 14967, pp. 296–307). Springer. https://doi.org/10.1007/978-3-031-73497-7_24
- Mustafa, S. M. N., Tahir, M., Asif, R., & Siddiqui, M. A. (2025). Accessing legal implications of machine learning and decision algorithms in judicial decision systems. In *Proceedings of the 8th International Multi-Topic ICT Conference (IMTIC 2025)*. <https://doi.org/10.1109/IMTIC68267.2025.11520544>
- Nugeraha, Z. A. D., Marisa, D., Ayunistia, S., & Baan, B. B. (2025). Artificial intelligence (AI) as a tool to aid decision making in criminal justice: Efforts to uphold impartiality and independence of Indonesian judges. *Engineering Proceedings*, 107(1), Article 103. <https://doi.org/10.3390/engproc2025107103>
- Obermeyer, Z., Powers, B., Vogeli, C., & Mullainathan, S. (2019). Dissecting racial bias in an algorithm used to manage the health of populations. *Science*, 366(6464), 447–453. <https://doi.org/10.1126/science.aax2342>
- Parwez, Z. (2025). Justice in virtual worlds: Ethical dilemmas of AI and 3D printing in the metaverse. In *3D Printing and Digital Twins in Smart Agriculture* (pp. 51–70). IGI Global. <https://doi.org/10.4018/979-8-3373-7077-4.ch003>
- Peng, W., & Yu, B. (2025). 5 steps for enterprise artificial intelligence governance and compliance. In *Lecture Notes in Computer Science* (Vol. 15422, pp. 88–104). Springer. https://doi.org/10.1007/978-3-031-77088-3_7
- Pham, T. (2025). Ethical and legal considerations in healthcare AI: Innovation and policy for safe and fair use. *Royal Society Open Science*, 12(5), Article 241873. <https://doi.org/10.1098/rsos.241873>
- Prakash, P., Kumar, V., Kaur, K., Srivastava, N., Sarkar, S., & Kumar, S. (2024). Sustainability of managing complex psychology in AI and legal decision making. In *International Conference on Intelligent and Innovative Practices in Engineering and Management (IIPEM 2024)*. <https://doi.org/10.1109/IIPEM62726.2024.10925694>
- Raghav, A., Janjua, L. R., Lal, S., Arora, M. K., & Hammouch, H. (2025). Artificial intelligence for strengthening the rule of law and justice delivery system. In *Artificial Intelligence*

- in Peace, Justice, and Strong Institutions* (pp. 47–65). IGI Global. <https://doi.org/10.4018/979-8-3693-9395-6.ch003>
- Rodrigues, R. (2020). Legal and human rights issues of AI: Gaps, challenges and vulnerabilities. *Journal of Responsible Technology*, 4, Article 100005. <https://doi.org/10.1016/j.jrt.2020.100005>
- Safdari, A., Shatawi, H. H., Abed, R., Al-Hameed, M. R., Kareem, M., & Lafta, H. F. (2026). Explainable AI for legal document retrieval: Enhancing transparency in judicial information systems. In *2026 Innovations in Machine, Engineering, and Digital Conference (IMED 2026)*. <https://doi.org/10.1109/IMED68921.2026.11484338>
- Sitepu, R. I., Wulansari, C. D., & Sitepu, A. E. S. B. (2026). AI and judicial decision-making: A systematic review of applications and ethical consideration. *AIP Conference Proceedings*, 3432(1), Article 030055. <https://doi.org/10.1063/5.0331343>
- Úlehlová, S. (2025). Artificial intelligence in civil judicial proceedings: Legal boundaries and practical challenges. *Lawyer Quarterly*, 15(4), 539–556.
- Zozuliak, O. I., Zelisko, A. V., Bashurn, N. Y., & Albu, A. A. (2023). Artificial intelligence as an object of civil law regulation. *Revista Jurídica Portucalense*, (34), 283–299. [https://doi.org/10.34625/issn.2183-2705\(34\)2023.ic-14](https://doi.org/10.34625/issn.2183-2705(34)2023.ic-14)
- Zuhair, M., Kadhim, K., Abdulrahman, S. A. R., Hussan, A. O., Sharad, A., & Voronezhskiy, K. (2026). Artificial intelligence in criminal justice: Examining legal, ethical, and social impacts. In *Communications in Computer and Information Science* (Vol. 2854, pp. 611–622). Springer. https://doi.org/10.1007/978-3-032-17020-0_39