



Artificial Intelligence (AI) in Judicial Decision-Making: A Comparative Legal Study of Indonesia and Selected Jurisdictions through the Lens of *Maqāṣid al-Sharī'ah*

Dio Sumantri¹; Iffatin Nur²; Reni Dwi Puspitasari²; Muhammad Thufaili Ubaidillah³

¹ Office of Regency Attorney, Blitar, Indonesia

² Universitas Islam Negeri (UIN) Sayyid Ali Rahmatullah Tulungagung, Indonesia

³ Institut Al-Fithrah (IAF) Surabaya, Indonesia

DOI: <http://dx.doi.org/10.18415/ijmmu.v13i9.7594>

Abstract

This article examines the use of Artificial Intelligence (AI) in judicial decision-making from the perspectives of comparative law and *maqāṣid al-sharī'ah*. The rapid development of AI technologies has encouraged courts in various jurisdictions to adopt algorithmic tools for legal research, document analysis, case management, and decision support. While these technologies offer significant opportunities for improving judicial efficiency and consistency, they also raise concerns regarding judicial independence, transparency, accountability, and algorithmic bias. This study employs normative legal research using conceptual, statutory, comparative, and *maqāṣid al-sharī'ah* approaches. It analyses the experiences of Indonesia, Singapore, Estonia, China, and the European Union in integrating AI into judicial systems. The findings indicate that AI can contribute to faster and more efficient judicial processes when accompanied by adequate regulatory safeguards and human oversight. From the perspective of *maqāṣid al-sharī'ah*, AI utilization in judicial processes may promote public welfare (*maṣlahah*) through improved access to justice and procedural efficiency. However, the principles of justice (*'adālah*), protection of intellect (*hifẓ al-'aql*), protection of life (*hifẓ al-naḥs*), and protection of property (*hifẓ al-māl*) require that AI remain a decision-support instrument rather than an autonomous decision-maker. The article proposes a *maqāṣid*-oriented regulatory framework for Indonesia based on human-centered AI, explainability, accountability, and judicial oversight. It further highlights the need for future empirical research examining judicial acceptance, public trust, and the practical implementation of AI-assisted decision-making within court systems.

Keywords: Artificial Intelligence (AI); AI-Assisted Judicial Decision-Making; Comparative Legal Study; *Maqāṣid Al-Sharī'ah*; *Maqāṣid*-Oriented Regulatory Framework

Introduction

The rapid development of Artificial Intelligence (AI) has transformed numerous sectors of modern society, including healthcare, education, finance, public administration, and legal services. Recent advances in machine learning, natural language processing, and generative AI have significantly enhanced the capacity of computer systems to perform tasks traditionally associated with human intelligence, such as data analysis, prediction, reasoning, and decision support (Russel & Norvig, 2022). Consequently, governments and public institutions across the world have increasingly explored the use of AI to improve administrative efficiency, reduce operational costs, and enhance the quality of public services (Organisation for Economic Co-operation and Development (OECD), 2025). Within the legal sector, AI has emerged as one of the most disruptive technological innovations, creating both unprecedented opportunities and complex regulatory challenges (Gutiérrez, 2025; Yu, 2025).

The judicial sector has become one of the most prominent areas for AI adoption (Fabri, 2024). Since 2016, the European Commission for the Efficiency of Justice (CEPEJ) has developed important reference texts concerning the implementation of digital justice in the judicial systems of the member States of the Council of Europe (Civinini, 2024). Courts in several jurisdictions have begun employing AI-powered technologies to support legal research, document review, case

management, sentencing recommendations, and predictive analytics (The European Commission for the Efficiency of Justice (CEPEJ), 2019). Proponents argue that AI can contribute to greater efficiency, consistency, and accessibility within judicial systems, particularly in jurisdictions struggling with excessive caseloads and procedural delays (Fine *et al.*, 2025). In Singapore, AI-assisted legal technologies have been integrated into various aspects of judicial administration and dispute resolution (Ministry of Law of Singapore, 2026), while Estonia has explored automated systems for resolving low-value claims (Dolidze, 2026). China has advanced even further through its development of “Smart Courts,” where AI technologies are utilized to assist judges in managing and analysing cases (Chen, 2026). Meanwhile, the European Union has adopted a more cautious approach, emphasizing human oversight, transparency, and accountability through its emerging regulatory framework for trustworthy AI (Sourdin, 2018).

Despite the potential benefits offered by AI, its integration into judicial decision-making remains highly contested. Unlike administrative decision-making, judicial adjudication involves not only the application of legal rules but also moral reasoning, contextual interpretation, discretion, and the balancing of competing interests (Princes *et al.*, 2025). Critics argue that excessive reliance on algorithmic systems may undermine judicial independence and reduce complex legal disputes to technical calculations. Furthermore, concerns have been raised regarding algorithmic bias, lack of transparency, explainability, due process, and accountability (Idris & Kossay, 2025). The widespread use of “black box” algorithms may prevent judges, litigants, and the public from understanding how certain recommendations or outcomes are generated, thereby weakening public trust in judicial institutions (Arbani, 2025; O’Neil, 2016).

These concerns have become increasingly relevant in Indonesia. During the last decade, the Indonesian judiciary has undertaken significant digital transformation through initiatives such as e-Court and e-Litigation, introduced by the Supreme Court to modernize judicial administration and improve access to justice (Putra, 2020; The Supreme Court of Indonesia, 2022). These reforms have demonstrated the judiciary’s willingness to embrace technological innovation. Nevertheless, the use of AI as a decision-support mechanism in judicial processes remains largely unexplored and insufficiently regulated. Indonesia currently lacks a comprehensive legal framework governing AI generally, *let alone* its application within judicial institutions (Arbani, 2025; Hidayat & Muis, 2025). Consequently, important questions remain regarding the permissible scope of AI-assisted adjudication, accountability mechanisms, data governance, and safeguards for judicial independence (Badan Pengkajian dan Penerapan Teknologi (BPPT), 2020).

The absence of clear regulatory guidance is particularly problematic because judicial decisions directly affect fundamental rights and obligations (Dworkin, 1986; Rawls, 1999). Errors arising from algorithmic recommendations may have significant consequences for individual liberty, property rights, and access to justice (Gans-Combe, 2022). While AI may enhance efficiency and consistency, judicial legitimacy ultimately depends on public confidence that legal decisions are reached through fair, transparent, and accountable processes (Arbani, 2025; Dolidze, 2026). Therefore, discussions concerning AI in judicial decision-making should not be confined to technical or administrative considerations but must also engage broader ethical and normative questions regarding justice and human responsibility (Organisation for Economic Co-operation and Development (OECD), 2019; UNESCO, 2021).

From the perspective of Islamic legal thought, these normative concerns may be examined through the framework of *maqāṣid al-sharī’ah*. Traditionally developed by scholars such as Al-Juwaynī, Al-Ghazālī, and Al-Shāṭibī, and subsequently expanded by contemporary scholars such as Jasser Auda, *maqāṣid al-sharī’ah* seeks to identify the higher objectives and purposes underlying Islamic law. These objectives generally include the protection of religion (*ḥifẓ al-dīn*), life (*ḥifẓ al-nafs*), intellect (*ḥifẓ al-‘aql*), lineage (*ḥifẓ al-nasl*), and property (*ḥifẓ al-māl*) (Al-Ghazālī, 2007; Al-Juwaynī, 1998; Al-Shāṭibī, 2003). Contemporary *maqāṣid* scholarship has further emphasized values such as justice, human dignity, public welfare, transparency, and good governance (Auda, 2008; Kamali, 2017). As a normative framework oriented toward human well-being and social justice, *maqāṣid al-sharī’ah* offers a valuable lens through which emerging legal technologies may be evaluated (Nur, Abdul Wakhid, *et al.*, 2020; Nur, Adam, *et al.*, 2020).

Literature Review

Several scholars have recently explored the relationship between AI and Islamic legal ethics (Dhiyaulhaq & Prabowo, 2026; Musataklima *et al.*, 2025; Rosidi, 2024). Existing studies have examined the ethical legitimacy of AI-assisted consumer dispute resolution (Alessa, 2022; Rajendra & Thuraisingam, 2022; Sulistianingsih *et al.*, 2023), the regulation of AI from *maqāṣid* perspectives (Basri, 2025; Dhiyaulhaq & Prabowo, 2026; Habib, 2025; Musataklima *et al.*, 2025; Rafikov, 2025; Rosidi, 2024), and broader questions concerning AI governance in Muslim societies (Basri, 2025; Fikri *et al.*, 2026; Hidayat & Muis, 2025; Idris & Kossay, 2025). These studies generally conclude that AI may be utilized when

it promotes public welfare and prevents harm. However, the existing literature has primarily focused on administrative services, online dispute resolution, consumer protection, or general AI governance (Anugrah *et al.*, 2025; Fernando & Anditya, 2024). Comparatively, little attention has been devoted to AI-assisted judicial decision-making, particularly through a comparative legal analysis involving jurisdictions that have already implemented AI technologies within judicial institutions (Al-Obeidi & Al-Mulla, 2022; Maskanah, 2025).

Research Gap

Accordingly, a significant research gap remains concerning how comparative experiences of AI-assisted adjudication may inform the future development of Indonesian judicial policy and whether such technologies can be justified from the perspective of *maqāṣid al-sharī'ah*. Existing studies have not adequately integrated comparative legal analysis with normative Islamic legal evaluation, nor have they proposed a comprehensive framework for regulating AI-assisted judicial decision-making in Indonesia. This gap is particularly important given the global trend toward judicial digitalization and the growing demand for efficient, accessible justice systems (Fernando & Anditya, 2024).

This article seeks to address that gap by examining the use of AI in judicial decision-making through a comparative study of Indonesia, Singapore, Estonia, China, and the European Union. It further evaluates the opportunities and challenges associated with AI-assisted adjudication through the lens of *maqāṣid al-sharī'ah* and proposes a normative framework for future regulatory development in Indonesia. The article argues that AI may be legitimately employed as a judicial decision-support tool under meaningful human supervision, but that fully autonomous judicial decision-making is inconsistent with the principles of justice, accountability, and public welfare embodied within *maqāṣid al-sharī'ah*.

Methodology

This study employs normative legal research (doctrinal legal research) (Taekema & van der Burg, 2024), which examines legal norms, principles, doctrines, and regulatory frameworks relevant to the use of Artificial Intelligence (AI) in judicial decision-making. Normative legal research focuses on the systematic examination of legal norms, doctrines, principles, and legal reasoning to formulate prescriptive legal arguments and recommendations (Hutchinson, 2025; Van Gestel, 2022). Normative legal research is particularly appropriate because the study primarily focuses on evaluating legal concepts, regulatory approaches, and normative principles governing the integration of AI within judicial systems rather than measuring empirical phenomena. The research seeks to assess the compatibility of AI-assisted judicial decision-making with legal principles and *maqāṣid al-sharī'ah*, and to formulate recommendations for future regulatory development in Indonesia.

The study utilizes four complementary approaches. First, the statutory approach (statute approach) is employed to examine legislation, judicial regulations, policy frameworks, and international regulatory instruments related to AI governance and judicial administration. Second, a conceptual approach (conceptual approach) is employed to analyse the theoretical foundations of AI-assisted judicial decision-making. This approach facilitates the examination of legal concepts such as judicial independence, due process, transparency, accountability, algorithmic fairness, explainability, and access to justice. Third, the study adopts a comparative legal approach (Siems, 2022) to examine the utilization of AI in judicial systems across selected jurisdictions by comparing Indonesia with Singapore, Estonia, China, and the European Union. Through comparative analysis, the study identifies similarities, differences, opportunities, and challenges associated with AI-assisted judicial decision-making and extracts lessons that may inform future legal reforms in Indonesia. Fourth, the study employs a *maqāṣid al-sharī'ah* approach to evaluate the normative legitimacy of AI utilization in judicial decision-making. This approach treats *maqāṣid* not merely as ethical ideals but as an analytical framework for assessing whether legal and technological developments promote justice, public welfare, human dignity, and the protection of fundamental interests.

The analysis draws upon both classical and contemporary *maqāṣid* scholarship. Classical formulations developed by Al-Ghazālī (2007), Al-Juwaynī (1998), and Al-Shāṭibī (2003) are utilized to examine the protection of religion (*ḥifẓ al-dīn*), life (*ḥifẓ al-naḥs*), intellect (*ḥifẓ al-ʿaql*), lineage (*ḥifẓ al-nasl*), and property (*ḥifẓ al-māl*). Furthermore, the contemporary systems approach developed by Jasser Auda (2008) and Muhammad Hasyim Kamali (2017) is employed to assess broader objectives such as justice, human dignity, transparency, accountability, and public welfare (*maṣlaḥah*). This framework enables a normative assessment of whether AI-assisted adjudication promotes or undermines the higher objectives of Islamic law.

Data Collection

The legal materials utilized in this study consist of primary and secondary legal materials. Primary legal materials include legislation, judicial regulations, policy documents, international regulatory instruments, and official guidelines relating to AI governance and judicial administration. Secondary legal materials include academic books, peer-reviewed journal articles, conference papers, research reports, and other scholarly publications that discuss artificial intelligence, judicial decision-making, comparative law, legal ethics, and *maqāṣid al-sharī'ah*. Relevant literature is identified through library research and electronic database searches, including Scopus-indexed journals, legal databases, and institutional reports published by international organizations.

Data Analysis

The collected legal materials are analysed using qualitative prescriptive analysis. Prescriptive analysis is intended not only to describe existing legal norms but also to formulate normative recommendations regarding the future regulation of AI-assisted judicial decision-making in Indonesia (Alexy *et al.*, 2009; Efendi & Ibrahim, 2018). The analysis begins with identifying and categorizing legal norms, concepts, and regulatory approaches relating to AI-assisted judicial decision-making. Comparative findings from the selected jurisdictions are subsequently synthesized to identify common patterns and regulatory trends. These findings are then evaluated through the analytical framework of *maqāṣid al-sharī'ah* to assess their normative implications. Finally, based on the comparative and *maqāṣid*-based analyses, the study formulates recommendations for a human-centred and *maqāṣid*-oriented regulatory framework governing the future use of AI in Indonesian judicial decision-making.

Findings

Comparative Experiences of AI in Judicial Decision-Making

The integration of Artificial Intelligence (AI) into judicial systems has developed unevenly across jurisdictions (Hidayat & Muis, 2025; Princes *et al.*, 2025). While some countries have adopted AI primarily as an administrative support tool, others have experimented with more sophisticated applications involving legal analytics, case prediction, and adjudicative assistance (Han *et al.*, 2024). Examining these experiences is important for understanding both the opportunities and limitations of AI-assisted judicial decision-making and for identifying regulatory models that may inform future reforms in Indonesia. A brief comparison is shown in Table 1.

Table 1. Comparative Overview of Judicial AI

Jurisdiction	Current AI Utilization	Judicial Role of AI	Regulatory Orientation	Main Lesson for Indonesia
Indonesia	Limited	Administrative support	Emerging	Need a comprehensive framework
Singapore	Moderate-High	Decision support	Innovation-friendly	Controlled innovation
Estonia	Moderate	Small-claim automation	Digital governance	Efficient automation
China	High	Extensive judicial assistance	State-driven	Scale and efficiency
European Union	Moderate	Human-supervised assistance	Rights-based	Strong safeguards

Indonesia

Indonesia has undertaken substantial judicial digitalization through the introduction of e-Court and e-Litigation systems administered by the Supreme Court (Putra, 2020; The Supreme Court of Indonesia, 2022). These initiatives have significantly improved procedural efficiency, electronic filing, virtual hearings, and case administration. However, the use of AI remains largely limited to administrative and informational functions. No comprehensive framework currently governs AI-assisted judicial decision-making, and Indonesian courts have not formally adopted algorithmic tools for judicial reasoning, sentencing recommendations, or predictive adjudication. Consequently, Indonesia remains at an early stage of AI integration within judicial institutions (Arbani, 2025; Setiawan *et al.*, 2025).

Singapore

Singapore is widely regarded as one of the leading jurisdictions in judicial digitalization and legal technology innovation (Ministry of Law of Singapore, 2026). Through initiatives supported by the Singapore judiciary and the Singapore Academy of Law, AI technologies have been utilized for legal research, document review, case management, and legal analytics. The Singaporean approach emphasizes practical innovation while maintaining meaningful human oversight (Akhlaghi, 2025; Lim Fang-Zhou & Tan, 2025). Rather than replacing judicial reasoning, AI serves as a tool to



enhance efficiency, consistency, and access to legal information (Ministry of Law of Singapore, 2026; Remolina, 2025). The Singaporean model asserts striking a balance between free and open innovation and proactively managing the risks that arise from these new technologies. Rather than enact legislation to govern AI, the model highlights the importance of industry self-governance, responsibility, and accountability in managing the risks posed by AI (Loo & Findlay, 2025).

Estonia

Estonia has become internationally recognized for its extensive digital governance infrastructure (Wardana & Setiyawan, 2025). Within the justice sector, Estonia has explored automated systems for resolving low-value disputes and has integrated digital technologies into judicial administration (Feklistov, 2026). Although judicial authority remains vested in human judges, Estonia demonstrates how algorithmic systems may assist routine dispute resolution while preserving legal accountability and procedural safeguards. The official Artificial Intelligence Action Plan for 2024-2026 stresses the importance of legal protections to guarantee the ethical application of AI. Meanwhile, the Court Development Plan 2024-2030 outlines a phased rollout of AI. Rather than replacing judges, these plans aim to gradually introduce AI as a support tool to speed up administrative tasks, manage legal documents, and improve legal research (Interoperable Europe, 2024).

China

China represents one of the most advanced examples of AI integration within judicial institutions (Tahura & Selvadurai, 2021). Through the development of Smart Courts, Chinese courts employ AI-assisted technologies for document generation, legal research, case analysis, evidence management, and sentencing support. AI systems are designed to improve judicial consistency and reduce case-processing times (Shi *et al.*, 2021). However, concerns have emerged regarding transparency, judicial discretion, algorithmic accountability, and the concentration of technological authority within judicial institutions (Tahura & Selvadurai, 2021).

European Union

The European Commission launched the Digital Europe Programme to drive digital transformation and cybersecurity, complementing the 35 European countries already advancing digital public services according to the 2022 e-Government Benchmark report (Yang *et al.*, 2024). Meanwhile, the European Union has adopted a distinctly precautionary and rights-oriented approach to AI governance (Hulok, 2025). Rather than prioritizing technological deployment alone, EU institutions emphasize human-centred AI, transparency, explainability, accountability, and fundamental rights protection (Wittmann & Meynhardt, 2025).

The European Ethical Charter on the Use of Artificial Intelligence in Judicial Systems and the EU AI Act establish safeguards intended to ensure that AI supports rather than replaces judicial decision-making (The European Commission for the Efficiency of Justice (CEPEJ), 2019; The European Union (EU), 2024). Consequently, the EU model offers one of the most comprehensive regulatory frameworks for balancing innovation and legal legitimacy (Hulok, 2025).

Discussion

Opportunities and Challenges of AI-Assisted Judicial Decision-Making

The comparative analysis demonstrates that Artificial Intelligence (AI) is increasingly viewed as a strategic instrument for improving judicial administration and enhancing access to justice. Although the level of AI integration varies considerably across jurisdictions, a common trend is evident: courts are increasingly using AI not as a substitute for judges but as a tool to support legal processes, improve efficiency, and facilitate decision-making (Arbani, 2025; Civinini, 2024). This development reflects broader efforts to modernize judicial institutions in response to growing caseloads, limited resources, and rising public expectations for the delivery of justice (Putra, 2020). Table 2 highlights the strengths and risks of AI utilization in Indonesia and some other countries.

Table 2. Comparative Strengths and Risks

Jurisdiction	Major Strength	Principal Risk
Indonesia	Flexibility to design a new framework	Regulatory vacuum
Singapore	Efficiency and innovation	Overdependence on technology
Estonia	Fast dispute resolution	Limited applicability to complex cases
China	High operational efficiency	Transparency concerns
European Union	Strong rights protection	Regulatory complexity

1. Opportunities of AI-Assisted Judicial Decision-Making

One of the most frequently cited advantages of AI within judicial systems is its capacity to improve efficiency. Courts throughout the world continue to face challenges associated with excessive workloads, procedural complexity, and case backlogs (Susskind, 2019). AI-assisted technologies can process large volumes of legal documents within a significantly shorter period than human personnel, thereby reducing administrative burdens and accelerating case management (Dolidze, 2026; Selçuk *et al.*, 2025). Applications such as automated document classification, legal research assistance, evidence organization, and case scheduling enable courts to allocate resources more effectively and reduce procedural delays (Civinini, 2024). Experiences from Singapore, Estonia, and China suggest that AI-supported judicial administration may contribute substantially to institutional efficiency without diminishing judicial authority (Feklistov, 2026; Interoperable Europe, 2024; Lim Fang-Zhou & Tan, 2025; Organisation for Economic Co-operation and Development (OECD), 2024; Shi *et al.*, 2021).

A second advantage concerns consistency in judicial decision-making. Human adjudication inevitably involves variations in reasoning, interpretation, and assessment of facts (Dolidze, 2026; Sourdin, 2018). While judicial discretion remains essential, excessive inconsistency may generate legal uncertainty and undermine public confidence in the justice system (Plesničar, 2024). AI systems can assist judges by identifying relevant precedents, analysing patterns in previous decisions, and providing structured recommendations based on established legal principles (Arbani, 2025; Dolidze, 2026). Such capabilities may contribute to greater coherence in judicial reasoning and more predictable legal outcomes. In this regard, AI functions as a decision-support mechanism that enhances legal consistency rather than replacing judicial judgment.

A third benefit relates to access to justice (Organisation for Economic Co-operation and Development (OECD), 2024; Susskind, 2019). Many individuals encounter significant obstacles when seeking legal remedies due to high litigation costs, geographical limitations, procedural complexity, and inadequate legal assistance. AI-assisted legal technologies can facilitate access to legal information, simplify procedural requirements, and improve communication between courts and court users (Chaudhary, 2024; Selçuk *et al.*, 2025). Digital platforms supported by AI may help litigants understand legal procedures, prepare documents, and monitor case progress more efficiently (Maskanah, 2025; UNESCO, 2021). Consequently, AI has the potential to reduce barriers to justice and strengthen public engagement with judicial institutions (Wala, 2022). Figure 1 shows the access and affordability of civil justice in some Asian and European countries and the USA.

Furthermore, AI technologies may improve the quality of legal research and judicial analysis (Civinini, 2024; Fernando & Anditya, 2024). Contemporary courts operate within increasingly complex legal environments characterized by rapidly expanding legislation, regulations, judicial precedents, and scholarly commentary. AI-assisted legal research tools can rapidly identify relevant authorities, compare legal arguments, and organize information to facilitate judicial deliberation (Cheng, 2026; Saritomo & Redi, 2025). Such capabilities may reduce the likelihood of oversight and improve the comprehensiveness of legal analysis, particularly in technically complex disputes involving large volumes of evidence.

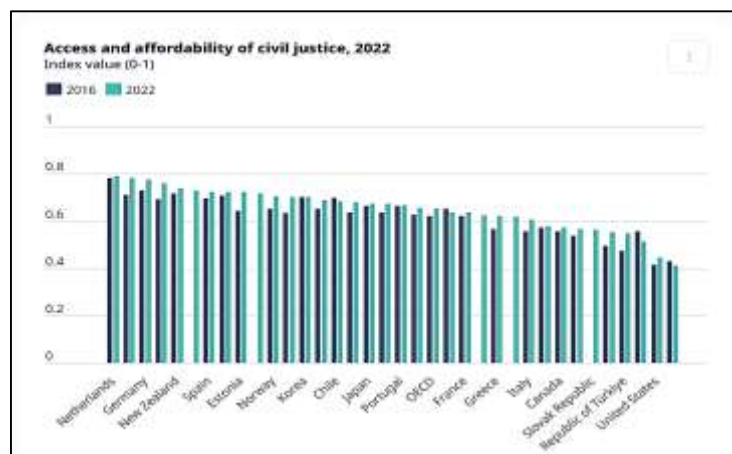


Figure 1. Access and Affordability of Civil Justice in Some Asian and European Countries and the USA in 2016 and 2022

Source: Organisation for Economic Co-operation and Development (OECD), 2024

Another important opportunity involves judicial transparency and institutional management. AI systems can generate data concerning court performance, case duration, procedural bottlenecks, and resource allocation (Spalević *et al.*, 2024; The European Commission for the Efficiency of Justice (CEPEJ), 2019). Such information may assist judicial administrators in identifying systemic inefficiencies and designing evidence-based reforms. Data-driven governance can therefore contribute to greater institutional accountability and improved public service delivery.

Collectively, these advantages indicate that AI possesses considerable potential to support judicial modernization and improve the administration of justice. Nevertheless, these benefits must be carefully balanced against a range of legal, ethical, and institutional risks.

2. Challenges and Risks of AI-Assisted Judicial Decision-Making

Despite its potential benefits, AI-assisted judicial decision-making raises significant concerns regarding fairness and algorithmic bias (Borgesano *et al.*, 2025). AI systems learn from historical data, and the quality of their outputs depends heavily on the quality of the datasets used during training (Dolidze, 2026; Javed & Li, 2025). If historical judicial data reflect existing social, economic, racial, religious, or gender biases, AI systems may reproduce or even amplify such inequalities. Consequently, algorithmic recommendations may inadvertently generate discriminatory outcomes while creating an appearance of objective neutrality (O'Neil, 2016; Pasquale, 2015). The well-known controversies surrounding predictive justice algorithms in several jurisdictions illustrate the potential dangers of relying excessively on automated systems in legally sensitive contexts (Gans-Combe, 2022).

Closely related to bias is the problem of opacity or explainability. Many contemporary AI systems operate through complex computational processes that are difficult for non-specialists to understand. This phenomenon, commonly described as the “black box” problem, presents serious challenges for judicial decision-making because legal legitimacy depends substantially upon transparency and reasoned justification (Pasquale, 2015). Judges are expected to explain the legal and factual basis of their decisions, while litigants possess the right to understand the reasoning that affects their rights and obligations. If AI-generated recommendations cannot be adequately explained, their use may conflict with fundamental principles of due process and procedural fairness (UNESCO, 2021).

Another challenge concerns accountability. Traditional judicial systems clearly identify judges and judicial institutions as responsible actors. However, AI-assisted adjudication introduces additional actors, including software developers, data providers, technology companies, and governmental agencies (Contini *et al.*, 2024; Organisation for Economic Co-operation and Development (OECD), 2019). Determining responsibility when algorithmic recommendations contribute to erroneous or unjust outcomes becomes significantly more complicated. Questions arise concerning whether accountability should rest with judges, courts, software developers, or regulatory authorities (Civinini, 2024; The European Commission for the Efficiency of Justice (CEPEJ), 2019). The absence of clear accountability mechanisms may weaken public trust and complicate legal remedies for affected individuals (Irvita & Asriani, 2025).

AI utilization may also affect judicial independence. Judicial decision-making requires impartial evaluation of facts, legal interpretation, and contextual reasoning. Excessive reliance on algorithmic recommendations may gradually encourage judges to defer to technological outputs rather than exercising independent judgment (Martinez, 2025; Sourdin, 2018). Such dependence risks transforming judicial reasoning into a process of algorithmic validation rather than genuine legal deliberation. While AI may improve efficiency, it must not undermine the intellectual autonomy and constitutional role of judges (Sourdin, 2018; Susskind, 2019).

A further challenge arises from the limitations of algorithmic reasoning itself. Legal disputes frequently involve contextual, emotional, cultural, and moral considerations that cannot easily be quantified or translated into computational models. Family disputes, child custody cases, constitutional litigation, and human rights claims often require nuanced assessments of human circumstances that extend beyond formal legal rules (Dworkin, 1986; Zafar, 2024). Although AI can process information efficiently, it lacks moral agency, empathy, and contextual understanding. Consequently, fully autonomous adjudication remains difficult to reconcile with contemporary conceptions of justice and judicial responsibility (Princes *et al.*, 2025; Sourdin, 2018).

Data protection and cybersecurity constitute additional concerns. Judicial systems routinely process highly sensitive personal information, including financial records, medical data, family matters, criminal histories, and confidential communications. AI systems that rely upon extensive data collection may expose courts to risks involving unauthorized access, data breaches, surveillance, and misuse of personal information (O Mbah, 2024; Voloch & Hirschprung, 2026). Therefore, robust safeguards concerning data governance and cybersecurity are indispensable prerequisites for responsible

AI adoption (The European Commission for the Efficiency of Justice (CEPEJ), 2019; UNESCO, 2021). Table 3 summarizes the opportunities and risks of utilizing AI in judicial decision-making.

Table 3. Synthesis of Opportunities, Challenges, and Regulatory Implications

Dimension	Opportunity	Challenge	Regulatory Implication
Efficiency	Faster case processing	Over-automation	Human oversight
Consistency	Greater predictability	Mechanical uniformity	Judicial discretion preserved
Access to Justice	Reduced barriers	Digital exclusion	Inclusive design
Legal Research	Better information retrieval	Overreliance on algorithms	Critical judicial review
Transparency	Performance monitoring	Black-box systems	Explainability requirements
Accountability	Improved institutional management	Diffused responsibility	Clear liability framework
Data Governance	Better evidence management	Privacy and cybersecurity risks	Strong data protection

The comparative experiences discussed above suggest that the future of AI in judicial systems should not be framed as a choice between technological innovation and judicial integrity. Rather, the challenge lies in designing governance frameworks that enable courts to benefit from AI while preserving fairness, transparency, accountability, and judicial independence. Comparative evidence indicates that jurisdictions achieving the most sustainable forms of AI integration are those that maintain meaningful human oversight and treat AI as a decision-support tool rather than an autonomous decision-maker. This insight becomes particularly significant when examined through the normative framework of *maqāṣid al-sharī'ah*, which emphasizes justice, human welfare, accountability, and the protection of fundamental interests.

AI-Assisted Judicial Decision-Making through the Lens of Maqāṣid al-sharī'ah

The rapid integration of Artificial Intelligence (AI) into judicial systems raises not only legal and technological questions but also broader normative concerns regarding justice, human responsibility, and public welfare (Princes *et al.*, 2025). While contemporary debates frequently focus on efficiency, transparency, and accountability, these issues may also be evaluated through the framework of *maqāṣid al-sharī'ah* (Hidayati & Cynthia, 2024). As a theory concerned with the higher objectives and purposes of law, *maqāṣid al-sharī'ah* provides a valuable analytical lens for assessing whether technological innovations promote or undermine human wellbeing (Auda, 2008; Kamali, 2017). Consequently, the compatibility of AI-assisted judicial decision-making should be examined not merely in terms of technical effectiveness but also according to its contribution to justice, public welfare (*maṣlahah*), and the protection of fundamental human interests. From this perspective (Auda, 2008; Kamali, 2017), AI should not be assessed solely as a technological tool but as a socio-legal instrument whose legitimacy depends on its capacity to advance these broader objectives

1. Protection of Religion (Ḥifẓ al-Dīn)

The preservation of religion may be understood broadly as protecting moral integrity, ethical responsibility, and the values underpinning social order (Auda, 2008). Judicial institutions contribute to this objective by ensuring fairness, preventing oppression, and maintaining public trust in legal authority. From this perspective, AI possesses no independent moral agency. Unlike human judges, algorithmic systems cannot exercise ethical responsibility, moral reflection, or accountability (Mukta, 2025; Nuredin, 2025). Human judges remain indispensable because they bear legal, ethical, and professional responsibility for judicial outcomes (Dolidze, 2026; Sourdin, 2018). Accordingly, the preservation of *ḥifẓ al-dīn* supports a model in which AI functions as a decision-support tool rather than an autonomous judicial actor.

2. Protection of Life (Ḥifẓ al-Nafs)

The objective of preserving life extends beyond physical survival to encompass human wellbeing, security, dignity, and protection from harm. Judicial institutions contribute directly to this objective by resolving disputes, protecting rights, and preventing injustice. Delayed judicial proceedings may impose substantial social and psychological burdens on litigants, while procedural inefficiencies may impede access to justice. AI-assisted technologies offer opportunities to reduce such harms through faster case processing, improved administrative efficiency, and enhanced accessibility. Digital case management systems, automated document processing, and AI-assisted legal services may help courts deliver justice

more promptly and effectively (Siddiq & Salam, 2025). In this respect, AI may contribute to the realization of *ḥifẓ al-nafs* by reducing harms associated with excessive procedural delays.

However, AI-generated errors may also threaten this objective. In criminal cases, inaccurate algorithmic recommendations may affect sentencing outcomes, risk assessments, or evidentiary evaluations. In family law disputes, algorithmic systems may fail to appreciate emotional, cultural, and contextual factors that significantly influence human welfare (Arbani, 2025; Shepherd, 2025). Consequently, preserving *ḥifẓ al-nafs* requires judicial systems to ensure that AI remains subordinate to human judgment, particularly in cases involving fundamental rights and human dignity

3. *Protection of Intellect (Ḥifẓ al-ʿAql)*

Among the classical *maqāṣid*, the protection of intellect occupies a particularly important position in evaluating AI-assisted adjudication. Judicial decision-making fundamentally depends upon rational analysis, evidence assessment, legal interpretation, and reasoned justification. Properly designed AI systems may contribute positively to these objectives by assisting judges in identifying relevant precedents, analysing complex legal materials, organizing evidence, and detecting inconsistencies in legal reasoning (Civinini, 2024; Dolidze, 2026; Tahura & Selvadurai, 2021). In this regard, AI may strengthen judicial rationality and support more informed decision-making processes.

The comparative experiences examined earlier demonstrate that AI has the potential to enhance analytical capacity within judicial institutions. Singapore's use of legal analytics and China's deployment of AI-assisted case analysis illustrate how algorithmic tools may improve consistency and reduce informational burdens faced by judges (Lim Fang-Zhou & Tan, 2025; Weidong, 2024). Such applications align with the objective of *ḥifẓ al-ʿaql* because they facilitate access to knowledge and support rational deliberation.

Nevertheless, significant risks also emerge. AI systems may reproduce hidden biases embedded within training data, thereby generating recommendations that appear objective while in fact perpetuating unjust assumptions (Goldsmith & Yang, 2026; Idris & Kossay, 2025). Furthermore, black-box algorithms often obscure the reasoning process underlying algorithmic outputs. Such opacity may undermine critical reflection and encourage excessive reliance on automated recommendations (Idris & Kossay, 2025; Martinez, 2025; Nuredin, 2025; Shepherd, 2025). Consequently, AI promotes *ḥifẓ al-ʿaql* only when its operation remains transparent, explainable, and subject to meaningful human scrutiny

4. *Protection of Lineage (Ḥifẓ al-Nasl)*

Although discussions of AI governance rarely address *ḥifẓ al-nasl* directly, this objective remains relevant in judicial contexts involving family relations, child custody, inheritance, marriage, and personal status disputes. Such cases frequently involve complex social and emotional considerations that cannot easily be translated into algorithmic variables (Arbani, 2025; Barysè & Sarel, 2024).

AI may assist judges by organizing information and identifying relevant legal authorities. Nevertheless, algorithmic systems cannot adequately replicate empathy, moral sensitivity, or contextual understanding (Borgesano *et al.*, 2025). Family disputes often require individualized assessments that extend beyond formal legal reasoning. Consequently, excessive reliance on AI in family-law adjudication may undermine the human-centred approach necessary for preserving familial welfare and social stability (Barysè & Sarel, 2024; Huntington, 2025). The *maqāṣid* perspective, therefore, suggests that AI should play only a supplementary role in disputes that directly affect family relationships and personal status matters.

5. *Protection of Property (Ḥifẓ al-Māl)*

The protection of property is closely associated with economic welfare, legal certainty, and efficient dispute resolution (Fitrian *et al.*, 2024). Judicial inefficiency often generates substantial economic costs for litigants, businesses, and governments. Prolonged litigation may increase legal expenses, delay commercial transactions, and reduce public confidence in legal institutions (Pereira *et al.*, 2025).

AI-assisted judicial systems may promote *ḥifẓ al-māl* by reducing procedural costs, improving resource allocation, and facilitating more efficient case management (Maskanah, 2025). Experiences from digitally advanced jurisdictions suggest that technological innovation may enhance institutional productivity while simultaneously expanding access to legal remedies (Xia *et al.*, 2025). Through these mechanisms, AI contributes to economic welfare and strengthens the rule of law. At the same time, erroneous algorithmic recommendations may generate significant financial losses. Biased or inaccurate systems may influence judicial outcomes involving contracts, property rights, taxation, or commercial disputes

(Arbani, 2025; Civinini, 2024). Therefore, the protection of property requires rigorous validation, regular auditing, and continuous monitoring of AI systems used within judicial institutions

6. Justice (*‘adālah*) and Public Welfare (*Maṣlahah*) as Overarching Objectives

Although the classical five necessities remain important, contemporary *maqāṣid* scholarship increasingly emphasizes justice and public welfare as overarching objectives that integrate all dimensions of legal governance. In this regard, the central question is whether AI contributes to or undermines substantive justice. AI undoubtedly offers significant public benefits. Greater efficiency, improved consistency, enhanced access to justice, and reduced litigation costs all contribute to public welfare. These benefits explain why numerous jurisdictions have embraced judicial digitalization and AI-assisted legal technologies (Gans-Combe, 2022).

However, public welfare cannot be reduced to efficiency alone. A technologically efficient system may still produce unjust outcomes if it lacks transparency, accountability, or procedural fairness (Arbani, 2025). Justice requires more than accurate prediction or rapid decision-making; it requires reasoned deliberation, contextual understanding, and moral responsibility (Hidayat & Muis, 2025; Princes *et al.*, 2025). Consequently, *maqāṣid al-sharī‘ah* rejects both technological determinism and absolute resistance to innovation. Instead, it supports a balanced approach in which technological advancement serves human welfare while remaining subject to ethical and legal constraints.

The comparative experiences analysed in this study indicate that jurisdictions adopting meaningful human oversight, transparency requirements, and accountability safeguards are better positioned to reconcile innovation with justice. Such findings are consistent with the *maqāṣid* principle, which *wasā’il* (means) derive legitimacy from their contribution to lawful and beneficial ends (*maqāṣid*). Table 4 highlights the potential contributions and risks of AI viewed through the lens of the principles of *maqāṣid al-sharī‘ah* and its necessary regulatory requirements.

Table 4. *Maqāṣid* Evaluation Matrix of Judicial AI

<i>Maqāṣid</i> Dimension	Positive Contribution of AI	Potential Risk	Regulatory Requirement
<i>Hifẓ al-dīn</i>	Ethical governance support	Loss of human moral responsibility	Human judges retain final authority
<i>Hifẓ al-nafs</i>	Faster dispute resolution	Harm from erroneous decisions	Human review of AI outputs
<i>Hifẓ al-‘aql</i>	Improved legal reasoning	Algorithmic bias and opacity	Explainability and auditability
<i>Hifẓ al-nasl</i>	Administrative support in family cases	Context-insensitive outcomes	Restricted AI role in family disputes
<i>Hifẓ al-māl</i>	Reduced litigation costs	Financial losses from faulty recommendations	Quality assurance and monitoring
<i>‘Adālah</i>	Consistency and predictability	Mechanical justice	Preservation of judicial discretion
<i>Maṣlahah</i>	Expanded access to justice	Erosion of public trust	Transparency and accountability

Overall, the *maqāṣid* analysis demonstrates that AI-assisted judicial decision-making is not inherently incompatible with Islamic legal principles. On the contrary, AI may significantly contribute to the realization of public welfare, efficiency, and access to justice. Nevertheless, these benefits remain conditional upon preserving human oversight, transparency, accountability, and judicial independence. Therefore, AI should be regarded as a judicial decision-support mechanism rather than an autonomous decision-maker. This approach best reflects the objectives of justice, public welfare, and protection of fundamental human interests that lie at the heart of *maqāṣid al-sharī‘ah*.

Towards a *Maqāṣid*-Oriented Regulatory Framework for AI-Assisted Judicial Decision-Making in Indonesia

The comparative analysis demonstrates that the successful integration of Artificial Intelligence (AI) within judicial systems depends not merely on technological sophistication but also on the presence of appropriate legal and institutional safeguards. While jurisdictions such as Singapore, Estonia, China, and the European Union have adopted different approaches to AI governance, a common principle emerges: AI is generally utilized as a supportive instrument rather than as an autonomous substitute for judicial authority. These experiences suggest that Indonesia should pursue a regulatory framework that simultaneously promotes innovation, preserves judicial independence, and protects fundamental rights.

The preceding *maqāṣid* analysis further indicates that AI may contribute positively to justice and public welfare when employed under meaningful human supervision (Habib, 2025). However, unchecked automation may threaten transparency, accountability, and substantive justice (Idris & Kossay, 2025; R. D. Saputra, 2025). Consequently, Indonesia

requires a governance model capable of balancing technological advancement with the higher objectives of law. To achieve this objective, this article proposes a *maqāṣid*-oriented regulatory framework consisting of five interrelated principles.

1. **Human-in-the-Loop Principle**

The first and most fundamental principle is the preservation of meaningful human oversight. Judicial authority should remain vested exclusively in human judges, who retain ultimate responsibility for legal reasoning and adjudicative outcomes (Arbani, 2025; Hidayati & Cynthia, 2024). AI systems may assist judges by providing legal research, identifying precedents, analysing evidence, or generating recommendations. However, final decisions must remain subject to independent judicial assessment (Dolidze, 2026; Selçuk *et al.*, 2025). This principle is consistent with comparative international practice and reflects the *maqāṣid* objectives of justice, accountability, and protection of human dignity. Human judges possess moral judgment, contextual understanding, and ethical responsibility that cannot be replicated by algorithmic systems (Arbani, 2025; Civinini, 2024; Princes *et al.*, 2025). Therefore, AI should function as an advisory mechanism rather than an autonomous adjudicator.

2. **Explainability and Transparency Principle**

The second principle concerns explainability and transparency. AI systems utilized within judicial institutions must provide outputs that can be understood, scrutinized, and challenged by judges, litigants, and relevant oversight bodies. Transparency is essential because judicial legitimacy depends upon reasoned justification rather than merely accurate outcomes (Arbani, 2025; Dancy & Zalnieriute, 2025). The *maqāṣid* objective of protecting intellect (*hifz al-‘aql*) requires that legal reasoning remain accessible and comprehensible. Similarly, procedural fairness demands that affected parties understand how algorithmic recommendations influence judicial processes (Barysè & Sarel, 2024; Princes *et al.*, 2025). Consequently, black-box systems whose reasoning cannot be adequately explained should not be employed in judicial decision-making.

3. **Accountability Principle**

The third principle involves accountability. The introduction of AI into judicial institutions should not dilute legal responsibility. Clear mechanisms must exist to identify responsibility when algorithmic systems contribute to errors, discriminatory outcomes, or procedural violations (Civinini, 2024; Hidayat & Muis, 2025; Selçuk *et al.*, 2025). Judges, judicial institutions, software providers, and governmental authorities should possess clearly defined responsibilities regarding the design, implementation, monitoring, and use of AI technologies (UNESCO, 2021). Such accountability mechanisms are necessary to preserve public trust and ensure effective legal remedies for individuals adversely affected by algorithmic decisions (Irvita & Asriani, 2025; Yu, 2025).

4. **Non-Discrimination and Fairness Principle**

The fourth principle requires continuous efforts to prevent algorithmic bias and discriminatory outcomes. AI systems should undergo regular testing, auditing, and evaluation to ensure that recommendations do not disproportionately disadvantage particular individuals or social groups (Nastoska *et al.*, 2025). This principle reflects both contemporary human-rights standards and the *maqāṣid* commitment to justice (*‘adālah*). Fairness requires that judicial technologies promote equal treatment before the law rather than reproduce historical inequalities embedded within training datasets (Arbani, 2025; Princes *et al.*, 2025). Therefore, regulatory frameworks should require periodic bias assessments and independent oversight mechanisms (Idris & Kossay, 2025).

5. **Maṣlaḥah-Oriented Innovation Principle**

The fifth principle is the promotion of innovation directed toward public welfare (*maṣlaḥah*). Technological development should not be regarded as an end in itself. Rather, AI should be adopted only when it demonstrably improves access to justice, procedural efficiency, institutional accountability, or the quality of judicial services (Borgesano *et al.*, 2025; Organisation for Economic Co-operation and Development (OECD), 2025). This principle reflects the broader *maqāṣid* understanding that legal instruments derive legitimacy from their contribution to beneficial social outcomes (Asri *et al.*, 2025). Consequently, AI initiatives should be evaluated according to their capacity to enhance public welfare while minimizing potential harms. Technologies that generate substantial risks without corresponding public benefits should not be prioritized within judicial institutions.

A Risk-Based *Maqāṣid* Classification Model

To operationalize these principles, this article proposes a three-tier classification model for AI applications in judicial systems. Table 5 highlights this model.

Table 5. Risk-Based *Maqāṣid* Classification of Judicial AI

Risk Level	AI Application	Example Functions	<i>Maqāṣid</i> Assessment	Regulatory Response
Low Risk	Administrative Support	Document management, translation, scheduling, legal search	Strongly compatible	Broad adoption encouraged
Medium Risk	Decision Support	Sentencing recommendations, precedent analysis, outcome prediction	Conditionally compatible	Human oversight mandatory
High Risk	Autonomous Adjudication	Automated judicial decisions without meaningful review	Incompatible or highly problematic	Prohibited or severely restricted

The first category consists of low-risk applications involving administrative and informational functions. These include document management, legal research assistance, case scheduling, translation services, and procedural support. Such applications generally pose limited threats to judicial independence and may significantly improve institutional efficiency (Arbani, 2025; Gans-Combe, 2022). Consequently, they may be considered broadly compatible with *maqāṣid* objectives.

The second category comprises medium-risk applications involving decision-support functions. These include predictive analytics, sentencing recommendations, legal outcome forecasting, and evidence assessment tools. Although such technologies may enhance judicial consistency and efficiency, they also introduce risks relating to bias, transparency, and overreliance on algorithmic outputs (Idris & Kossay, 2025; Shepherd, 2025). Therefore, their use should remain subject to strict human supervision and regulatory safeguards.

The third category involves high-risk applications characterized by fully autonomous adjudication. These systems would independently determine legal rights and obligations without meaningful human review. Such applications raise serious concerns regarding accountability, moral responsibility, procedural fairness, and judicial legitimacy. From a *maqāṣid* perspective, fully autonomous adjudication is difficult to reconcile with the objectives of justice, accountability, and protection of fundamental human interests (Dolidze, 2026; Sopiyan *et al.*, 2026). Accordingly, this category should not be adopted within Indonesian judicial institutions.

The proposed framework demonstrates that the question is not whether AI should be used in judicial systems, but rather how it should be used. A *maqāṣid*-oriented approach neither rejects technological innovation nor embraces unrestricted automation. Instead, it seeks to ensure that technological development remains aligned with justice, human dignity, accountability, and public welfare. Such an approach offers Indonesia a balanced pathway toward responsible judicial modernization in the age of artificial intelligence.

Conclusion

The rapid integration of Artificial Intelligence (AI) across jurisdictions like Singapore, Estonia, China, and the European Union demonstrates a unified trend: AI serves to enhance judicial efficiency and accessibility rather than replace human judges. While automated systems streamline case management and legal research, they introduce critical risks regarding algorithmic bias, opacity, and diminished accountability. The findings of this study indicate that AI-assisted judicial decision-making possesses considerable potential to improve the administration of justice. AI technologies may facilitate legal research, streamline case management, reduce procedural delays, and expand access to legal services. However, these benefits are accompanied by substantial risks, including algorithmic bias, opacity, diminished accountability, threats to judicial independence, and the possibility of overreliance on automated systems. Consequently, the adoption of AI within judicial institutions should not be guided solely by considerations of technological efficiency but must also address broader normative concerns relating to justice, legitimacy, and human responsibility.

From the perspective of *maqāṣid al-sharī'ah*, AI is fundamentally compatible with Islamic legal principles—specifically supporting the protection of intellect, life, and property—provided it remains subordinate to human oversight. Because technological efficiency cannot override the normative demands of justice (*‘adālah*) and public welfare (*maṣlahah*), AI must function strictly as a decision-support mechanism, preserving the moral and contextual reasoning unique to human judges. Consequently, this article proposes a risk-stratified, *maqāṣid*-oriented regulatory framework for Indonesia built on five core pillars: meaningful human oversight, transparency, accountability, fairness, and *maṣlahah*-oriented innovation. Under this model, low-risk administrative functions are widely permitted, decision-support tools face



strict supervision, and fully autonomous adjudication is prohibited to safeguard judicial legitimacy. Given this study's reliance on normative and comparative literature, future scholarship should pivot toward empirical research. Investigating public trust, judicial acceptance, and the practical implementation of AI within court systems—alongside targeted studies on algorithmic sentencing and predictive justice—will be vital to bridging the gap between Islamic legal theory and evolving technological realities.

References

- Akhlaghi, M. (2025, July 21). *Navigating AI in the Courts: Lessons from Singapore, South Korea, and Australia*. Cyberjustice.Ca.
- Alessa, H. (2022). The role of Artificial Intelligence in Online Dispute Resolution: A brief and critical overview. *Information & Communications Technology Law*, 31(3), 319–342. <https://doi.org/10.1080/13600834.2022.2088060>
- Alexy, R., Adler, R., & MacCormick, N. (2009). *A Theory of Legal Argumentation: The Theory of Rational Discourse as Theory of Legal Justification*. Oxford University Press.
- Al-Ghazālī, I. A. H. (2007). *Al-Mustasfā min 'Ilm al-Uṣūl*. Dar al-Kutub al-'Ilmiyyah.
- Al-Juwaynī, I. (1998). *Al-Burhān fī Uṣūl al-Fiqh*. Dar al-Kutub al-'Ilmiyyah. <https://ejournal.uin-suka.ac.id/pasca/jkii/article/view/1504>
- Al-Obeidi, A. H., & Al-Mulla, M. S. (2022). The Legal Basis of the Right to Explanation for Artificial Intelligence Decisions in UAE Law. *2022 International Arab Conference on Information Technology (ACIT)*, 1–4. <https://doi.org/10.1109/ACIT57182.2022.9994088>
- Al-Shāṭibī, I. A. I. (2003). *Al-Muwāfaqāt fī Uṣūl al-Sharī'ah*. Dar al-Kutub al-'Ilmiyyah.
- Anugrah, P., Ilyas, A. R., Kurniati, & Mustafa, Z. (2025). The Limits of Artificial Intelligence in Judicial Reasoning: Jurisprudential Analysis of Islamic Legal Authority. *Jurnal Kajian Islam Interdisipliner*, 10(2), 139–162.
- Arbani, T. S. (2025). Algorithmic Justice: A Study on Risks and Opportunities in the Use of Artificial Intelligence by Judges in Courts. *Siyasah: Hukum Tata Negara*, 5(1), 27–49. <https://doi.org/10.32332/9g12ds17>
- Asri, D. P. B., Thaher, I., & Widayanti, R. (2025). Artificial Intelligence, Legal Culture, and the Indonesian Formal Legal System: Negotiating Norms in The Regulation of Emerging Technologies. *Journal of Cultural Analysis and Social Change*, 10(3), 457–468. <https://doi.org/10.64753/jcasc.v10i3.2439>
- Auda, J. (2008). *Maqasid al-Shariah as Philosophy of Islamic Law: A Systems Approach*. International Institute of Islamic Thought (IIIT). <https://doi.org/https://doi.org/10.2307/j.ctvkc67tg>
- Badan Pengkajian dan Penerapan Teknologi (BPPT). (2020). *Strategi Nasional untuk Kecerdasan Artifisial (STRANAS KA)*. BPPT. <https://korika.id/wp-content/uploads/2024/07/stranas-ka-2045.pdf>
- Barysé, D., & Sarel, R. (2024). Algorithms in the court: does it matter which part of the judicial decision-making is automated? *Artificial Intelligence and Law*, 32(1), 117–146. <https://doi.org/10.1007/s10506-022-09343-6>
- Basri, W. (2025). TRANSFORMING ETHICAL REGULATION OF ARTIFICIAL INTELLIGENCE IN ISLAMIC BANKING: A MAQASHID SHARIAH PERSPECTIVE IN THE DIGITAL ERA. *Sipakainge: Inovasi Penelitian, Karya Ilmiah Dan Pengembangan*, 3(1), 52–72. <https://ejurnal.iainpare.ac.id/index.php/sipakainge/article/view/14599>
- Borgesano, F., De Maio, A., Laghi, P., & Musmanno, R. (2025). Artificial intelligence and justice: a systematic literature review and future research perspectives on Justice 5.0. *European Journal of Innovation Management*, 28(11), 349–385. <https://doi.org/10.1108/EJIM-01-2025-0117>
- Chaudhary, S. (2024). DIGITAL PATHWAYS TO JUSTICE: LEVERAGING AI AND LEGALTECH FOR THE UNDERPRIVILEGED. *Lex Localis - Journal of Local Self-Government*, 94–111. <https://doi.org/10.52152/1sf8dg06>
- Chen, Y. (2026). Artificial intelligence and adjudication: A new pathway to justice in China? *Computer Law & Security Review*, 60, 106260. <https://doi.org/10.1016/j.clsr.2026.106260>
- Cheng, K. Y. (2026). Human-Centered AI in the Judiciary. In *Handbook of Human-Centered Artificial Intelligence* (pp. 2319–2368). Springer Nature Singapore. https://doi.org/10.1007/978-981-95-3658-0_113



- Civinini, M. G. (2024). New technologies and justice. In M. A. i Golobardes, G. Grasso, P. Iamiceli, & M. R. Maugeri (Eds.), *JULIA Handbook: Artificial Intelligence, Judicial Decision-Making and Fundamental Rights* (2nd ed., pp. 20–37). Scuola Superiore della Magistratura (SSM).
- Contini, F., Ontanu, E. A., & Velicogna, M. (2024). AI Accountability in Judicial Proceedings: An Actor–Network Approach. *Laws*, 13(6), 71. <https://doi.org/10.3390/laws13060071>
- Dancy, T., & Zalnieriute, M. (2025). AI and Transparency in Judicial Decision-Making. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.5331491>
- Dhiyaulhaq, M. Z., & Prabowo, B. A. (2026). Legitimasi Etis Maqashid Syariah Dalam Penggunaan Artificial Intelligence Sebagai Algoritma Penyelesaian Sengketa Ekonomi Syariah di Era Digital. *ULIL ALBAB: Jurnal Ilmiah Multidisiplin*, 5(7), 1938–1948. <https://www.ulilalbabinstitute.id/index.php/JIM/article/view/17355>
- Dolidze, T. (2026). Artificial Intelligence in Judicial Decision-Making: Can a Robot Replace a Judge? *Law and World*, 12(1), 6–24. <https://doi.org/10.36475/12.1.1>
- Dworkin, R. (1986). *Law's Empire*. Harvard University Press.
- Efendi, J., & Ibrahim, J. (2018). *Metode Penelitian Hukum Normatif dan Empiris* (2nd ed.). Prenada Media Group.
- Fabri, M. (2024). From Court Automation to e-Justice and Beyond in Europe. *International Journal for Court Administration*, 15(3), 1–23. <https://doi.org/10.36745/ijca.640>
- Feklistov, V. (2026, March 2). *Building the intelligent state – digital sovereignty, the ‘Smart Court’, and the future of justice*. E-Estonia.Com. <https://e-estonia.com/smart-court-and-the-future-of-justice/>
- Fernando, Z. J., & Anditya, A. W. (2024). AI on The Bench: The Future of Judicial Systems in The Age of Artificial Intelligence. *Jurnal Hukum Dan Peradilan*, 13(3), 523–550. <https://doi.org/10.25216/jhp.13.3.2024.523-550>
- Fikri, A., Siregar, S., & Mardia, M. (2026). RESPONS HUKUM ISLAM TERHADAP PENGGUNAAN KECERDASAN BUATAN DALAM PRAKTIK KEAGAMAAN DI INDONESIA. *I'tiqadiyah: Jurnal Hukum Dan Ilmu-Ilmu Kesyariahan*, 3(1), 46–60. <https://ejournal.yayasanbhz.org/index.php/Itiqadiyah/article/view/625>
- Fine, A., Berthelot, E. R., & Marsh, S. (2025). Public Perceptions of Judges' Use of AI Tools in Courtroom Decision-Making: An Examination of Legitimacy, Fairness, Trust, and Procedural Justice. *Behavioral Sciences*, 15(4), 476. <https://doi.org/10.3390/bs15040476>
- Fitrian, A., Rusmana, D., Adiasih, N., Miharja, M., & Idrus, N. (2024). The Influence of Civil Law on the Quality of Community Life: Case Studies in Big Indonesian Cities. *UNES Law Review*, 7(1), 348–359. <https://www.review-unes.com/law/article/view/2313>
- Gans-Combe, C. (2022). Automated Justice: Issues, Benefits and Risks in the Use of Artificial Intelligence and Its Algorithms in Access to Justice and Law Enforcement. In D. O'Mathúna & R. Iphofen (Eds.), *Ethics, Integrity and Policymaking: The Value of the Case Study* (pp. 175–194). Springer. https://doi.org/10.1007/978-3-031-15746-2_14
- Goldsmith, S., & Yang, J. (2026). AI and the Transformation of Accountability and Discretion in Urban Governance. *Urban Governance*, 9, 41. <https://doi.org/10.1016/j.ugj.2026.02.005>
- Gutiérrez, J. D. (2025). *Guidelines for the use of AI systems in courts and tribunals*. UNESCO. <https://doi.org/10.58338/LIEY8089>
- Habib, Z. (2025). Ethics of Artificial Intelligence in *Maqāṣid Al-Sharī'a's* Perspective. *KARSA Journal of Social and Islamic Culture*, 33(1), 105–134. <https://ejournal.uinmadura.ac.id/index.php/karsa/article/view/19617>
- Han, W., Shen, J., Liu, Y., Shi, Z., Xu, J., Hu, F., Chen, H., Gong, Y., Yu, X., Wang, H., Liu, Z., Yang, Y., Shi, T., & Ge, M. (2024). LegalAsst: Human-centered and AI-empowered machine to enhance court productivity and legal assistance. *Information Sciences*, 679, 121052. <https://doi.org/10.1016/j.ins.2024.121052>
- Hidayat, W., & Muis, A. (2025). Ethical and Legal Challenges of Artificial Intelligence in the Judicial System: An Indonesian Perspective. *Justicia Insight*, 2(1), 9–15. <https://doi.org/10.70716/justin.v2i1.274>
- Hidayati, W., & Cynthia, E. P. (2024). Evaluating the Role of *Maqāṣid al-sharī'ah* in Formulating Ethical Frameworks for Artificial Intelligence in Islamic Jurisprudence. *Harmony Philosophy: International Journal of Islamic Religious Studies and Sharia*, 1(2), 21–29. <https://doi.org/10.70062/harmonyphilosophy.v1i2.323>



- Hulok, M. (2025). The EU model of AI governance: regulating artificial intelligence through law and policy. *ERA Forum*, 26(4), 527–547. <https://doi.org/10.1007/s12027-025-00869-1>
- Huntington, C. (2025). AI Companions and the Lessons of Family Law. *Minnesota Law Review*, 110(1), 115–202. <https://scholarship.law.umn.edu/minnrev/vol110/iss1/2>
- Hutchinson, T. (2025). Doctrinal research. In *Research Methods in Law* (3rd ed., pp. 8–38). Routledge.
- Idris, M. F., & Kossay, M. K. (2025). Legal Accountability of Algorithmic Bias: Examining the Role of Law in Preventing Discriminatory AI Decisions. *International Journal of Law and Society*, 2(2), 244–256. <https://doi.org/10.62951/ijls.v2i2.521>
- Interoperable Europe. (2024). *ESTONIA: Digital Public Administration Factsheet 2024*.
- Irvita, M., & Asriani, A. (2025). Transparency and accountability in the justice system: Building public trust and justice. *Privet Social Sciences Journal*, 5(4), 26–40. <https://doi.org/10.55942/pssj.v5i4.367>
- Javed, K., & Li, J. (2025). Bias in adjudication: Investigating the impact of artificial intelligence, media, financial and legal institutions in pursuit of social justice. *PLOS ONE*, 20(1), e0315270. <https://doi.org/10.1371/journal.pone.0315270>
- Kamali, M. H. (2017). *Maqāṣid al-Sharīah made simple*. International Institute of Islamic Thought.
- Lim Fang-Zhou, N., & Tan, K. S. (2025). The New Frontier: Regulating Artificial Intelligence in Singapore. *Lim Fang-Zhou, Noah*, 37, 436–463.
- Loo, J., & Findlay, M. (2025). Juxtaposing Approaches to Risk-Based AI Governance in Different ‘Rights’ Contexts: A Comparative Analysis Between Singapore and the EU. In V. L. Raposo (Ed.), *The European Artificial Intelligence Act* (Vol. 78, pp. 473–500). Springer Nature Switzerland. https://doi.org/10.1007/978-3-031-98406-8_17
- Martinez, A. L. (2025). Between Judge and Algorithm: Key Risks of Automated Decision-Making in the Digital Rule of Law. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.5749802>
- Maskanah, U. (2025). Artificial Intelligence in Civil Justice: Comparative Legal Analysis and Practical Frameworks for Indonesia. *Jambura Law Review*, 7(1), 225–242. <https://doi.org/10.33756/jlr.v7i1.27786>
- Ministry of Law of Singapore. (2026). *Guide for Using Generative AI in the Legal Sector*. Ministry of Law. https://www.mlaw.gov.sg/files/Guide_for_using_Generative_AI_in_the_Legal_Sector__Published_on_6_Mar_2026_.pdf
- Musataklima, Yasin, N., Umam, K., Ramadhani, R., & Wahidi, A. (2025). Legitimasi Etis Maqashid Syariah atas Penggunaan Artificial Intellegencia Sebagai Algoritma Penyelesaian Sengketa Konsumen Berbasis Hybrid Online Dispute Resolution. *Al-Huquq: Journal of Indonesian Islamic Economic Law*, 7(1), 41–66. <https://doi.org/10.19105/alhuquq.v7i1.20169>
- Nastoska, A., Jancheska, B., Rizinski, M., & Trajanov, D. (2025). Evaluating Trustworthiness in AI: Risks, Metrics, and Applications Across Industries. *Electronics*, 14(13), 2717. <https://doi.org/10.3390/electronics14132717>
- Nur, I., Abdul Wakhid, A., & Handayani, L. (2020). A Genealogical Analysis on the Concept and Development of Maqasid Syari‘ah. *AL-‘ADALAH*, 17(1), 1–30. <https://doi.org/10.24042/adalah.v17i1.6211>
- Nur, I., Adam, S., & Muttaqien, M. N. (2020). *Maqāṣid Al-Sharī‘at*: The Main Reference and Ethical-Spiritual Foundation for the Dynamization Process of Islamic Law. *AHKAM: Jurnal Ilmu Syariah*, 20(2), 331–360. <https://doi.org/10.15408/ajis.v20i2.18333>
- Nuredin, A. (2025). The Judgment of Algorithms: The Transformative and Discriminatory Impact of AI-Based Decision Making System on Judicial Processes, Cybersecurity, and Individual Liberties. *Congress Proceedings*, 39–59. <https://doi.org/10.55843/ICL2025cong39n>
- O Mbah, G. (2024). Data privacy in the era of AI: Navigating regulatory landscapes for global businesses. *International Journal of Science and Research Archive*, 13(2), 2040–2058. <https://doi.org/10.30574/ijrsra.2024.13.2.2396>
- O’Neil, C. (2016). *Weapons of Math Destruction: How Big Data Increases Inequality and Threatens Democracy* (1st ed.). Crown.
- Organisation for Economic Co-operation and Development (OECD). (2019). *AI Principles*. OECD Publishing.



- Organisation for Economic Co-operation and Development (OECD). (2024, July 1). *Access to Justice*. OECD Publishing. <https://www.oecd.org/en/topics/access-to-justice.html>
- Organisation for Economic Co-operation and Development (OECD). (2025). *Governing with Artificial Intelligence*. OECD Publishing. <https://doi.org/10.1787/795de142-en>
- Pasquale, F. (2015). *The Black Box Society: The Secret algorithms That Control Money and Information*. Harvard University Press. <https://www.jstor.org/stable/j.ctt13x0hch>
- Pereira, M. A., Bădin, L., Kerstens, K., & Silva, M. C. (2025). An integrative approach to reviewing the literature on judicial efficiency in Europe. *Socio-Economic Planning Sciences*, 98, 102137. <https://doi.org/10.1016/j.seps.2024.102137>
- Plesničar, M. M. (2024). The challenges of being imperfect: how do judges and prosecutors deal with sentencing disparity. *Frontiers in Sociology*, 9, 1488786. <https://doi.org/10.3389/fsoc.2024.1488786>
- Princes, E., Rasji, R., & Michael. (2025). The Concept of Justice in AI-Driven Legal Decision Making. *Journal Bit-Tech: Binary Digital Technology*, 8(1), 78–86. <https://doi.org/10.32877/bt.v8i1.2338>
- Putra, D. (2020). A MODERN JUDICIAL SYSTEM IN INDONESIA: LEGAL BREAKTHROUGH OF E-COURT AND E-LEGAL PROCEEDING. *Jurnal Hukum Dan Peradilan*, 9(2), 275–297. <https://doi.org/10.25216/jhp.9.2.2020.275-297>
- Rafikov, I. (2025, April 8). *Advanced AI and the Moral Challenge: An Islamic Perspective*. Maqasid.Org. <https://maqasid.org/blog/advanced-ai-and-the-moral-challenge-an-islamic-perspective/>
- Rajendra, J. B., & Thuraisingam, A. S. (2022). The deployment of artificial intelligence in alternative dispute resolution: the AI augmented arbitrator. *Information & Communications Technology Law*, 31(2), 176–193. <https://doi.org/10.1080/13600834.2021.1998955>
- Rawls, J. (1999). *A Theory of Justice* (Revised). Harvard University Press.
- Rosidi, R. F. A. (2024). Mengatur Artificial Intelligence Dalam Perspektif Negara Hukum Dan Maqashid Syariah. *Konferensi Nasional Asosiasi Pengajar Hukum Tata Negara Dan Administrasi Negara*, 2(1), 263–280. <https://doi.org/10.55292/exc9s233>
- Russel, S., & Norvig, P. (2022). Artificial Intelligence — A Modern Approach. In *The Knowledge Engineering Review* (4th ed.). Pearson.
- Saputra, R. D. (2025). Legal Liability for Artificial Intelligence Decisions in the Indonesian Judicial System. *Veteran Law Review*, 8(2), 182–192. <https://ejournal.upnvj.ac.id/Velrev/article/view/12549>
- Saritomo, U., & Redi, A. (2025). The Role of Artificial Intelligence in Improving Efficiency of the Legal System. *Jurnal Indonesia Sosial Teknologi*, 6(6), 1298–1306. <https://doi.org/10.59141/jist.v6i6.9070>
- Selçuk, S., Kurt Konca, N., & Kaya, S. (2025). AI-driven civil litigation: Navigating the right to a fair trial. *Computer Law & Security Review*, 57, 106136. <https://doi.org/10.1016/j.clsr.2025.106136>
- Setiawan, A., Kusumaningtyas, R. F., Widyastuti, A., & Abdullah, I. H. (2025). The Urgency of Legal Profession Regulation Amidst The Integration of Artificial Intelligence. *Lex Scientia Law Review*, 9(2), 1484–1516. <https://doi.org/10.15294/lslr.v9i2.26448>
- Shepherd, N. J. (2025). Algorithmic Justice: The Legal Implications of AI in Criminal Sentencing and Risk Assessment. *Journal of Artificial Intelligence General Science (JAIGS) ISSN:3006-4023*, 8(1), 258–263. <https://doi.org/10.60087/jaigs.v8i1.391>
- Shi, C., Sourdin, T., & Li, B. (2021). The Smart Court – A New Pathway to Justice in China? *International Journal for Court Administration*, 12(1), 1–19. <https://doi.org/10.36745/ijca.367>
- Siddiq, N., & Salam, R. (2025). Enhancing Legal Certainty through Legal Reform in Indonesia: Problems and Efforts to Strengthen Legal Institutions. *Strata Law Review*, 3(1), 1–14. <https://doi.org/10.59631/slr.v3i1.62>
- Siems, M. (2022). *Comparative Law*. Cambridge University Press. <https://doi.org/10.1017/9781108892766>
- Sopiyan, M., Loso Judijanto, L., Asad, M., Zuhri, S., & Syufa'at, S. (2026). Artificial Intelligence in Islamic Family Law: An Ethical Analysis and *Maqāṣid asy-Syarī'ah*. *Mawaddah: Jurnal Hukum Keluarga Islam*, 4(1), 1–18.



- Sourdin, T. (2018). Judge v robot? Artificial intelligence and judicial decision making. *University of New South Wales Law Journal*, 41(4), 1114–1133. <http://www.unswlawjournal.unsw.edu.au/article/judge-v-robot-artificial-intelligence-and-judicial-decision-making/>
- Spalević, Ž., Milosavljević, S., Dubljanin, D., Popović, G., & Ilić, M. (2024). The Role of Artificial Intelligence in Judicial Systems. *International Journal of Cognitive Research in Science, Engineering and Education*, 12(3), 561–569. <https://doi.org/10.23947/2334-8496-2024-12-3-561-569>
- Sulistianingsih, D., Rante Lembang, A. A., Adhi, Y. P., & Prabowo, M. S. (2023). Online dispute resolution: Does the system actually enhance the mediation framework? *Cogent Social Sciences*, 9(1). <https://doi.org/10.1080/23311886.2023.2206348>
- Susskind, R. (2019). Access to Justice. In *Online Courts and the Future of Justice* (pp. 65–70). Oxford University Press. <https://doi.org/10.1093/oso/9780198838364.003.0008>
- Taekema, S., & van der Burg, W. (2024). Theoretical and normative frameworks for legal research. In *Contextualising Legal Research* (pp. 79–92). Edward Elgar Publishing. <https://doi.org/10.4337/9781035307395.00011>
- Tahura, U. S., & Selvadurai, N. (2021). THE USE OF ARTIFICIAL INTELLIGENCE IN JUDICIAL DECISION-MAKING: THE EXAMPLE OF CHINA. *SSRN Electronic Journal*, 1–20. <https://doi.org/10.2139/ssrn.5344920>
- The European Commission for the Efficiency of Justice (CEPEJ). (2019). *European Ethical Charter on the Use of Artificial Intelligence in Judicial Systems and their environment*. Council of Europe.
- The European Unions (EU). (2024). *Artificial Intelligence (AI) Act*. EU. <https://artificialintelligenceact.eu/the-act/>
- The Supreme Court of Indonesia. (2022). *Peraturan Mahkamah Agung Nomor 7 Tahun 2022 tentang Perubahan atas Peraturan Mahkamah Agung Nomor 1 Tahun 2019 tentang Administrasi Perkara dan Persidangan di Pengadilan secara Elektronik*. Mahkamah Agung - RI. <https://peraturan.bpk.go.id/Details/248072/perma-no-7-tahun-2022>
- UNESCO. (2021). *Recommendation on the Ethics of Artificial Intelligence*. UNESCO.
- Van Gestel, R. (2022). Quality, Methodology, and Politics in Doctrinal Legal Scholarship. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4213865>
- Voloch, N., & Hirschprung, R. S. (2026). Both ends of artificial intelligence impacting privacy: a review of violation and protection. *Frontiers in Artificial Intelligence*, 9. <https://doi.org/10.3389/frai.2026.1686454>
- Wala, G. N. (2022). The Impact of Judicial Digitalization on Access to Justice and Human Rights in Indonesia Post-Pandemic. *Journal of Law, Politic and Humanities*, 2(4), 216–221. <https://dinastires.org/JLPH/article/view/2387>
- Wardana, D. J., & Setiyawan, D. (2025). Integration of Artificial Intelligence in Indonesian Legislation: Towards Participatory and Transparent Smart Law-Makin. *Jurnal Hukum IUS QUIA IUSTUM*, 32(3), 634–652. <https://doi.org/10.20885/iustum.vol32.iss3.art5>
- Wittmann, V., & Meynhardt, T. (2025). Human-centric AI governance: what the EU public values, what it really, really values. *Government Information Quarterly*, 42(4), 102084. <https://doi.org/10.1016/j.giq.2025.102084>
- Xia, L., Cao, Z., & Bilawal Khaskheli, M. (2025). How Digital Technology and Business Innovation Enhance Economic–Environmental Sustainability in Legal Organizations. *Sustainability*, 17(14), 6532. <https://doi.org/10.3390/su17146532>
- Yang, C., Gu, M., & Albitar, K. (2024). Government in the digital age: Exploring the impact of digital transformation on governmental efficiency. *Technological Forecasting and Social Change*, 208, 123722. <https://doi.org/10.1016/j.techfore.2024.123722>
- Yu, J. (2025, November 10). *Building trust in AI through a new global governance framework*. Weforum.Org. <https://www.weforum.org/stories/2025/11/trust-ai-global-governance/>
- Zafar, A. (2024). Balancing the scale: navigating ethical and practical challenges of artificial intelligence (AI) integration in legal practices. *Discover Artificial Intelligence*, 4(1), 27. <https://doi.org/10.1007/s44163-024-00121-8>



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