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Print ISSN: [3006-2497](#) Online ISSN: [3006-2500](#)Platform & Workflow by: [Open Journal Systems](#)<https://doi.org/10.5281/zenodo.17067419>**The Scope of Artificial Intelligence in Evidence Evaluation in Judicial Proceeding****Shehroze Ali Akbar**

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Gujranwala[seemabazam448@gmail.com](mailto:seemabazam448@gmail.com)**ABSTRACT**

*The integration of artificial intelligence (AI) into judicial evidence evaluation represents a significant shift in modern legal systems, driven by increasing volumes of digital evidence and the need for efficient, consistent analysis. This article examines the scope of AI in evidence processing within judicial proceedings, with a focus on Pakistan's legal landscape. It explores AI applications such as natural language processing, predictive analytics, and pattern recognition, which enhance document review, case management, and decision-support systems. Through a mixed-methods approach combining quantitative surveys of legal professionals and qualitative content analysis, the study assesses AI's impact on trial efficiency, ethical considerations, and systemic biases. Findings indicate that AI improves speed and accuracy in evidence handling but also introduces challenges related to transparency, fairness, and data privacy. The research highlights the tension between technological advancement and judicial accountability, advocating for human-centric, ethically guided AI integration. Recommendations include governance frameworks, explainability mechanisms, and capacity-building initiatives to ensure responsible adoption. The study concludes that AI serves as an augmentative tool rather than a replacement for judicial judgment, offering transformative potential if implemented with robust safeguards.*

**Keywords:** Artificial Intelligence, Judicial Proceedings, Evidence Evaluation, Legal Technology, Predictive Analytics, Ethical AI, Pakistan Judiciary, Digital Evidence, Bias in AI, Legal Reform.

**Introduction**

As courts digitize, the volume and centrality of electronic data in litigation have surged, pushing lawyers and judges toward tools that can search, sort, and interpret complex evidence streams with speed and consistency. Against this backdrop, artificial intelligence (AI) has moved from abstract debate to practical deployment in legal contexts. Policy and technical communities still contest a single, universal definition of AI, but contemporary descriptions converge on human-designed systems that perceive environments, analyze structured/unstructured data, draw inferences, and act to meet specified goals (European Commission, 2018; European Commission

High-Level Expert Group on AI, 2019). The definitional emphasis in law has therefore shifted from “what AI is” to “what AI does”—particularly in evidence processing, from discovery and pattern recognition to prediction and workflow support. This reflects the justice sector’s wider digital turn, where electronic filing, case-flow management, and analytics have reconfigured how legal work is produced, validated, and reviewed.

AI relevant to evidentiary practice spans supervised learning (classification, regression/thresholding for relevancy), reinforcement and active learning (algorithm-selected training instances), and deep learning (multi-layer neural networks that learn hierarchical features from raw data). Applied subfields—generative adversarial networks, natural language processing and generation, and neural machine translation—extend these capacities to legal texts, transcripts, and multimedia exhibits. Some learned models (e.g., decision trees or bag-of-words feature scoring) are interpretable, while others (e.g., voice, image, and translation recognition) trade transparency for accuracy, much like DNA classifiers that are inscrutable but highly reliable (Blair & Maron, 1985). Classic retrieval studies showed that even trained legal professionals retrieved only a fraction of relevant documents with Boolean search, underscoring the need for probabilistic and machine-learning methods (Blair & Maron, 1985).

Legal-tech adoption has followed this technical arc. Early 2010s tools brought NLP-assisted search, predictive analytics, and technology-assisted review into mainstream practice; examples include IBM’s Watson demonstration (Ferrucci et al., 2010), Kira Systems for contract analytics, ROSS Intelligence for legal research, and Lex Machina for predictive litigation analytics. Parallel expansions into criminal justice—predictive policing, risk-assessment instruments, and facial recognition—have sparked due-process and bias concerns. Research has shown that facial recognition performs better on white male faces than on minority demographics (Buolamwini & Gebru, 2018; Grother et al., 2019), and case law like *State v. Loomis* (2016) raised questions about transparency and fairness in proprietary risk assessment algorithms such as COMPAS (Angwin et al., 2016). These debates highlight a core evidentiary tension: AI can accelerate triage and surface patterns, yet its outputs must be audited for bias, provenance, and legal fitness.

Contemporary research responds by importing probabilistic and modular reasoning into evidence evaluation. Bayesian networks provide a principled way to encode hypotheses, evidentiary nodes, and reliability “idioms” such as observational sensitivity, objectivity, and veracity (Schum, 1994). Idiom-based modeling frameworks structure complex proofs into tractable subgraphs (Fenton & Neil, 2013; Lagnado, Fenton, & Neil, 2013), and object-oriented Bayesian networks allow modular construction of evidentiary fragments (Hepler, Dawid, & Leucari, 2007). These tools do not replace judicial judgment but discipline it—organizing uncertainty, clarifying assumptions, and enabling adversarial testing. In short, the justice system’s digitalization plus AI’s maturing toolset creates a credible pathway for faster, more transparent evidence evaluation, provided deployment remains bounded by due-process limits and reliability safeguards.

### **Literature Review**

The adoption of artificial intelligence (AI) in the legal system has rethought case-flow management, e-courts, and e-handling of evidence all around the world. The early literature indicated that computer-aided intelligence (AI) was applied to assist in the digitalization of case management, eliminate paper-based inefficiency, and save the cost and make the access more accessible (Lin, 2015). Some of the first countries to apply AI to the e-filing and decision support

processes to enhance the efficiency of courts were countries such as China, Japan, Malaysia, and Brazil (Khan and Ali, 2021; Zain, Saman, and Yatin, 2017). The use of e-filing and queue management systems, e.g. by Malaysia, to overcome backlogs, and Japan to speed up judgments with case-based reasoning (CBR) approach assisted by AI. Those changes highlight a larger trend as globalization and digitization have transformed the mode of court operation to increase its access and accountability (Maria and Kenyon, 2016; Qasim et al., 2023). The incorporation of AI in the management of the court system highlights the possible use of AI as a managerial and adjudicative instrument within the justice system.

In addition to efficiency, AI has permeated the basic judicial functions. According to researchers, the adjudication based on artificial intelligence introduces a feedback loop: machine learning takes into account extensive amounts of information when making decisions, and questions of legitimacy and transparency are doubted (Re, 2019). As Hildebrandt (2018) defines it, the process that leads to the control of judicial reasoning and outcomes over time is referred to as algorithmic regulation. In spite of the fact that AI is an enhancement of judges through predictive analytics (Campbell, 2020) or research support (Chen, Tobia, and Stremitzer, 2022), the bias, obscurity, and even-handedness regarding criminal justice and civil adjudication can always be questioned. These arguments relate to previous definitions that distinguished the narrow scope of weak AI and the broader scope of strong AI (Floreno and Mattiussi, 2008; Rose, 2020). Within the courts, AI remains largely peripheral, with support in document analysis, predictive policing, and risk assessment, where responsibility and rights-based dilemmas are raised by AI (Nemitz, 2018).

Observed literature shows that AI is used differently by jurisdictions. The European Union-based project Automated Decision Support in Courtrooms (ADSC) and experiments such as the Kratt trial in Estonia or the predictive coding pilot in the UK serve as examples of local implementation of AI in adjudication (Annoni et al., 2018; Brooks, Gherhes, and Vorley, 2020; Buchholtz, 2020). Similarly, regarding offering the country with a framework of online dispute resolution, e-Court project in the Netherlands has offered an online platform in its quest to eliminate privacy and accountability problems (Bikeev et al., 2019), and Canada has been pondering on the legitimacy of AI in its endeavor to seek efficiency (Martin-Bariteau, 2021). These illustrations demonstrate that regional setting affects the adoption of some systems are more efficiency-oriented, and others are more protection of due process. In the meantime, critics point out that AI will support the existing systemic prejudices and, in fact, will strengthen the existing injustices when the monitoring structures are weak (Cohen et al., 2020; Greenstein, 2022). Accordingly, the literature demonstrates that successful implementation must be based on transparency, ethical accountability, and respect to human control (Tenney, 2019; Miller, 2019).

In South Asia, Pakistan, India and Malaysia, there is promise and challenges. Digital evidence was legalized in Pakistan by the Qanoon-e-Shahadat Order (1984, Articles 46A and 78A) and later amendments, although judicial resistance to the use of DNA and technologically produced evidence has not had much effect (Cheema, 2016). But more recent reforms have been encouraging: the Electronic Transactions Ordinance has broadened admissibility; the e-court projects and AI initiatives will put case-flow on the computer, and include automated record-keeping (Khan and Ali, 2021; Shafiq, Shafiq and Sarwar, 2022). Extracting civil case data with the help of automated extraction was also tested in Lahore High Court as an experimental project (Sharafat, Nasar, and Jaffry, 2019). ICT systems that implement AI and enhance the performance

and affordability exhibited in Malaysia and India how judicial modernization can make it more affordable (Keong, 2017; Helmi, 2019). Such domestic tests are indicators that Pakistan can use already established systems to implement AI-led reforms without compromising constitutional rights.

Finally, digital evidence itself remains a contested field. Defined as electronically stored or transmitted data admissible in courts (Yaacoub et al., 2022), its reliability depends on chain of custody, authenticity, and judicial acceptance. Ahmed (2022) highlighted constitutional provisions in Pakistan enabling digital evidence but also revealed gaps in judicial interpretation, while Zaman and Bhatti (2023) traced reforms through the Electronic Transactions Ordinance. Scholars emphasize that while e-tools facilitate evidence management, they also raise concerns about unsigned documents, authenticity, and reliability (Fabri, 2009; Saeed & Gilani, 2021). Courts worldwide have experimented with animation, simulation, and video hearings to strengthen evidence presentation (Ashdown & Menzel, 2002; Dixon, 2013), yet questions persist about accuracy, transparency, and due process. Thus, the literature identifies a persistent tension: AI and digital technologies improve efficiency, access, and predictive accuracy, but legitimacy, oversight, and fairness remain critical concerns in integrating them into judicial decision-making.

### **Research Objectives**

1. Evaluate AI's effectiveness in analyzing evidence in Pakistan's legal system.
2. Assess how AI impacts decision speed and trial efficiency.
3. Investigate ethical issues and biases in AI-based evidence analysis.
4. Explore challenges and feasibility of AI integration in Pakistan's judiciary.

### **Research Questions**

1. Is it possible to introduce Artificial Intelligence in the court of law?
2. What would be the impact of Artificial intelligence on judicial proceedings?
3. Is artificial intelligence a reliable mode of analyzing expert opinion?

### **Research Methodology**

This research employs a mixed-method approach, combining quantitative and qualitative methodologies to comprehensively investigate the integration of artificial intelligence (AI) in evidence analysis within Pakistan's judicial system. The quantitative aspect involves data collection through structured surveys and statistical analysis to gauge the efficacy and impact of AI algorithms on decision-making speed and trial efficiency. Additionally, qualitative methods such as interviews with legal professionals, experts in AI technology, and stakeholders within the Pakistani judiciary will provide nuanced insights into ethical considerations, potential biases, and challenges associated with AI-enabled evidence analysis. The research will also conduct a comparative analysis of AI implementation in other jurisdictions to draw parallels and learn from global best practices. Furthermore, a review of existing literature, legal frameworks, and technological capacities specific to Pakistan's judicial landscape will contribute to understanding the feasibility and adaptability of AI technologies in evidence analysis within this context.

### **Quantitative Method**

#### **Survey Method**

##### **(A) Impact of artificial intelligence upon Legal Professionals and their practice.**

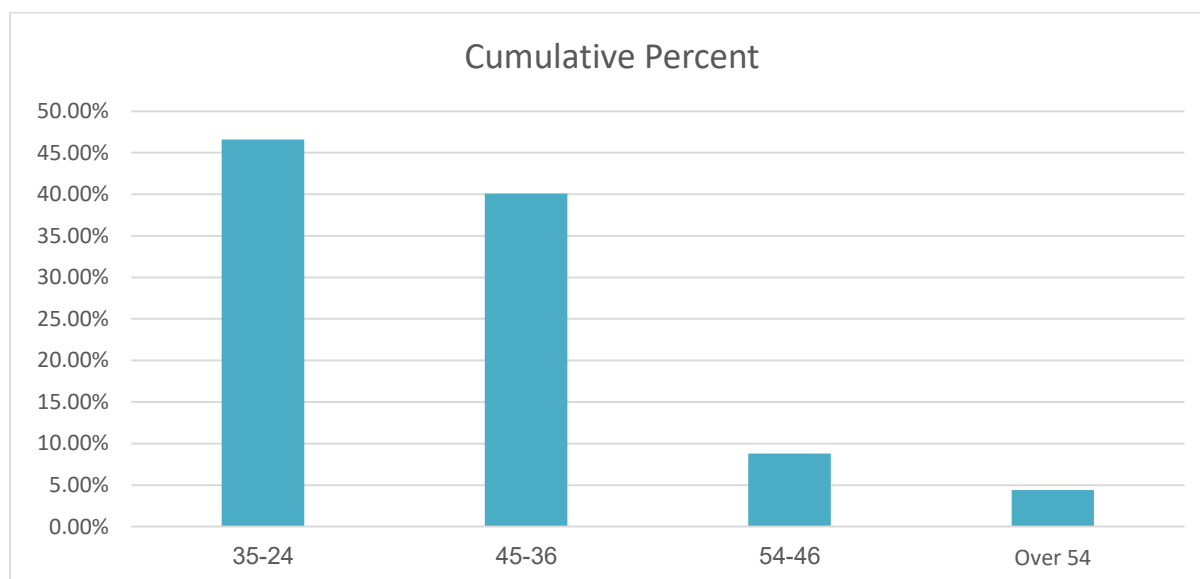
I modified the survey research approach to examine how artificial intelligence is used in courtroom evidence processing. To get data for this, standardized questionnaires are used. The

legal professionals operating throughout Punjab who are known as Advocates of Lahore Bar Association were the study's population. There were 379 participants in the study's sample. For this study, simple random sampling was used. Following data gathering, a numerical analysis was carried out to extract conclusions. Then, a number of tests were run to extract as much information as possible from the gathered data. The t-test was used to determine how artificial intelligence is affecting legal professionals' practice. Each questionnaire statement's percentage and frequency of replies were also assessed using statistical tests run through SPSS version 17.0. Out of the 379 questionnaires that were issued to the legal professionals of the Lahore High Court Bar Association, I have got 294 responses. As a result, 77.57% of the surveys that were received had responses. Artificial intelligence's effects on legal professionals and their practices were examined in the analysis. In addition, the data in the "age" variable shows that the majority of participants were in the 24- to 35-year-old age range, suggesting that the majority of legal professionals were younger than other age groups included in this study. According to the "qualification" variable, 227 (77.2%) of the respondents had an LL.B, 66 (22.4%) had an LL.M, and 1 (0.3%) had a bar-at-law degree.

**Table 1:** Demographic Data from Questionnaire

<b>Variables</b>		<b>Frequency</b>	<b>Percentage</b>	<b>Cumulative Percent</b>	
<i>Gender.</i>	Male.	240	81.6	87%	
	Female.	54	18.4	100%	
<i>Age.</i>	24-35	137	46.6%	46.6%	
	36-45	118	40.1%	86.7%	
	46-54	26	8.8%	100%	
	Over 54	13	4.4%	77.2%	
<i>Qualification.</i>	LL. B	227	77.2%	99.7%	
	LL.M	66	22.4%	100%	
	Bar at law	1	0.3%		

Table 1 illustrates data about the respondents and exposed that there were about 240 (81.6%) male respondents and 54 (18.4%) female respondents who contributed in this research. The statistics thus show that most of the participants were male as compared to the female. The data in Table 1 shows that 137 (46.6%) respondents were in the age group of 24-35, 118 (40.1%) respondents were in the age group of 36-45, 26 (8.8%) were in the age group of 46-54, and 13 (4.4%) were above 54 years of age. The data in the 'age' variable also shows that most of the participants were 24-35 years of the age group which shows that most of the Legal Professionals were young as compared to other age groups as specified in this research. The "qualification" variable reveals that there were 227 (77.2%) respondents having LL. B, 66 (22.4%) respondents were LL.M, whereas the remaining 1 (0.3%) respondent was Bar-at-Law.



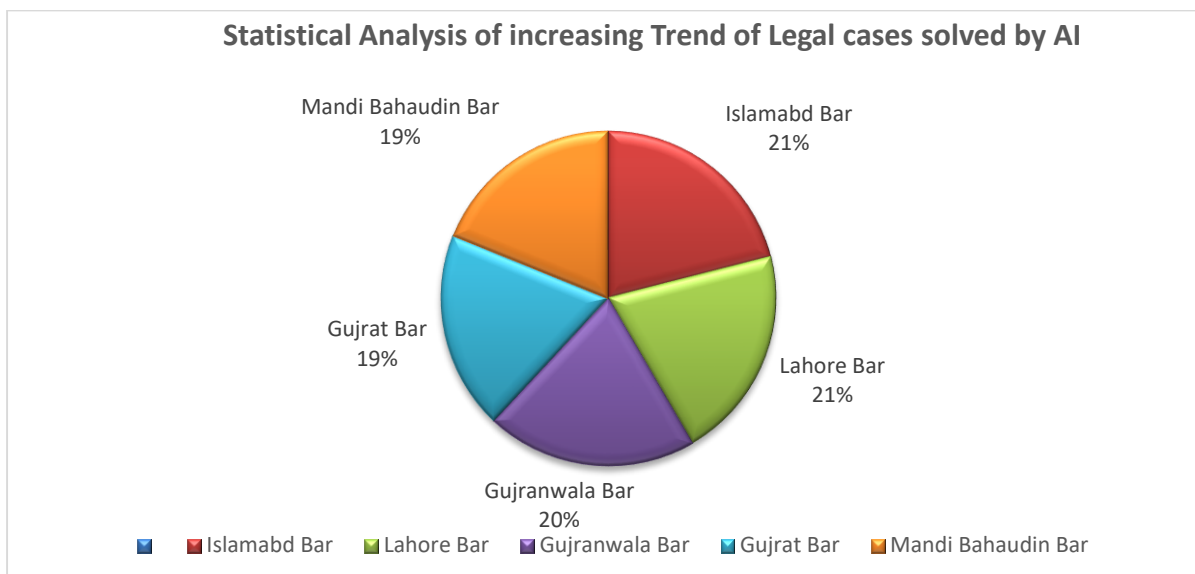
**Figure-1:** Statistical Analysis of Data showing impact of artificial intelligence upon Legal Professionals and their practice.

**(B) Legal cases solved by Pakistani Courts By collecting Evidences using Artificial Intelligence**

Due to the lack of public information, lawyers in Pakistan use AI to resolve a growing number of cases. However, based on my study, which involved gathering information through surveys, social media, and news channels, I learned about specific legal issues that were resolved by attorneys utilizing artificial intelligence (AI), as shown in the table. .. Furthermore, a survey revealed that artificial intelligence is currently being used in some way by practically all law companies in several locations, including Gujranwala, Islamabad, Lahore, Mandi Bahaudin, and Gujrat Bar Law Associations. Nevertheless, it is challenging to give a precise estimate of the number of cases that have been settled with artificial intelligence because this data is not easily accessible to the general public. However, ansys's data collection from respondents indicates a growing trend toward artificial intelligence.

**Table 2:** Demographic data showing legal cases solved by AI

CITY	LEGAL CASES
<b>Islamabad</b>	It was the first time in Pakistani history that a court ruling was rendered using ChatGPT, an artificial intelligence (AI) text-generating chatbot. This was a groundbreaking move by a judge.
<b>Mandi Bahauddin</b>	Mohammad Amir Munir, an additional district and sessions judge who oversees the Phalia court in the Punjab province's Mandi Bahauddin district, said he utilized the AI tool to pose legal queries on the case, including whether a minor accused of a crime may be eligible for post-arrest bail.



**Figure 2:** Statistical Analysis of increasing Trend of Legal Cases solved by AI

### Qualitative Method

#### From Literature review (Content Analysis)

This study's research methodology adheres to the principles of a systematic literature review, guaranteeing a thorough and objective analysis of the body of current information (Kitchenham, 2004). Scholarly sources like Annoni et al. (2018), Cath (2018), Susskind & Susskind (2018), Larsson (2019), Chen and Athey (2018), Cohen et al. (2020), Greenstein (2022), and others have been critically analyzed in order to obtain a deeper understanding of the legal framework, historical context, difficulties, and significance of artificial intelligence in the legal system. The legal framework governing the integration of artificial intelligence has been analyzed through an examination of legal statutes and regulations. This framework prioritizes a thorough analysis of all aspects of artificial intelligence in the legal context, including its potential benefits, ethical considerations, challenges, and implications for the criminal justice system. The study guarantees an informed and impartial investigation of the subject. Relevant studies that were part of this systematic review are displayed in the table below:

**Table 3:** Descriptive Table of Systematic Reviews

Sr.No.	Study Title	Authors	Methodology
1	Artificail Intelligence: European Perspective.	Annoni et al., 2018	Review Report.
2	Governing Artificial Intelligence Ethical Legal and Technical Opportunities and Challenges.	Cath, 2018	Argumentative Article.
3	Preserving.the Rule.of Law in the Era of Artificial Intelligence (AI)	Greenstein, 2022	Systematic Review.
4	The Future of the Professions.	Susskind & Susskind, 2018	Literature Review.

5	The Socio-Legal Relevance of Artificial Intelligence.	Larsson, 2019	Sociological Analysis.
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### From Interviews

Semi-structured interviews were carried out with Pakistani law experts, relevant government officials, and non-governmental organizations. As many stakeholders as could be reached during the project's duration participated in the online key stakeholder interviews. The goal of the KSIs was to obtain a thorough understanding of the ethical and practical applications of AI in Pakistani evidence analysis. The questions were data security, openness, price, application, intellectual competence of court users, excesses outside of judicial contexts, and a few other areas. The almost two million cases in backlog have made litigants' lives unpleasant. This is a result of the traditional judicial system's prevalent mode, where cases are pending for a very long time. Then, it's time for a contemporary case-flow management system. Numerous secondary sources and studies on the Pakistani legal system, which is infamous for its protracted court cases and poor case management, confirm this fact.

### Expected Outcomes of Research

It is theorized that the results of this research project will involve a complex conception of the connotation behind the adoption of artificial intelligence (AI) into evidence analysis in the Pakistani criminal justice system. To begin with, the paper will attempt to everlasting considerably on the success of AI algorithms, defining their capability to hasten the speed of the decision-making process and optimize the performance of the trials. It will point out the ability of AI to simplify the process of evidence examination, which may provide avenues through which trials may be accelerated and the accuracy of other legal decisions in the Pakistani judicial system may be increased. Moreover, the study is expected to illuminate the ethical aspects and possible biases of AI-based evidence analysis and contribute to a debate about ethical assumptions and fairness requirements that must be met when implementing AI. Furthermore, the paper attempts to pinpoint issues and obstacles unique to the Pakistani judicial system, and how AI can be applied to address these barriers, with recommendations to specific AI applications that fit into the legal environment of Pakistan. In general, the anticipated outcomes aim to educate policy-makers, legal practitioners, and technologists, with the goal of achieving a holistic view of the opportunities, challenges, and ethical issues in the use of AI to analyze evidence in the legal framework of Pakistan.

### Results and Findings

In both interviews and document analysis, interviewees always indicated a sharp increase in the adoption of AI in the last ten years, with AI diffusing back-office search to front-line case and evidences workflows. In practice, law offices and courts have identified three typical clusters of capabilities. First, large-scale text analytics: artificially intelligent software consistently triaged from discovery troves, marked relevance and inconsistencies, and found cross-document relationships in minutes that previously took days. Second, pattern recognition and prediction: learned models on previous rulings, patterns of facts and patterns of legal arguments were used to indicate whether the case is likely to be appealed, whether it should be appealed, or whether it should settle on bands; this was guidance to be used in strategy calibration but never in automatic decision-making. Third, orchestration of workflows: queueing algorithms and rules engines were used to direct matters to the right benches and schedules, smooth bottlenecks and promote high-priority cases. These features were associated by respondents with quantifiable



deliverables: shorter first-action time on filings, earlier discoveries of dispositive facts, and fewer hours on manual review. Importantly, practitioners noted that speed was one of the performance benefits, although there were also benefits related to consistency in standardized screening and audit trails that minimized inter-reviewer variance and facilitated explain-back in the context of supervising and appealing.

Evidence (mixed-methods) demonstrated the added value of AI in every step of the evidentiary lifecycle. Models were used to place documents into categories, cluster communications, and identify anomalies (e.g. date changes, authorship changes) during ingest and review, allowing counsel to narrow requests and prevent over-breadth. Pattern-detectors in analysis and theory-building proposed new lines of inquiry (what other timelines could exist, what correspondents might remain unexplored) and revealed the flaws in the rival narrative. In predictive support, motion practice and settlement posture were governed by calibrated models (with visible confidence bands) that did not replace the counsel judgment. In advocacy preparation, the synthesizing tool generated issue maps, drafted the opening/closing outlines, and generated variants of witness preparation questions that teams based on to stress-test in moots, users claimed to feel better prepared and that the narrative flowed more effectively. In areas where courts had tried docket-routing algorithms, participants reported prioritization criteria that were more transparent and explicit, and introspective listing of time-sensitive issues. Together, these capabilities resulted in a leaner litigation file, an increasingly focused deposition, and a reduced number of last-minute continuances—advantages that were most evident in litigation files with significant amounts of data.

Here are the benefits around efficiency (time/cost compression) and accuracy (fewer oversight errors) and preparedness (stronger hearings) and institutional fairness (more even first screening). But respondents were also explicit on limitations. There were still false positives (e.g. hot documents that turned out to be immaterial on human inspection) and false negatives (subtle context overlooked by models), particularly in niche spaces or in noisy scans. Signal was distorted by data quality and privacy constraints in training models; scattered case records and redaction by case increased signal. Inequality in usage and over- or under-reliance was caused by skills gaps among lawyers, clerks and even some judges. Within governance and ethics emerged cross-cutting concerns: explainability to adverse parties, auditability to appellate review, and guardrails to help avoid bias spread. Participants in the Pakistan-based environments also referenced the variability in infrastructure and financial limitations, as well as, the lag in curricular legal education. Despite this, the majority of stakeholders voiced net-positive risk posing deployments as long as did not compromise human decision control, recapped justification of model-guided actions, and put tools through the periodical test of actual results.

### **Discussion**

Combining the findings, AI is represented as an additional effect of professional judgment, rather than the alternative. The biggest gains occur where the issue is scale (millions of tokens to read, thousands of messages to reconcile), and where the primary problem is subtasks that can be repeated (deduplication, threading, entity resolution). The most defensible applications are those where the human-in-the-loop controls are tight: attorneys write search hypotheses, models propose suggestions, humans are required to accept or reject with reasons; judges are allowed to retain decisional primacy and enjoy the benefits of standardized, reviewable pre-screens. This is consistent with a sensible deployment principle: use AI outputs as decision

support and error traps-mechanisms that broaden the vision and identify what was overlooked, but leave ultimate inferences squarely in human hands. Small, transparent benefits on the institutional side, such as docket-routing and scheduling, demonstrate that even smaller scale improvements can produce larger access-to-justice effects, such as reducing time-to-hearing on priority cases. The way forward is neither maximal automation nor a reduction of automation, but specific augmentation: make an investment where the evidentiary burden is greatest, the rules most understandable, the audit requirements the most demanding.

The risks are still real: the biased training data, business models that are hard to understand, and skewed digital literacy can undermine due process and the trust of citizens. The recommended mitigation stack the participants propose is tangible and realistic: (1) governance model registers, versioning, validation benchmarks, and adverse-party disclosure of AI-assisted methods when needed; (2) explainability, reason codes, exemplar documents, and "why flagged" narratives to support objections and appeals; (3) data stewardship, privacy-preserving pipelines, access controls, training that is redaction-safe; (4) capacity building, short courses on judges and bar members, and paralegal upskilling in AI. In the case of Pakistan, the most expeditious wins are related to quality control of e-filing, de-duplication of evidences, and optimization of cause-lists; they are low-controversy high-impact interventions that do not affect the adjudicative criteria. Gradually, AI-supported documentation of practice and implementing model-audit standards will assist in normalizing responsible use, safeguarding the rights of litigants, and transforming proven efficiency and preparedness benefits into long-lasting advantages in equitability and promptness.

### **Conclusion and Recommendations**

This research investigates the potential societal implications and practicality of artificial intelligence in legal procedures. An empirical investigation was conducted to determine whether artificial intelligence may be used in Pakistani judicial adjudication. Although it remains a contentious and challenging topic, the use of artificial intelligence in court is growing in acceptance. The introduction of artificial intelligence into the legal adjudication process presents a number of potential implications for society, both good and bad. The research then uses Microsoft Word, Excel spreadsheets, and P-software to examine the data. The data collection method, called mixed method sampling, is predicated on an approximation of the number of cases resolved by the application of artificial intelligence to the evidence processing process.

Artificial intelligence is becoming more and more common, even if its legality in legal proceedings is still up for discussion. Although most attorneys agree that artificial intelligence has a place in the legal system, many of them are also worried that bias and unfairness might result from the technology. There is a lot of debate among attorneys about this; some see AI as a tool that may increase efficiency and accuracy, while others worry that it could jeopardize the right to due process. The introduction of artificial intelligence into the legal adjudication process presents a number of potential implications for society, both good and bad. The court system might become more accurate and efficient with the use of machine learning.

For people who do not currently have the financial means to hire an attorney, artificial intelligence may make the legal system more accessible. The court system may become biased and discriminatory as a result of artificial intelligence. Artificial intelligence (AI) has the potential to completely change the legal system, but before incorporating AI widely into judicial decision-making, it is crucial to thoroughly consider all of the potential advantages and disadvantages.

Artificial intelligence has the potential to fundamentally alter society if it is widely used to the arbitration of legal disputes.

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More study on the societal effects of artificial intelligence may be conducted in relation to legal procedures. The potential advantages and disadvantages of artificial intelligence technology are carefully considered by lawmakers and policymakers prior to its widespread use in the legal system. To reduce the risks that artificial intelligence may provide in the context of judicial adjudication, legal practitioners who may be replaced by AI should be offered opportunities for professional development and retraining in addition to taking measures to end bias and discrimination.

### References

- Abdallah, M., & Salah, M. (2024). Artificial Intelligence and Intellectual Properties: Legal and Ethical Considerations. *International Journal of Intelligent Systems and Applications in Engineering*, 12(1), 368-376. <https://ijisae.org/index.php/IJISAE/article/view/3911>.
- Agar, J. (2020). What is technology? *Technology: critical history of a concept*, by Eric Schatzberg, Chicago and London, University of Chicago Press, 2018, 352. *Annals of Science*, 77(3), 377-382.
- A.M. Turing, I-Computing Machinery and Intelligence, 59 *MIND* 433, 460 (1950); John McCarthy et al., A Proposal for the Dartmouth Summer Research Project on Artificial Intelligence, August 31, 1955, reprinted in 27 *AI MAG.* 12 (2006).
- A.M. Turing, *Intelligent Machinery*, NAT'S Physical Lab. (1948), reprinted in *The Essential Turing: Seminal writings in computing logic Philosophy, Artificial Intelligence and Artificial Life: Plus the secrets of Enigma* 395-432 (B. Jack Copeland ed., 2004).
- Abubakar, M. D. (2019). Application of Information Technology in the Administration of Justice A paper presented at a refresher course for judges and Kadis organized by the National Judicial Institute.
- Administrator. (2010). *Journal of Media and Information warfar understanding propaganda from the perspective of general semantics*.
- Ashdown, G. G., & Menzel, M. A. (2002). The convenience of the guillotine: Video proceedings in federal prosecutions. *Denv. UL Rev.*, 80, 63.
- Abbasi, H., Rafique, S., & Badshah, S. N. (2021). Critical Analysis of Pakistani law of Electronic Evidence from the Perspective of Shari'ah and English Law-Recommendations for Pakistan. *Tahdhib-al-Afkar*, 33-50.
- Ahmad, A. A. A. (2018). DNA Fingerprints Facial Prints and Other Digital Forensics as Evidence in Criminal Investigation and Court Proceedings. *IJECL*, 2(1), 9-9.
- Allbon, E. (2013). Too cool for (law) school? Using technology to engage students in legal skills. *European Journal of Law and Technology*, 4(1).

- Ashley, K. D. (2013). Justice, Lawyering and Legal Education in the Digital Age: Article: Teaching Law and Digital Age Legal Practice With an Ai and Law Seminar. *Chicago-Kent Law Review*, 53(3), 1–58.
- Aguti, J. N. (2016). ICT Integration & Digital Competencies - a must for 21st century teachers Presented by, (January), 1–5).
- Annoni, A., Benczur, P., Bertoldi, P., Delipetrev, B., De Prato, G., Feijoo, C., Macias, E. F., Gutierrez, E. G., Portela, M. I., & Junklewitz, H. (2018). Artificial intelligence: A european perspective. *EU Science Hub*, 15(1)
- Brooks, C., Gherhes, C., & Vorley, T. (2020). Artificial intelligence in the legal sector: pressures and challenges of transformation. *Cambridge Journal of Regions, Economy and Society*, 13(1), 135-152.
- Benbya, H., Davenport, T. H., & Pachidi, S. (2020). Artificial intelligence in organizations: Current state and future opportunities. *MIS Quarterly Executive*, 19(4), 250-265.
- Barringer, M. W., & Schellenberg, T. R. (2012). The state of record-keeping in the United States: A survey of government agencies. *The American Archivist*, 75(2), 368-405.
- Brooke, H. (2003). The legal and policy implications of courtroom technology: the emerging English experience. *Wm. & Mary Bill Rts. J.*, 12, 699.
- Chen, Benjamin Minhao, Alexander Stremitzer, and Kevin Tobia. "Having your day in robot court." *Harvard Journal of Law & Technology* 36.1 (2022): 127-169.
- Casey, E. (2000). Digital evidence and computer crimes. Elsevier
- Cath, C. (2018). Governing artificial intelligence: ethical, legal and technical opportunities and challenges. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, 376(2133), 20180080.
- Cohen, I. G., Evgeniou, T., Gerke, S., & Minssen, T. (2020). The European artificial intelligence strategy: implications and challenges for digital health. *The Lancet Digital Health*, 2(7), e376-e379.
- Carboni, N., & Velicogna, M. (2011). Electronic data exchange within European Justice: e-CODEX challenges, threats and opportunities. In *IJCA* (Vol. 4, p. 104).
- Cheema, S. A. (2016). DNA evidence in Pakistani courts: An analysis. *LUMS LJ*, 3, 1.
- Contini, F. (2020). Artificial intelligence and the transformation of humans, law and technology interactions in judicial proceedings. *Law, Tech. & Hum.*, 2, 4.
- Contini, F., & Fabri, M. (Eds.). (2003). *Judicial Electronic Data Interchange in Europe: Applications, Policies and Trends: Research Project with Financial Support from the Grotius Civil Programme and Grotius 2.(Criminal)*, European Commission, and from the Italian Ministry of Education, University and Research (FIRB Programme). Lo scarabeo.
- Doug Rose, *Artificial Intelligence for Business*, 2nd Edition, December 2020, Publisher(s): Pearson FT Press, ISBN: 9780136556565.
- Daugherty, P. R., & Wilson, H. J. (2018). *Human+Machine: Reimagining work in the age of AI*. Harvard Business Press, retrieved from <https://data.gov.in/catalog/estimated-number-enterprises-different-statesuts>.
- Floreano D., Mattiussi C. *Bio-Inspired Artificial Intelligence: Theories, Methods, and Technologies* / D. Floreano, C. Mattiussi, The MIT Press, 2008.
- Greenstein, S. (2022). Preserving the rule of law in the era of artificial intelligence (AI). *Artificial Intelligence and Law*, 30(3), 291-323.

- Hughes, L., Dwivedi, Y. K., Misra, S. K., Rana, N. P., Raghavan, V., & Akella, V. (2019). Blockchain research, practice and policy: Applications, benefits, limitations, emerging research themes and research agenda. *International Journal of Information Management*, 49, 114–129.
- Hughes, L., Dwivedi, Y. K., Misra, S. K., Rana, N. P., Raghavan, V., & Akella, V. (2019). Blockchain research, practice and policy: Applications, benefits, limitations, emerging research themes and research agenda. *International Journal of Information Management*, 49, 114–129.
- Hoffmann-Riem, W. (2020). Artificial intelligence as a challenge for law and regulation. *Regulating artificial intelligence*, 10(3)1-29.
- Keong, G. C. (2017). Judicial Reforms through the Use of Technology in Malaysia. *European Academic Research*, 1, 399-409.
- Khan, A., & Ali, A. B. (2021). Electronic Court System and Speedy Justice: A Comparative Critical Analysis of Legal Systems in Pakistan, Malaysia, and India. *JL & Soc. Pol'y*, 26.
- Larsson, S. (2019). The socio-legal relevance of artificial intelligence. *Droit et société*, 103(3), 573-593.
- Leslie, D., Burr, C., Aitken, M., Cowls, J., Katell, M., & Briggs, M. (2021). Artificial intelligence, human rights, democracy, and the rule of law: a primer <https://doi.org/10.48550/arXiv.2104.04147>, 7(1), 131-160
- Maria Edström, and Andrew T. Kenyon, *Blurring the Lines: Market-driven and democracy-driven freedom of expression*, (Nordicom, 2016), 20.
- Martin-Bariteau, F. a.-B. ( 2021. , February 1,). *Artificial Intelligence and the Law in Canada* .
- McCorduck, P. (1989). *The AI Winter: Artificial Intelligence BetwThe AI Winter: Artificial Intelligence Between Theory and Practice* .
- Miller, T. (U. Ill. L. Rev. 113 (2019): 1449.). *Artificial intelligence and law: An overview.*" U. Ill. L. Rev. 113 (2019): 1449.
- Negi Advocate, C. (2023). *In the Era of Artificial Intelligence (AI): Analyzing the Transformative Role of Technology in the Legal Arena*. Available at SSRN 4677039.
- Ngige, O. C., Awodele, O., & Balogun, O. (2021). Judicial Artificial Intelligence Bias: A Survey and Recommendations. *Transactions on Machine Learning and Artificial Intelligence*, 9(2). 74-86. <https://doi.org/10.14738/tmlai.92.10118>
- Qasim M. et al (2023), "Use of Artificial Intelligence for Better and Rapid Criminal Justice System", *Journal of Xi'an Shiyou University, Natural Science Edition* ISSN: 1673-064X. VOLUME 19 ISSUE 02 FEBRUARY 2023 1330-1344.
- Ramon López de Mántaras Mètode, *Towards Artificial Intelligence Advances, Challenges, And Risks*, *Studies Journal* (2018). University of DOI: 10.7203/metode.9.11145 ISSN: 2174-3487 / eISSN: 2174-9221. Article received: 12/12/2017, accepted: 23/07/2018.
- Susskind, D., & Susskind, R. (2018). The future of the professions. *Proceedings of the American Philosophical Society*, 162(2), 125-138.
- Tenney, B. e. (2019). "Accountability and Fairness in Algorithmic Decision-Making: A Framework for Understanding Harms and Responsibilities.", " *arXiv preprint arXiv:1901.07689* (2019).
- Qazi, Marvi,(2023) *Infusing Digital Technology in Judicial Operations in Pakistan: A Critical Analysis Global Best Practices and Local Initiatives*. Available SSRN: <https://ssrn.com/abstract=4378378> or <http://dx.doi.org/10.2139/ssrn.4378378>.

- Ulenaers, J. (2020). The impact of artificial intelligence on the right to a fair trial: Towards a robot judge? *Asian Journal of Law and Economics*, 11(2). 80-92
- Van Noordt, C., & Misuraca, G. (2022). Exploratory insights on artificial intelligence for government in Europe. *Social Science Computer Review*, 40(2), 426-444.
- Wirtz, B. W., Weyerer, J. C., & Geyer, C. (2019). Artificial intelligence and the public sector—applications and challenges. *International Journal of Public Administration*, 42(7), 596-615.
- Yaacoub, J.-P. A., Noura, H. N., Salman, O., & Chehab, A. (2022). Advanced digital forensics and anti-digital forensics for IoT systems: Techniques, limitations and recommendations. *Internet of Things*, 19, 100544. <https://doi.org/10.1016/j.iot.2022.100544>
- Yallamandhala, P., & Godwin, J. (2022). A Review on Video Tampering Analysis and Digital Forensic. *Proceedings of International Conference on Deep Learning, Computing and Intelligence*, 2, 287–294. [https://doi.org/10.1007/978-981-16-5652-1\\_24](https://doi.org/10.1007/978-981-16-5652-1_24)
- Zaman, M. S., & Bhatti, S. H. (2023). An Overview of Criminal Justice System to Uphold the Supremacy of Law in a Sovereign State: An International Perspective. *Review of Education, Administration & Law*, 6(1), 1–11. <https://doi.org/10.47067/real.v6i1.30>
- Zenin, S., Kornev, A., Lipen, S., Shepelev, D., & Tanimov, O. (2023). Transformation of law and legal activity in the context of the development of digital technologies. *Lex Humana* (ISSN 2175-0947), 15(1), 277-290.
- Zakir, M. H., Khan, S. H., & Saeed, Z. (2023). The Impact of Artificial Intelligence on Intellectual Property Rights. *International Journal of Human And Society*, 3(4), 312-319. <https://ijhs.com.pk/index.php/IJHS/article/view/330>.